National Aeronautics and
Space Administration

Office of Space Science

Education and Public Outreach

Inspiring the Next Generation of Explorers

ON THE COVER: An artist's conception of a Mars Exploration Rover (background) beginning its exploration of the Red Planet symbolizes the journeys of discovery being taken by (clockwise from right) a student from the Colorado School for the Deaf and Blind examining a tactile image of Jupiter; a visitor to the *Cosmic Questions* exhibition pondering the structure of the Universe; a student from the Southwestern Indian Polytechnic Institute taking time out from examining meteorites at NASA Johnson Space Center to test-fly a Space Shuttle simulator; a young explorer investigating the Sun as it appears in *Voyage*—a scale model Solar System on the National Capitol Mall; and a student peering through a small telescope outfitted with a special filter for viewing the Sun.

Photo Credits: (Background) NASA Jet Propulsion Laboratory; (clockwise from right) Colorado School for the Deaf and Blind, Smithsonian Astrophysical Observatory/Kevin Burke, University of New Mexico/Horton Newsome, NASA/Renee Bouchard, Sun-Earth Connection Education Forum/Lou Mayo

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June 2, 2003

Reply to Attn of: **S**

Dear Colleague:

It is a pleasure to present this Annual Report summarizing the NASA Office of Space Science (OSS) Education and Public Outreach (E/PO) Program for FY 2002.

As documented by this report, the OSS E/PO Program is only one component of an overarching NASA education program. It is also one of the largest single programs in astronomy and space science education ever undertaken. The credit for making this program work and for the accomplishments to date goes to the more than 100 OSS missions and research programs; 1,000 OSS-affiliated scientists, technologists, and support personnel; and 500 external partner institutions and organizations that have implemented the efforts described here. We are also indebted to the Space Science Advisory Committee's E/PO Task Force and to the Lesley University Program Evaluation and Research Group, both of which have spent countless hours evaluating our efforts and providing the critical feedback necessary to make our program a success. Finally, special credit must be given to the members of the OSS E/PO Support Network, composed of Educational Forums and regional Broker/Facilitators, who are the unsung heroes of the OSS E/PO Program. They are the often unseen backbone that make possible the E/PO efforts reported here.

On behalf of everyone involved in the OSS E/PO Program, I invite you to browse through the descriptions of these FY 2002 E/PO efforts and to join us in continuing to make our space science E/PO efforts even more vibrant and successful in FY 2003.

If you have any questions or comments, or if you wish to receive additional copies of this report, please contact Dr. Philip Sakimoto at *Philip.J.Sakimoto@nasa.gov* or 202-358-0949. Searchable and downloadable versions of this Annual Report are available online on the OSS E/PO homepage at *http://spacescience.nasa.gov/education/* under the link to "Annual Report."

Sincerely,

Jeffrey D. Rosendhal
Director of Education and Public Outreach
Office of Space Science

"The most important result of NASA's Space Science program is the sense of wonder and imagination it inspires in America's youth."

— Edward J. Weiler,
NASA Associate Administrator for Space Science

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FOREWORD

In April 2002, NASA Administrator Sean O'Keefe announced that education would be a fundamental part of NASA's new mission:

To understand and protect our home planet,
To explore the Universe and search for life,
To inspire the next generation of explorers
. . . as only NASA can.

The importance of inspiring the next generation of explorers cannot be overstated. Our Nation is failing to produce the number of scientists, mathematicians, engineers, and technologists needed to support our economic and national security needs. Our Nation's education system is failing to equip our children with essential mathematics and science skills. Our Nation's economic growth and competitiveness rely upon science and mathematics as key drivers in an economy that depends heavily on innovations in technology.

NASA is uniquely positioned to help increase the number of our Nation's children who choose careers in science, mathematics, engineering, or technology. Our quests to understand and protect our home planet and to explore the Universe and search for life inspire our young people in ways that no other scientific endeavors can.

The meaning of education as a core mission of NASA is vividly illustrated in this Annual Report on NASA space science education and public outreach (E/PO) efforts during FY 2002. E/PO was built into every space science mission and research program conducted during FY 2002, and over a thousand members of the NASA space science community selflessly devoted some of their time and expertise to education and outreach efforts. Such dedicated efforts are what make the Space Science Enterprise E/PO Program a prime example of how NASA leverages its unique missions and research programs to inspire the next generation of explorers.

Adena Williams Loston
Associate Administrator for Education

PREFACE

The Office of Space Science (OSS) Education and Public Outreach (E/PO) Program is aligned with and strongly supports the new NASA mission to "inspire the next generation of explorers." Our commitment to education places a special emphasis on precollege education, diversity, and increasing the general public's understanding and appreciation of science, technology, engineering, and mathematics. This emphasis complements our traditional role in higher education, where we will continue to support professional education through research involvement as a central element of meeting our responsibility to help create the scientific workforce of the future.

During FY 2002, a new NASA Office of Education was being established to carry out the mandate to inspire the next generation of explorers. OSS is committed to seeing that space science education is a key component of the activities of this new organization. OSS eagerly supported and participated in the planning processes and discussions that led to the establishment of this new office and welcomed the opportunity that it offered to coordinate OSS education and public outreach programs with other similar efforts being undertaken throughout NASA.

It was only 6 years ago that OSS turned from planning to implementing an E/PO program based on a radical set of recommendations that emerged from a Space Science Advisory Committee Task Force chartered to develop a new approach for OSS to use in carrying out its E/PO programs. Rather than attempting to put a thin veneer of education on top of business as usual, we concentrated on getting our missions, research programs, and scientists to themselves develop and operate E/PO projects in highly leveraged partnerships with professional educators. Six years later, the results—as summarized in this Annual Report—are impressive. We now have more than 3,500 E/PO events annually, an online directory of hundreds of space science educational resources, traveling museum exhibitions and planetarium shows appearing in venues across the country, and a presence in every State. The OSS effort has become a major national program in a very short period of time.

At the same time, there are a number of critical issues that we must address in the coming years. Among these are the need to build more coherence into our wealth of educational products, the need to provide professional development opportunities for those who guide and operate our E/PO projects, and the need to better understand the impact of our program on its intended audiences. Addressing these needs and coordinating our E/PO efforts with those of the NASA Office of Education set our agenda for FY 2003 and beyond.

Edward J. Weiler
Associate Administrator for Space Science

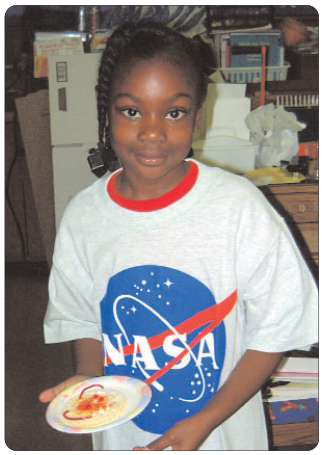
EXECUTIVE SUMMARY

Federal fiscal year (FY) 2002 was a turning point for NASA's Office of Space Science (OSS) Education and Public Outreach (E/PO) program. It marked a transition from an initial phase focused on establishing the program's infrastructure and nurturing its very rapid start-up to a more mature phase focused on paying much greater attention to improving the program's quality and impact.

Evidence of the breadth and scope that the OSS E/PO has achieved is contained in this FY 2002 Annual Report on the OSS E/PO Program. The report contains summaries of some 400 E/PO products and activities developed or carried out in FY 2002 under the OSS E/PO Program. It includes products and activities developed through the E/PO efforts of OSS missions and research programs, the Initiative to Develop Education through Astronomy and Space Science (IDEAS) program, the Minority University Education and Research Partnership Initiative in Space Science, the OSS E/PO Forums and Broker/Facilitators, and a number of additional comprehensive or special purpose E/PO projects managed by OSS at NASA Headquarters. Taking into account the fact that many of the activities reported involve multiple events that took place in a variety of venues, the total number of E/PO events reported for FY 2002 is more than 3,500—more than a 20-percent increase over the number of events reported in FY 2001. Events took place in all 50 States, the District of Columbia, and Puerto Rico.

While accurate information on the numbers of participants in these events is difficult to gather, estimates indicate that more than 360,000 people were direct participants in OSS-sponsored workshops, community and school visits, and other interactive special events, either in person or via live two-way communications links. Over 1.6 million visitors came to museum exhibitions, planetarium shows, public lectures, and special events featuring content from OSS missions and research programs. An additional 6 million Internet users logged in for Webcasts, Web chats, and other Web events. OSS materials and programs were made accessible to some 200 million people through conferences at which there were OSS exhibits or displays, radio and television broadcasts, news- paper columns, or other forms of public media for which precise counts of attendance, viewing audience, or readership were not available.

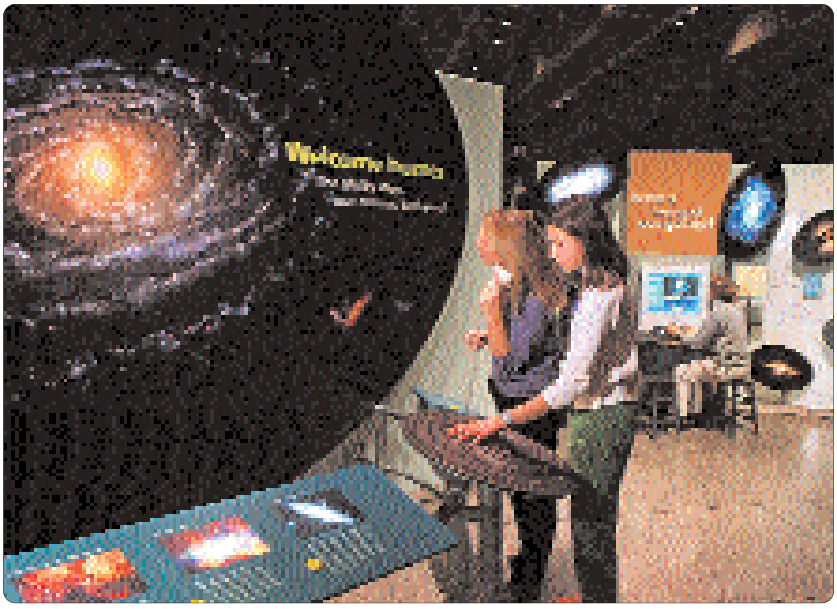
One measure of the success of the OSS E/PO Program is the more than 30 awards or other forms of public recognition for educational excellence that OSS E/PO products and activities received in FY 2002. Most significant among them was the Presidential Meritorious Executive Award given by the President of the United States to Dr. Jeffrey D. Rosendhal, OSS E/PO Director, for his leadership in creating and implementing the OSS E/PO Program. This award was a testimony not only to Dr. Rosendhal's leadership but also to the dedication of more than a thousand people throughout the extended NASA space science community who collectively worked to make the OSS E/PO Program a success.



Learning can be fun—and edible—when you make a model of the Sun on a cookie. (Credit: Sun-Earth Connection Education Forum/Karin Hauck)

Nearly 150 science centers, museums, and planetariums partnered with OSS in FY 2002 by contributing substantially to developing exhibitions, planetarium shows, materials, or other activities based on OSS content. Taking into account the many other institutions that participated by serving as additional host sites for exhibitions, planetarium shows, displays, or other educational activities based on OSS content, a total of nearly 300 science centers, museums, and planetariums in 45 States, the District of Columbia, Guam, and Puerto Rico participated in OSS E/PO efforts in FY 2002.

Several major debuts highlighted the year. Voyage: A Journey Through Our Solar System, an accurate, one ten-billionth



The Milky Way serves as a gateway to the *Cosmic Questions* exhibition. (Credit: Smithsonian Astrophysical Observatory/Kevin Burke)

scale model of the Solar System, opened on the National Mall in Washington, DC. Cosmic Questions: Our Place in Space and Time, a 5,000-square-foot traveling exhibition on the past, present, and future of the Universe, opened at the Museum of Science in Boston. Also making its debut was Northern Lights, a planetarium show tailored for smaller planetariums that emphasizes audience participation in exploring the beauty and causes of auroras.

Continuing their national tours in FY 2002 were the Hubble Space Telescope: New Views of the Universe, MarsQuest, and Space Weather Center exhibitions. In addition, Explore the Universe, an exhibition featuring the Hubble Space Telescope (HST) backup mirror, continued to be on display at the Smithsonian National Air and Space Museum. ViewSpace, a series of multimedia presentations showing images from HST and other NASA space science missions, was displayed in over a hundred small planetariums and science centers around the country.

OSS continued to emphasize providing opportunities for meaningful participation in space science activities by individuals from groups that are currently underserved and underutilized in science and technology. After years of anticipation and planning, Touch the Universe: A NASA Braille Book of Astronomy was published by the National Academy of Sciences. Touch the Universe is a 64-page book that makes the magnificent images taken by the HST accessible to visually impaired students.

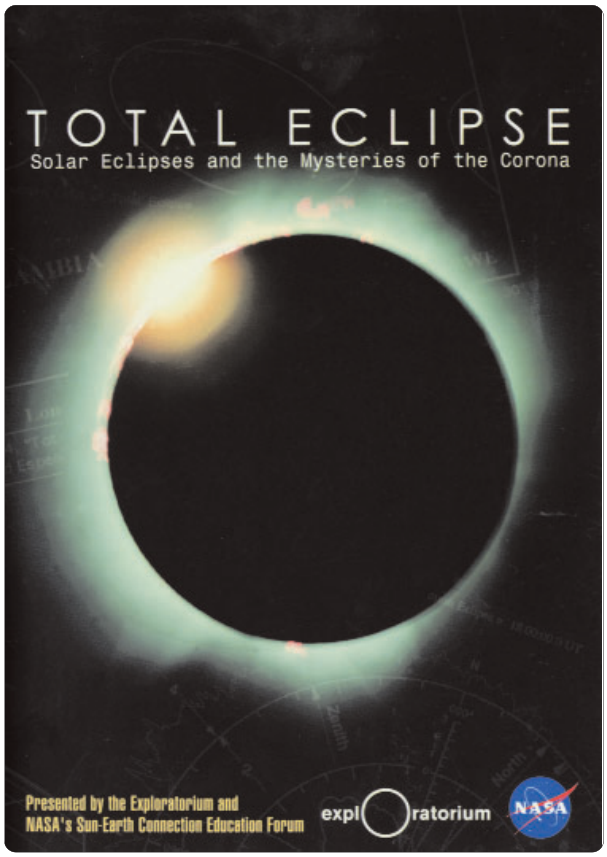
Touch the Universe makes images from the Hubble Space Telescope accessible to students with visual impairments. (Credit: National Federation of the Blind)

In a continuing effort aimed at developing space science capabilities at minority universities, 15 minority institutions first funded in FY 2001 continued to make excellent progress under the NASA Minority University Education and Research Partnership Initiative in Space Science. By the close of FY 2002, these institutions collectively reported being engaged in research collaborations with 9 NASA space science missions or suborbital projects and in more than 30 working partnerships with major space science research groups. In academic programs, the 15 minority institutions collectively reported having established on their campuses 22 space science faculty positions, 11 space science degree programs, and 66 space science courses. They were also engaged in a wide variety of teacher training, precollege outreach, and public outreach programs serving constituencies in their local communities.

Teachers training at the University of Hawaii at Hilo prepare for a Polynesian voyage as a means of learning traditional star lore and celestial navigation. (Credit: University of Hawaii at Hilo/Nathan Chang)

More significant involvement of a minority university in the OSS scientific program occurred at Hampton University where, as a result of an open, competitive peer review process, Hampton's Aeronomy of Ice in the Mesosphere (AIM) mission was selected for flight under the Small Explorer (SMEX) program. This success made Hampton University the first Historically Black College or University (HBCU) ever to be given the lead responsibility for conducting a complete space flight mission.

Providing educational products that use space science missions and discoveries to enhance what is taught in the classroom continued to be a major facet of the OSS E/PO Program in FY 2002. Invisible Universe: The Electromagnetic Spectrum from Radio Waves to Gamma Rays, a set of middle school classroom activities on the electromagnetic spectrum, was published as part of the Lawrence Hall of Science's Great Explorations in Math and Science (GEMS) series. Total Eclipse: Solar Eclipses and the Mysteries of the Corona, a new video and DVD that explores the science behind eclipses, was released. In addition, more than 70 other new products were reported as having been developed during FY 2002.



The **Total Eclipse** video/DVD explores the science behind eclipses.

Efforts to improve the utility of the NASA Space Science Education Resource Directory (SSERD), an online repository of OSS educational resources, continued during FY 2002. The SSERD established a partnership with the NASA Central Operation of Resources for Educators (CORE) through which the capability of ordering some products in multimedia hard-copy forms (such as CD-ROM, videotape, or DVD) was added to the SSERD's existing capability of disseminating materials in electronic formats. In addition, a product review process was initiated. During FY 2002, 46 OSS products were evaluated and rated. Procedures are being put in place so that products receiving exemplary ratings will be highlighted within the SSERD.

More than 170 OSS-sponsored educational activities that directly supported classroom education, some 90 educational activities directed specifically to the general public, and a number of activities that were aimed at improving the participation of the space science community in E/PO activities were conducted in FY 2002.

The Mars Student Imaging Project (MSIP) is an example of the unique opportunities for students to work directly with NASA space science missions, data, and personnel that are generated by the OSS policy of embedding E/PO efforts within each mission and research program. Under MSIP, pre-college or undergraduate students may participate in acquiring images and analyzing data from the Mars Odyssey spacecraft. The MicroObservatory, a network of online telescopes that middle and high school teachers and their students can access through a Web interface from their classroom, is an example of how providing hands-on opportunities can improve student performance.

Numerous workshops for individual teachers held in FY 2002 offered educators the opportunity to experience some of the excitement of conducting space science flight missions and to increase their understanding of the discoveries made by such missions and research programs. The subject areas covered ranged from Beyond the Visible Universe: Teaching Invisible Astronomy to Extremophiles: Life on the Edge.

OSS also used public television and special events to expand the reach of its educational activities. In conjunction with the Mars Odyssey spacecraft's arrival at Mars, two Live from Mars specials were produced and broadcast during FY 2002 as part of the Passport to Knowledge (P2K) series. The second annual Sun-Earth Day was held on March 20, 2002, with the theme "Celebrate the Equinox," featuring discussions on the Sun's connection to the Earth and a emphasis on Native American traditions.

Essential to carrying out this vast portfolio of E/PO activities was the direct participation of more than 1,000 OSS-affiliated scientists, technologists, and support staff, and the participation and contributions of more than 500 institutional and organizational partners. These partners either led the E/PO efforts for OSS missions or programs or contributed substantially to developing OSS E/PO products or activities. Taking into account the wealth of additional institutions that served as host sites for OSS E/PO events or exhibits or as media outlets for OSS materials or programs, a total of more than 2,000 institutions and organizations participated in OSS E/PO efforts during FY 2002. In addition, OSS had a substantial presence at approximately 70 national or regional scientific and education conferences.

In June 2002, nearly 300 scientists and educators gathered in Chicago for the first national OSS E/PO Conference. The attendees gave a rousing community endorsement to the successes to date of the OSS E/PO Program as well as critical feedback on areas in need of improvement. Formal feedback received later in the year from a Space Science Advisory Committee E/PO Task Force and from the ongoing study being conducted by the Lesley University Program Evaluation and Research Group (PERG) substantiated and expanded upon both the endorsements and the critical feedback received at the conference.

In response to this feedback, major attention will be paid in FY 2003 and beyond to building a space science curriculum framework to bring greater coherence to the wealth of OSS E/PO materials being produced. Attention will also be paid to finding ways to offer professional development opportunities to the people implementing OSS E/PO programs and to

understanding and improving the impact that the programs are having on its intended audiences. Efforts to expand the reach of the OSS E/PO Program to wider and more diverse audiences will also be continued.

FY 2003 will also be highlighted by a number of new products and activities. Ringworld, a new, updatable planetarium show tracing the Cassini mission's exploration of Saturn, will debut in FY 2003. A new call for proposals under the Minority University and College Education and Research Partnership in Space Science will be issued in FY 2003, and partnerships with groups such as professional societies of minority scientists and the Girl Scouts of the USA will continue to be developed. Living With a Star: From Sunscreen to Space Weather, a new middle-school space science guide for teachers, will be added to the GEMS series in FY 2003. The next Sun-Earth Day, on March 18, 2003, will focus on auroras and will be centered on the debut of two new Passport to Knowledge science specials, Auroras—Living With A Star and Live From The Aurora, and the release of a new children's book and Web site, Auroras: Mysterious Lights in the Sky. Finally, the launch and landing on Mars of twin Mars Exploration Rovers will be the focus of major new outreach activities leading into FY 2004 and beyond.

With the strong foundation already established and with the improvements OSS continues to make, OSS anticipates having an increasingly vibrant and strong E/PO Program in FY 2003 and beyond. OSS is pleased to be making these contributions as part of the broader NASA education program, so that as we journey to Mars and unlock the secrets of the Universe, no child will be left behind.

To inspire the next generation of explorers . . . as only NASA can.

INTRODUCTION

This third Annual Report on the NASA Office of Space Science (OSS) Education and Public Outreach (E/PO) program summarizes the hundreds of E/PO products developed and activities carried out during FY 2002 under OSS sponsorship. Examples of the products and activities covered include award-winning educational Web sites, major exhibitions in museums and science centers, partnerships with minority universities, resources for educators, research projects that allow students and teachers to participate in NASA space science missions, and Webcasts and public television broadcasts about major space science research areas. Prominent among these activities is an emphasis on expanding the reach of the OSS E/PO Program to include an increasingly more diverse variety of participants. Such efforts include reaching out to rural communities and students with disabilities, and using organizations such as professional societies of minority scientists to encourage involvement by audiences that have previously not been significant participants in the space science program.

In total, efforts centered on developing some 400 E/PO products and activities are summarized in this report and include the following:

- 71 new educational products registered with the Space Science Education Resource Directory (SSERD) during FY 2002;
- 172 educational activities that directly supported classroom education;
- 30 activities emphasizing targeted outreach to specific audiences or addressing special needs within the education community;
- 31 activities providing support to science centers and planetariums;
- 89 educational activities directed at reaching the general public; and
- 5 activities aimed at encouraging members of the space science community to contribute to E/PO activities and increasing the effectiveness of such efforts.

Taking into account the fact that many of the activities reported involved multiple events that took place in a variety of venues, the total number of E/PO events reported for FY 2002 is more than 3,500—more than a 20-percent increase over the number of events reported in FY 2001. Events took place in all 50 States, the District of Columbia, and Puerto Rico.

More than 3,500 E/PO events took place under OSS sponsorship in FY 2002, encompassing all 50 States, the District of Columbia, and Puerto Rico. (Credit: Southeast Regional Clearinghouse/Craig Anthony)

While accurate information on the numbers of participants in these events is difficult to gather, we can offer the following estimates:

- Over 360,000 teachers, students, and members of the general public were direct participants in OSS-sponsored workshops, community and school visits, and other interactive special events, either in person or via live two-way communications links.
- Over 1.6 million visitors came to museum exhibitions, planetarium shows, public lectures, and special events featuring content from OSS missions and research programs.
- Over 6 million Internet users logged in for Webcasts, Web chats, and other Web events.
- OSS materials and programs were made accessible to some 200 million people through conferences at which there were OSS exhibits or displays, radio and television broadcasts, newspaper columns, or other forms of public media for which precise counts of attendance, viewing audience, or readership were not available.

Complete information on each of these products and activities, including event dates, locations, and participant counts, appears in Appendix A. Summary comments and descriptions of some highlights are contained in the narrative below.

The OSS E/PO efforts described here are only one component of a comprehensive Agencywide education program that, during FY 2002, was designated as a fundamental part of the NASA mission. The OSS E/PO Program is aligned with and strongly supports the new NASA mission **to inspire the next generation of explorers . . . as only NASA can**. The two main elements of the OSS E/PO Program are **to inspire and motivate students to pursue careers in science, technology, engineering, and mathematics** by supporting education in the Nation's schools and **to engage the public in shaping and sharing the experience of exploration and discovery** by supporting informal education and public outreach efforts. These are elements that have been central to the OSS E/PO Program since its inception. They are carried out by embedding E/PO within every OSS mission and research program and by relying heavily upon education partners to leverage the unique content resources that OSS brings to E/PO efforts.

E/PO is an integral part of each space science mission. (Credit: NASA Space Telescope Science Institute)

The results from our missions and research programs and the scientific and technical expertise of the space science community are the most significant and unique resources that OSS can bring to E/PO efforts. To this end, more than 100 OSS missions and research programs contributed to OSS E/PO efforts in FY 2002. Every OSS flight mission and research program is expected to devote a portion of its resources to E/PO efforts and to include such E/PO efforts as an integral element of its overall program. This approach has created a highly diversified portfolio of E/PO products being developed and activities being carried out in conjunction with mission and research development activities in locations across the country. Adding to this portfolio are innovative space science E/PO programs developed under the Initiative to Develop Education through Astronomy and Space Science (IDEAS) program, projects initiated under the Minority University Education and Research Partnership Initiative in Space Science, projects initiated or coordinated by the OSS E/PO Forums and Broker/Facilitators, and a number of additional comprehensive or special purpose programs managed by OSS at NASA Headquarters. A directory of all the missions and programs that contributed to OSS E/PO efforts in FY 2002, along with references to the specific E/PO products they developed and E/PO activities they carried out, appears in Appendix B.

OSS has made a major commitment to actively engage its community of space scientists in NASA's education efforts. More than 1,000 OSS-affiliated scientists, technologists, and support staff contributed to OSS E/PO efforts in FY 2002, each of whom is acknowledged by name and affiliation in Appendix C. A landmark event to deepen the involvement of scientists in E/PO efforts was the first OSS Education and Public Outreach Conference, held June 14–16 in Chicago, IL. The conference brought together nearly 300 scientists and educators with an interest in space science education and outreach to hear presentations and engage in discussions on what we can learn from science education research, issues and challenges faced by educators in formal and informal venues, and ways in which scientists can most effectively participate in education and outreach.

The OSS approach to E/PO is based on building partnerships with the education community and other organizations engaged in education in order to create products and activities that meet the needs of educators and use multiplier effects to reach as large an audience as possible. In FY 2002, more than 500 institutions and organizations partnered with OSS to develop and implement E/PO programs. The following were among these partners:

- 20 precollege education organizations, including major curriculum developers such as the Mid-continent Research for Education and Learning (McREL) and the Lawrence Hall of Science; professional societies such as the National Science Teachers Association and the Association of Science-Technology Centers (ASTC), and a number of school districts and boards;
- 12 organizations promoting minority participation in science, including professional societies of minority scientists such as the National Society of Black Physicists and student societies such as the American Indian Science and Engineering Society (AISES);
- nearly 70 community organizations such as the Girl Scouts, the Boys & Girls Clubs of America, and the Civil Air Patrol;
- more than 50 libraries, library systems, and library associations;
- nearly 150 museums, science centers, and planetariums;
- nearly 70 colleges and universities, including 29 minority institutions; and
- more than 90 science institutions and organizations.

A full list of these partners appears in Appendix D. This list includes only those institutions and organizations that served as full partners by leading the E/PO efforts for OSS missions or programs and/or by leading or contributing substantially to developing OSS E/PO products or activities in FY 2002. Taking into account another 1,500 institutions and organizations whose role was primarily that of serving as additional host sites for OSS E/PO events or exhibits or as media outlets for OSS materials or programs, a total of more than 2,000 institutions and organizations participated in OSS E/PO efforts during FY 2002. All such institutions and organizations are listed in Appendix H according to their geographical location. This appendix also serves as an index, cross-referencing each institution or organization to the descriptions in Appendix A or B of the programs, activities, or products with which they are associated.

Conferences provide an effective means of contact with organizations and individuals engaged in space science E/PO activities. In FY 2002, OSS had a substantial presence at approximately 70 national or regional scientific and education conferences. Exhibits, workshops, materials, and knowledgeable staff were present at such conferences, which provided significant opportunities to discuss space science E/PO resources, opportunities, and issues with conference attendees. These conferences included 22 national education and outreach conferences organized by groups

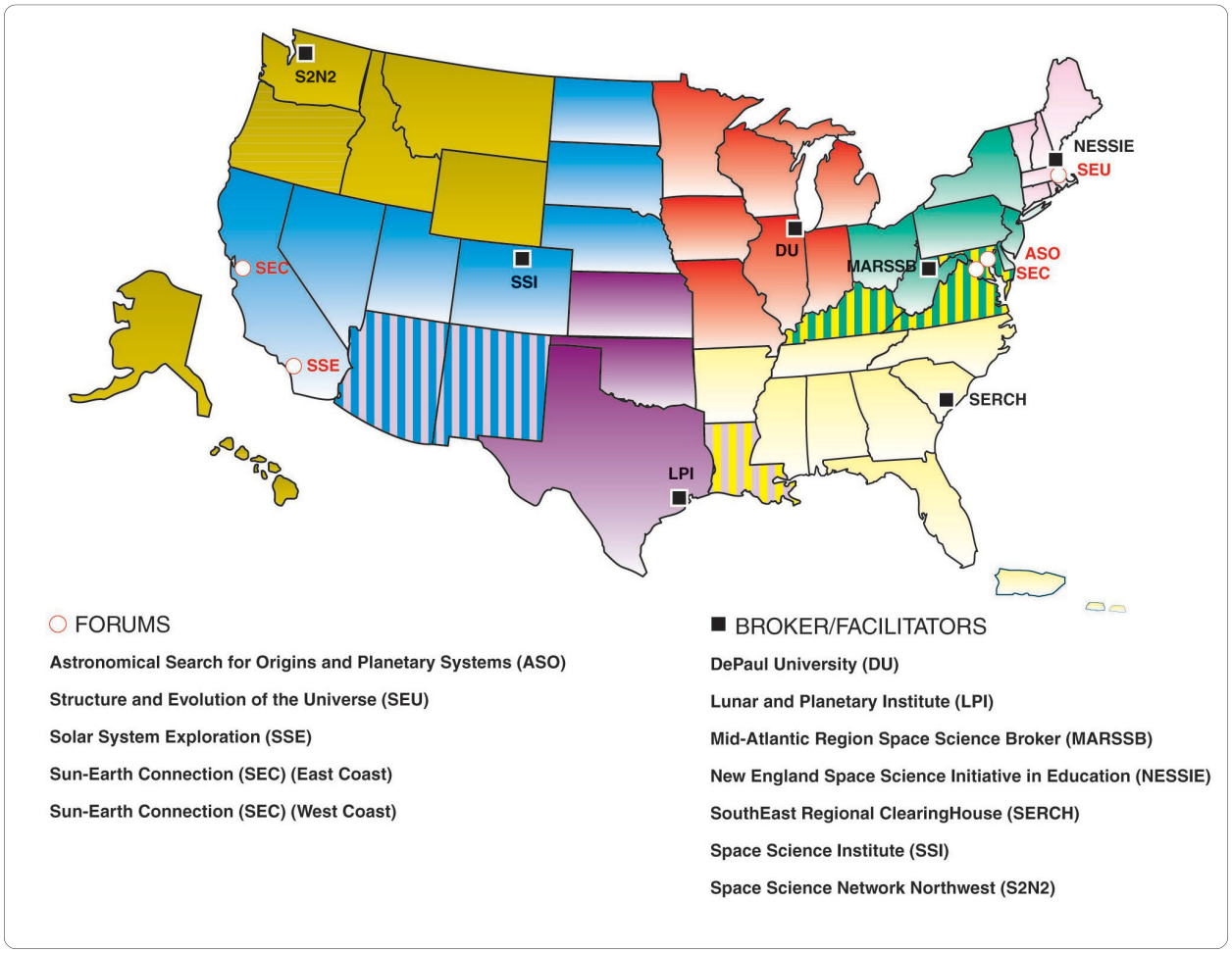
More than 500 institutions and organizations partnered with OSS to develop and implement E/PO programs in FY 2002. (Credit: Southeast Regional Clearinghouse/Craig Anthony)

such as the National Science Teachers Association, the International Planetarium Society, and the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers. Also included were more than 30 regional education and outreach conferences sponsored by groups such as regional library associations and State science teacher associations, as well more than a dozen science conferences at which OSS encouraged scientists to more actively participate in E/PO activities. A complete list of the conferences at which there was a significant space science presence in FY 2002 appears in Appendix E.

Coordination and integration of the many OSS E/PO efforts now underway is the responsibility of the OSS E/PO Support Network. The major elements of this network are the theme-oriented Education Forums and the network of regional Broker/Facilitators. The Forums are charged with coordinating the E/PO efforts of OSS's individual space science missions and helping them to make their discoveries and results accessible and readily available to the education community. The Broker/Facilitators are charged with facilitating the involvement of space scientists in education through creating partnerships with educators to carry out high-leverage E/PO activities. Each Forum is responsible for supporting missions within one of the four OSS research themes: the Astronomical Search for Origins (ASO), Solar System Exploration (SSE), Structure and Evolution of the Universe (SEU), and the Sun-Earth Connection (SEC). Each Broker/Facilitator is responsible for serving space scientists and educators within a specific geographical region.

OSS was pleased to welcome three new Broker/Facilitators to the Support Network in FY 2002: 1) the New England Space Science Initiative in Education (NESSIE), a Boston-area collaboration of the Museum of Science, Tufts University, and the Harvard-Smithsonian Center for Astrophysics; 2) the Mid-Atlantic Region Space Science Broker (MARSSB), an arm of the Center for Educational Technologies at Wheeling Jesuit University in West Virginia; and 3) the Space Science Network Northwest (S2N2), a consortium of seven Space Grant consortia, led by the University of Washington in Seattle. The addition of the S2N2 partners means that 22 out of the 52 Space Grant consortia are now formally affiliated with the OSS Broker/Facilitator program.

Contact information for each of the Forums and Brokers/Facilitators and lists of the E/PO projects in which



The OSS E/PO Support Network consists of four theme-oriented Education Forums and seven regional Broker/Facilitators.

they were most substantially involved in FY 2002 are given in Appendix B. For the many other projects in which they played the background role of catalyzing, coordinating, and facilitating the E/PO activities of others—as well as coordinating the reporting of those activities for this Annual Report—the work of Support Network members is not explicitly mentioned, but it is implicitly assumed and greatly appreciated. The work of the Support Network is central to many of the successes described in this Annual Report.

Because the OSS E/PO Program emphasizes a strategic focus on high-leverage approaches and is carried out through extensive partnerships undertaken in a decentralized way, any attempt to compile information on all of the OSS E/PO products and activities is bound to be incomplete. The information contained here was compiled from information on new products registered in the Space Science Education Resource Directory and from data on activities entered into the OSS E/PO Tracking and Reporting System by the individuals responsible for each E/PO product or activity. This FY 2002 Annual Report should therefore be regarded as a representative—rather than a comprehensive—compilation of OSS E/PO products and activities. Since we know that there were products developed and activities carried out that were not reported through these channels, the statistical information provided continues to represent lower limits for the quantities reported.

The following sections of this report begin by providing information on awards and other forms of public recognition that the OSS E/PO Program received in FY 2002. They then go on to give statistical summaries and to describe highlights of E/PO efforts in each of the following categories:

- Science Center Shows/Exhibits—planetarium shows and museum or science center exhibitions;
- Targeted Outreach—activities that provide substantial targeted outreach to underserved/underutilized groups;
- Educational Products—products designed for use in classrooms, for enhancing the public understanding of science, and/or for special interest groups; and
- Educational Activities—activities primarily intended to enhance formal classroom education, the public understanding of science, or the involvement of scientists in E/PO.

The examples of products and activities cited in this narrative represent just a few highlights from the rich portfolio of products and activities that are fully laid out in the appendices. The main body of the report concludes with a discussion of program evaluation and a look at future plans for the OSS E/PO Program. Appendices and indices then provide comprehensive details and cross-references on all OSS E/PO products and activities that were reported for FY 2002. Live links and additional search capabilities may be found in the online version of this report at *http://spacescience.nasa.gov/education/* under the link to "Annual Reports."

"Chandra has . . . given hundreds of thousands of school children and their teachers a wonderful resource for the classroom."

—The Children's Web Surfing Alliance

AWARD-WINNING PROJECTS

One measure of the success of the NASA Office of Space Science (OSS) Education and Public Outreach (E/PO) Program is the more than 30 awards or other forms of public recognition for excellence in education that OSS E/PO products and activities received in FY 2002. Most significant among them was the Presidential Meritorious Executive Award given by the President of the United States to Dr. Jeffrey D. Rosendhal, OSS E/PO Director, for his leadership in creating and implementing the OSS E/PO Program. This award was a testimony not only to Dr. Rosendhal's leadership but also to the dedication of more than a thousand people throughout the extended NASA space science community who collectively worked to make the OSS E/PO Program a success.

The vast majority of awards received during FY 2002 were for external Web sites providing information on NASA space science missions and educational resources based on that information. Also significant were several major NASA awards recognizing significant contributions of individuals or groups (both inside and outside of NASA) to space science education. Examples of some of these awards are given below, and a list of all the awards reported as being received in FY 2002 appears in Appendix F.

The Navigator program's new Planet Quest Web site at *http://planetquest.jpl.nasa.gov/* clearly captured the imagination of a broad segment of the population. Planet Quest takes visitors on a "search for another Earth" by providing information and educator resources on the science, technology, and missions involved in finding and characterizing planets orbiting stars other than our Sun. Recognition of the quality and significance of this site came from the science education community through awards that included the Eisenhower National Clearinghouse's Digital Dozen Award, *Discover Magazine*'s Pick of the Web award, Griffith Observatory's Star Award, and a National Academy Press designation as a Coolest Science Site. Recognition of its appeal to the general public came through a Time Warner Cable Best of the Web Award, and a Yahoo.com designation as a Yahoo! Pick and one of Yahooligan's Five Coolest Sites.

The Chandra X-Ray Observatory Center's Web site at *http://www.chandra.harvard.edu/*, added to the awards it has received in past years from the science and education communities, with a number of new awards in FY 2002 coming from sources serving the general public. These new awards included the lightOS.com 8th Annual Golden Ace Award for Science, a CPSnet Ocean of Knowledge Seal, and designations as a UKBest50 Best 50 Astronomy Site, an America Online AOL Hot Link, and a USA Today Hot Site. The Chandra site also received accolades from the Children's Web Surfing Alliance for the easy-to-read format and the rich detail that it offers. The Chandra site serves as an "Outpost" on the alliance's CyberSurfari.Org Web site—a site that is devoted to educational development for teachers, students, and families regarding the vast opportunities and benefits available through strong online navigation skills.

The award-winning **PlanetQuest** Web site keeps count of extrasolar planets as they are discovered. (Credit: NASA Jet Propulsion Laboratory/Randal Jackson)

Hubble Space Telescope online outreach Web site at *http://hubble.stsci.edu* received public recognition as a *New Scientist* magazine Web Pick, a *PC World* magazine Best of the Web site, and a Suite101.com Top Five Web site for science.

Ciencia@NASA, the Spanish-language version of NASA Marshall Space Flight Center's popular Science@NASA Web site, was recognized by Yahoo! International as the Best Spanish Science and Technology Web Site. The Astro-materials Program Curation Web Site at *http://curator.jsc.nasa.gov/* and the Hubble Space Telescope's Amazing Space Web site at *http://amazing-space.stsci.edu/* were added to the National Science Teachers Association's (NSTA) continually growing list of NASA space science sites designated as NSTA sciLINKS. Other NASA space science sites that received public recognition in FY 2002 included the Galileo: Journey to Jupiter Web site at *http://galileo.jpl.nasa.gov/*, which was designated as an American Library Association Great Web Site for Kids; the New Millennium Program's Space Place Web site at *http://spaceplace.jpl.nasa.gov/*, which received an Ask Jeeves Silver Platter Award; and the NASA Solar System Web site at *http://www.jpl.nasa.gov/solar_system/*, which was designated as a Marco Polo Education Foundation Science NetLink.

Ciencia@NASA brings NASA research to the broad community of Spanish language speakers. (Credit: Marshall Space Flight Center)

Major NASA awards given in FY 2002 for significant E/PO efforts included a NASA Group Achievement Award given by NASA Jet Propulsion Laboratory (JPL) to the Mars Public Engagement program for its efforts in supporting the Odyssey Mars Orbit Insertion and a NASA Exceptional Achievement Medal given by JPL to Nancy Leon for her leadership of Space Place, the cornerstone of outreach efforts for NASA's New Millennium Program. In addition, NASA Goddard Space Flight Center (GSFC) gave a GSFC Award for Excellence in Outreach to Dr. Steele Hill for his work with the Solar and Heliospheric Observatory (SOHO).

"The exhibit helped me know what the Universe was like. . . . it made me really think about it."

—A 9-year-old visitor to Cosmic Questions

SCIENCE CENTER SHOWS/EXHIBITS

The debut of a scale model Solar System on the National Capitol Mall and the opening of a major traveling exhibition on the past, present, and future of the Universe highlighted the extensive presence of NASA space science in science centers, museums, and planetariums in FY 2002. Nearly 150 such institutions partnered with the Office of Space Science (OSS) in FY 2002 by contributing substantially to developing exhibitions, planetarium shows, materials, or other activities based on OSS content. Taking into account the many other institutions that participated by serving as additional host sites for exhibitions, planetarium shows, displays, or other educational activities based on OSS content, a total of nearly 300 science centers, museums, and planetariums in 45 States, the District of Columbia, Guam, and Puerto Rico participated in OSS Education and Public Outreach (E/PO) efforts in FY 2002. Combining the educational expertise and audience reach of these institutions with the materials, technical expertise, and other resources available from OSS missions and research programs creates important opportunities for using the results of NASA space science missions to improve the public understanding of science and technology. Examples of some of the more visible outcomes from such opportunities are described below. Detailed descriptions of these and other OSS projects with science centers, museums, and planetariums appear in Appendix A.

On October 17, 2001, Voyage: A Journey Through Our Solar System opened on the National Mall in Washington, DC.

Visitors to the National Capitol Mall encounter **Voyage**, a one ten-billionth scale model of the Solar System. (Credit: NASA/Renee Bouchard)

Developed by the Challenger Center for Space Science Education in Alexandria, VA, in collaboration with NASA and the Smithsonian Institution, Voyage is an accurate, one ten-billionth scale model of the Solar System composed of 13 viewing stations sited along a 600-meter path from the National Air and Space Museum to the Smithsonian's Castle. At each station, visitors can view a three-dimensional, laser-sculpted replica of the world they are standing near. They can also see the locations of nearby worlds marked by viewing stations that are easily visible in the distance. Porcelain enamel graphic panels on each viewing station place the visitor at the planet in seemingly familiar locations, such as standing on the planet's surface looking up at the sky. Because Voyage is placed in its location on the National Capitol Mall for the next 15 to 20 years, it will not travel to other museum sites. Instead, its designers hope to replicate it for permanent placement at other sites around the world. Educational materials and supplementary information on Voyage are available at *http://www.voyageonline.org.*

Cosmic Questions: Our Place in Space and Time, a 5,000-square-foot exhibition that invites audiences to explore fundamental questions and recent discoveries about the origin, evolution, and structure of the Universe, opened at the Museum of Science in Boston on September 19, 2002. Among other activities, this highly interactive exhibition offers visitors a chance to go beyond the visible and observe what the Universe would look like if they could see infrared light or x-rays, journey to a black hole and study it from a virtual orbiting observatory, discover what it's like to be an astronomer, make the acquaintance of observers on a Hawaiian mountaintop, meet a team that is launching a great observatory into space, and program a remote telescope to take a picture of a selected object. Cosmic Questions was developed through a partnership between the Boston Museum of Science and the NASA Structure and Evolution of the Universe Education Forum at the Harvard-Smithsonian Center for Astrophysics, with major funding provided by the National Science Foundation. Beginning in February 2003, Cosmic Questions will travel to science centers and museums across the country under the auspices of the Association of Science-Technology Centers. At each stop on its tour, Cosmic Questions will provide professional development workshops for teachers and museum staff as well as a package of activities and demonstrations that the museum staff may use to provide informal learning opportunities for museum visitors.

Also making its debut in FY 2002 was Northern Lights, a planetarium show tailored for smaller planetariums that emphasizes audience participation in exploring the beauty and causes of auroras. For example, visitors can partake of the beauty of the aurora by using fluorescent chalk to sketch images of the aurora that they have just seen, and they can view their drawings glowing under black lights. In addition, participants interactively learn about seasons, sunrises, and

In the cosmic kitchen, visitors to the **Cosmic Questions** exhibition learn that in order to make apple pie, you must first make the Universe. (Credit: Smithsonian Astrophysical Observatory/Kevin Burke)

sunsets. Northern Lights was developed through a collaboration between the NASA Sun-Earth Connection Education Forum and the Lawrence Hall of Science (LHS). Scientific expertise and multimedia resources were provided by the Fast Auroral Snapshot Explorer, the Imager for Magnetopause-to-Aurora Global Exploration (IMAGE), and other NASA missions. Since its release in the early summer of 2002 as part of the LHS audience participatory program series, Planetarium Activities for Student Success (PASS), Northern Lights has been distributed as a kit to over 75 planetariums nationwide. It is also being distributed with every Starlab inflatable planetarium sold. The Northern Lights kit includes a guide with the script, the scientific background, classroom activities, a video or DVD, and a slide set.

A number of major OSS space science exhibitions that were developed in previous years continued their national tours in FY 2002. Hubble Space Telescope: New Views of the Universe, a 5,000-square-foot exhibition designed to immerse visitors in the magnificence and mystery of the Hubble mission, continued its 4-year tour with stops at the Kennedy Space Center Visitor Center in Florida and at Union Station in Kansas City, MO. Meanwhile, the smaller, 2,500-square-foot version of the exhibition visited the Discovery Center in Bridgeport, CT. MarsQuest, a 4,500-square-foot traveling exhibition that invites visitors to share in the excitement of the scientific exploration of Mars, made stops at the Catawba Science Center in Hickory, NC; the Virginia Air and Space Museum in Hampton, VA; and the Peggy Notebaert Nature Museum in Chicago, IL. The Space Weather Center, a 700-square-foot exhibit that shows viewers how space weather (disturbances in space driven by solar activity) plays a role in their everyday lives, was on display at the Adler Planetarium and Astronomy Museum in Chicago, IL; the Insights El Paso Science Museum in El Paso, TX; and Wayne County Community College in Belleville, MI. In addition, Explore the Universe, an exhibition that displays the Hubble Space Telescope (HST) backup mirror, continued to be on display at the Smithsonian National Air and Space Museum. The HST back-up mirror is the centerpiece of observational tools that astronomers have devised over the past four centuries to understand the Universe.

Over a hundred small planetariums and science centers around the country were served by ViewSpace, a series of multimedia presentations that show regularly updated images from Hubble Space Telescope (HST) and other NASA space science missions in their galleries. A museum or planetarium that wants to use ViewSpace provides an exhibit area with a PC, a display device (large monitor, LCD projector, or plasma screen), a small sound system, and an Internet connection. The Space Telescope Science Institute then provides the ViewSpace exhibit content. ViewSpace presentations orchestrate high-resolution images, digital movie clips, and minimally intrusive text together with an appropriate musical background. ViewSpace is currently being distributed via CD, but it will soon transition to an Internet distribution model that will allow automated delivery of the latest news and images from Hubble (and other missions) as soon as the information is released. In addition to the enhanced timeliness, the Internet version will soon offer expanded programming in the form of "Fun Facts" challenge quizzes and news updates from around the NASA/OSS mission world.

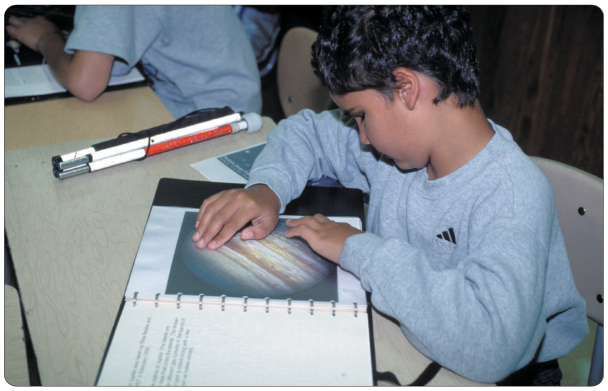
"Science is for blind children too!"

— Barbara Cheadle, President, National Organization of Parents of Blind Children

TARGETED OUTREACH

Targeted outreach projects are those that emphasize meaningful participation in NASA Office of Space Science (OSS) activities by individuals from groups that are currently underserved and underutilized in science and technology. These projects are motivated by the recognition that meeting the future needs of a society based on science and technology requires the involvement of all Americans. While OSS encourages the inclusion of participants from underserved and underutilized groups in all education and public outreach (E/PO) projects, some projects make such involvement their primary focus. Examples of several FY 2002 projects that targeted underserved and underutilized groups are given below. Descriptions of these and other targeted outreach projects may be found in Appendix A.

After years of anticipation and planning, Touch the Universe: A NASA Braille Book of Astronomy was published by the Joseph Henry Press of the National Academy of Sciences. Born from a simple idea, a modest E/PO supplement to a Hubble Space Telescope Guest Observer grant, and a collaboration between an astronomer (Dr. Bernard Beck-Winchatz of DePaul University), a planetarium educator (Noreen Grice of the Museum of Science, Boston), and a teacher (Ben Wentworth of the Colorado School for the Deaf and Blind), Touch the Universe is a 64-page book that makes the magnificent images taken by the Hubble Space Telescope (HST) accessible to visually impaired students. Each image is printed in color and then the pages are embossed so that color features are represented by various raised symbols and textures. The accompanying explanatory text is given in both



Tactile images in **Touch the Universe** make Hubble Space Telescope images come alive for students with visual impairments. (Credit: Colorado School for the Deaf and Blind)

Students at Alabama A&M University learn how to adjust a telescope. (Credit: Alabama A&M University/Arjun Tan)

Braille and large print so that readers of all visual abilities are able to view and read the book together. Formal unveilings of the book were planned for early FY 2003 at the National Federation of the Blind in Baltimore, MD, and at DePaul University in Chicago, IL. Copies of the book may be ordered from the Joseph Henry Press at *http://www.jhpress.org*.

In a continuing effort aimed at developing space science capabilities at minority universities, 15 minority institutions first funded in FY 2001 continued to make excellent progress under the NASA Minority University Education and Research Partnership Initiative in Space Science. By the close of FY 2002, these institutions collectively reported being engaged in research collaborations with 9 NASA space science missions or suborbital projects and in more than 30 working partnerships with major space science research groups. In academic programs, the 15 minority institutions collectively reported having established on their campuses 22 new or redirected space science faculty positions, 11 new or revised space science degree programs, and 66 new or revised space science courses. Notable among these programs was a new systemwide space science degree program established at the City University of New York (CUNY) that is open to students at any college within the CUNY system.

The 15 minority institutions also engaged in a wide variety of teacher training, precollege outreach, and public outreach programs serving constituencies in their local communities. Unique among these programs was an effort developed by the University of Hawaii at Hilo (UHH) to blend traditional Polynesian knowledge of the sky with the concepts of current NASA astronomy research. New Opportunities Through Minority Initiatives in Space Science (NOMISS) includes a redesigned undergraduate astronomy curriculum at UHH that features hands-on work with astronomical instruments, cultural information, and internships provided through partnerships with the major observatories on Mauna Kea. A precollege component of NOMISS brought K–12 teachers on summer retreats and to cultural protocol workshops where classroom activities were blended with excursions to cultural sites, including Mauna Kea. The participating teachers now are

A stone Star Compass introduces teachers to Polynesian celestial navigation. (Credit: University of Hawaii at Hilo/Alice Kawakami)

designing and implementing curriculum activities to increase their students' learning about culture, mathematics, and science—particularly astronomy. Public interest in NOMISS is high, as the Hawaiian community focuses on bringing together diverse perspectives about space science on Mauna Kea, which is both a major focal point of traditional Hawaiian culture and one of the best observational astronomy sites on Earth.

Beyond the baseline of activities established through the space science minority university initiative, significant involvement of a minority university in the OSS scientific program occurred at Hampton University where, as a result of an open, competitive peer review process, Hampton's Aeronomy of Ice in the Mesosphere (AIM) mission was selected for flight under the Small Explorer (SMEX) Program. This success gave Hampton University the distinction of being the first Historically Black College or University (HBCU) ever to be given the lead responsibility for conducting a complete space flight mission. AIM will determine the causes of noctilucent clouds—the highest altitude clouds in the Earth's atmosphere—and their impact on global climate. Hampton students will be significantly involved in conducting and analyzing the data from the AIM mission. In addition, a national E/PO Program associated with AIM will use the beautiful images of noctilucent clouds to motivate interest, learning, and a deeper understanding of the issues surrounding changes in the Earth's atmosphere.

Noctilucent clouds are the subject of Hampton University's AIM mission. (Credit: Oscar Van Der Velde/image location: **http://www.lightningwizard.com**)

OSS also continued to work with professional societies of minority scientists in order to broaden the diversity of participants in OSS missions and E/PO projects and to improve the effectiveness of OSS support for the activities of these professional societies. In this work, an emphasis is placed on engaging society members as consultants and partners and on establishing collaborations early in the planning process for major activities or programs. Among the outcomes from this effort in FY 2002 was that minority scientists identified through the professional societies' network began to serve on the E/PO planning and advisory committees for the OSS Navigator Program and the Cassini/Huygens mission to Saturn. In addition, OSS supported activities of the professional societies through an enhanced presence at the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) and the American Indian Science and Engineering Society (AISES) conferences (in early FY 2003). OSS also supported the professional societies by becoming a sponsor of the Richard Tapia Celebration of Diversity in Computing conference, celebrating the technical contributions and career interests of diverse people in computing fields.

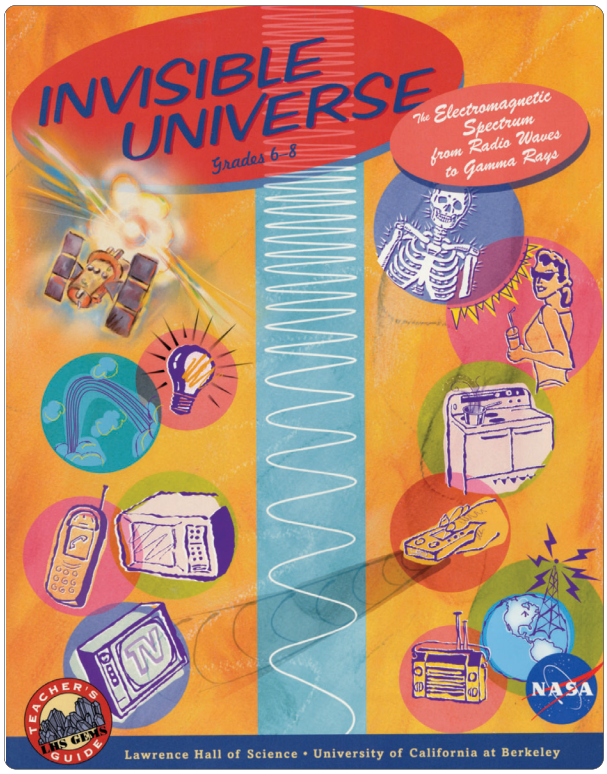
In a continuing effort to inspire young girls to consider careers in science, mathematics, and technology, the NASA Solar System Exploration Forum at the Jet Propulsion Laboratory led OSS involvement in a collaboration with the Girl Scouts of the USA (GSUSA). By working with GSUSA councils and the GSUSA national headquarters, OSS is able to provide training for master trainers, articles for the national *Leader* magazine, content for the GSUSA Web site, and other national resources. Working through these avenues presents an opportunity to reach more than 3.2 million Girl Scouts, as well as their parents and almost 1 million adult members. During FY 2002, preliminary steps were taken to solidify this relationship through a formal agreement with GSUSA. Completion of these arrangements is expected in FY 2003.

"Teachers and Museum staff observe that space science sparks children's interest more than any other scientific subject, with the possible exceptions of robots and dinosaurs."

— PERG Interim Evaluation Report

EDUCATIONAL PRODUCTS

Providing educational products that use space science missions and discoveries to enhance what is taught in the classroom is a major facet of the NASA Office of Space Science (OSS) Education and Public Outreach (E/PO) Program. The development of such products is typically undertaken by one or more OSS missions or researchers working in collaboration with professional educators. The OSS E/PO Support Network provides guidance in the development of products, serving as consultants and in some cases coordinating and leading the development of major products that draw on the content of a number of missions. Examples of two new products are given below, and Appendix A of this Annual Report contains descriptions of more than 70 new products that were reported as having been developed during FY 2002.



Invisible Universe guides learning about the electromagnetic spectrum.

Invisible Universe: The Electromagnetic Spectrum from Radio Waves to Gamma Rays is a set of middle school classroom activities created through a collaboration between the Swift gamma-ray-burst mission and the Lawrence Hall of Science (LHS). The booklet contains five thoroughly tested activities that use the mystery of gamma-ray bursts as an engagement tool to teach students about the electromagnetic spectrum, the different ways astronomical objects emit energy across the spectrum, and how astronomers detect these objects. It is being released as part of LHS's Great Explorations in Math and Science (GEMS) series. GEMS guides are currently used collectively in approximately 25 percent of the country's school districts and thus provide an excellent opportunity to reach large numbers of students.

Total Eclipse: Solar Eclipses and the Mysteries of the Corona is a new video and DVD that explores the science behind eclipses and how these events can provide insight into the dynamic nature of the Sun and its effects on Earth and society. The video, produced by the Exploratorium and NASA's Sun-Earth Connection Education Forum, features the best footage of recent total solar eclipses as viewed from the Caribbean, Turkey, and Africa. The modular 30-minute program covers the mechanics of eclipses, the history of human interest in eclipses, the role of eclipses in the study of the solar corona, and the importance of NASA Sun-Earth Connection research on our modern understanding of the Sun.

The Space Science Education Resource Directory (SSERD) an online repository of OSS educational resources that is hosted by the Space Telescope Science Institute. Through the SSERD, products that are available for widespread distribution are made available to educators, who may visit the SSERD at *http://teachspacescience.org* and search for and obtain the materials in which they are interested. The SSERD is compatible with and linked to major national educational databases such the U.S. Department of Education's Gateway to Educational Materials (GEM) that are familiar to and widely used by teachers. Educators seeking materials can easily search the Resource Directory by keyword, browse the directory by topic, or conduct advanced searches by using any combination of keywords, grade levels, formats, and subjects. These search capabilities are continually being upgraded and expanded, based on feedback and requests from users.

One main objective of the SSERD is to become a one-stop shopping site for space science materials. It is critical to ensure that educators can not only find materials in the SSERD, but that they can also easily obtain those materials for their own use. In prior years, only those resources that were available electronically over the Internet were included.

For such items, the SSERD gives users a link either to the resource's own Web site or to a downloadable PDF file. During FY 2002, the SSERD established a partnership with the NASA Central Operation of Resources for Educators (CORE) through which the capability of ordering some products in multimedia hard-copy forms (such as CD-ROM, videotape, or DVD) was added. Beginning early in FY 2003, users seeking such audiovisual materials may download a printable order form and mail it, with payment for minimal reproduction and shipping charges, to CORE. CORE will then ship a copy of the desired material to the user requesting it. It is hoped that in future years this procedure can be upgraded to a direct online-ordering system in which orders can be placed from within the SSERD and transmitted electronically to CORE. In addition, steps are being taken to begin acquiring one or more commercial partners to provide similar services for printed materials.

Another objective of the SSERD is to give educators some helpful guidance as to the quality and utility of the many resources contained within it. To this end, a product review process has been initiated. During FY 2002, 46 OSS products drawn from across the four OSS theme areas were evaluated and rated by panels of scientists and educators. Procedures are being implemented so that products receiving exemplary ratings in such reviews will be highlighted within the SSERD.

At the end of FY 2002, there were more than 450 space science products registered in the SSERD. Approximately 275 of these products were available electronically over the Internet and, therefore, were accessible to searches by SSERD users. The remaining products were available only as hard-copy or audiovisual materials and, therefore, were not yet accessible to searches by SSERD users until broader distribution mechanisms are in place.

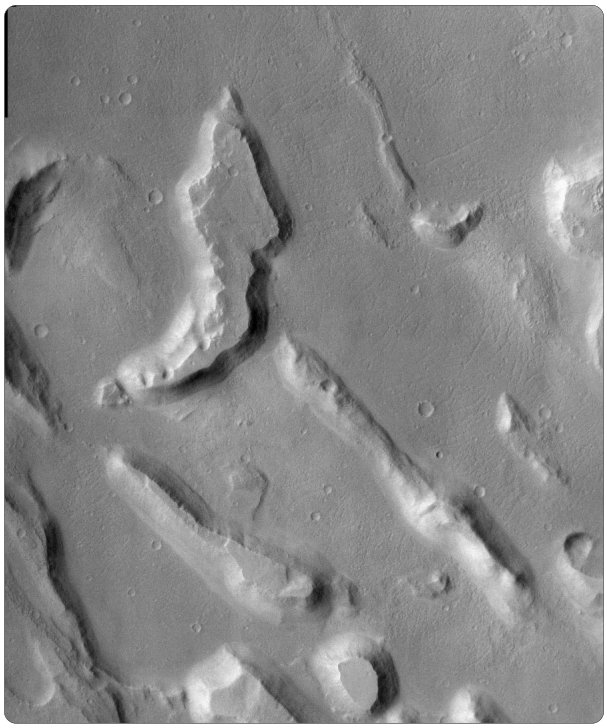
The Space Science Education Resource Directory gives educators access to a wide variety of OSS E/PO materials.

"This program . . . is a once in a lifetime experience for all the students participating."

—A seventh-grade student commenting on MSIP

EDUCATIONAL ACTIVITIES

In FY 2002, the NASA Office of Space Science (OSS) sponsored more than 170 educational activities that directly supported classroom education at the precollege level, and some 90 educational activities that were directed specifically to the general public. Through these two areas, OSS contributed to inspiring and motivating students to pursue careers in science, technology, engineering, and mathematics by supporting education in the Nation's schools and by engaging the public in shaping and sharing the experience of exploration and discovery. OSS also sponsored a number of activities that were aimed at encouraging members of the space science community to contribute to education and public outreach (E/PO) activities and at improving the effectiveness of their participation. Further comments on and examples of some highlights of these educational activities are given below. Detailed descriptions of these activities appear in Appendix A.



Images of Mars from the Odyssey spacecraft are used for student research projects. (Credit: NASA Jet Propulsion Laboratory/Arizona State University)

The OSS policy of embedding E/PO efforts within each mission and research program generates unique opportunities for students to work directly with NASA space science missions, data, and personnel. This is particularly important for students of high school or even younger ages where having such an experience can easily influence career choices. For example, the Mars Student Imaging Project (MSIP), conducted at the Arizona State University Mars Imaging Facility, offers middle school, high school, and undergraduate student teams the opportunity to participate directly in the scientific exploration of Mars. A percentage of the pictures taken by the Thermal Emission Imaging System (THEMIS) instrument on the Mars Odyssey 2001 spacecraft are dedicated to student use. Student teams submit proposals to take pictures of specific regions of Mars in order to answer specific scientific questions that they pose. Teams whose proposals are selected participate in acquiring the images, analyzing the data, and presenting their findings. At least one-quarter of the imaging-team slots are reserved for underrepresented groups (minority, female, rural, and inner-city), which are recruited through contacts with minority institutions and other programs. In addition to direct student participation in onsite mission operations, opportunities for more students are being created through distance learning and through a special archived-image library of data that is being developed using data from all of NASA's past, present, and future Mars missions.

The MicroObservatory network of online telescopes, operated by the NASA Structure and Evolution of the Universe (SEU) Education Forum, allows middle and high school teachers and their students to investigate the night sky from their classrooms. By means of a Web interface, students access the five robotic telescopes in the network and specify observing parameters such as the target, exposure time, and filter. Located at sites around the world, the telescopes have a combined capability of making a quarter of a million observations each year. Students in 20 States now use the telescopes to carry out investigations, ranging from the distance to the Moon to the expansion of the Universe. Studies conducted by the Chandra X-Ray Observatory and the SEU Forum indicate that students who carry out investigations using these telescopes show significant gains in their understanding of astronomy and physical science concepts and in their ability to solve math problems associated with these subjects.

The Chicago Teachers' Advisory is one example of how OSS is contributing to systemic reform initiatives being undertaken in various parts of the country. The DePaul Broker/Facilitator has developed a partnership with Chicago teachers that is aimed at developing ways to bring space science to the schoolchildren of Chicago. Advisory meetings occur one to two times a year and attract a broad group of teachers who are representative of the Chicago Public Schools system. The January 2002 meeting attracted 120 teachers from the Chicago area to focus on integrating space

Astronomer James Kaler (left) and Native American storyteller Lynn Moroney (right) share ideas. (Credit: DePaul University/Victoria Simek)

science with reading, writing, and the arts. Lynn Moroney, a Native American storyteller, and Dr. James Kaler, an astronomer from the University of Illinois, gave plenary addresses which showed how much the crafts of storytelling and modern astronomy have in common. Teachers who are members of the Chicago Teachers' Advisory planned the meeting, led several breakout sessions, and then took the lead in developing follow-up activities. One team of 10 teachers is now building on literacy and science ideas to develop a thematic unit that incorporates storytelling and reading strategies, big ideas in science, and NASA space science discoveries. Another group of teachers will become certified in the use of the StarLab portable planetariums demonstrated at the symposium.

Numerous workshops for individual teachers were also conducted by the E/PO elements of OSS flight missions and research programs in FY 2002. These workshops offered teachers the opportunity to experience some of the excitement of conducting space science flight missions and to increase their understanding of the discoveries made by such missions and research programs. In many cases, teacher guides and classroom activities based on the missions or programs were provided as part of the workshop. The subject areas covered a wide range of topics. For example, the Stratospheric Observatory for Infrared Astronomy (SOFIA) and the Space Infrared Telescope Facility (SIRTF) combined their efforts to produce Beyond the Visible Universe: Teaching Invisible Astronomy, a workshop on infrared astronomy that included demonstrations with an infrared camera, provided resource materials for the teachers and college instructors who participated, and gave a view of the future of infrared astronomy. The NASA Astrobiology Program's Living in the Microbial World and Extremophiles: Life on the Edge workshops examined microbial diversity, the evolution of some of the earliest ecosystems on Earth, and the extreme environments in which life can survive. The Astromaterials Program's Rocks from Space workshops were collaborations between scientists at NASA Johnson Space Center and Texas educators to train other educators in using extraterrestrial materials to teach not only Earth and space science, but also chemistry and physics.

Many workshops took place at major national educator conferences such as the National Science Teachers Association (NSTA) meeting in San Diego, CA, the National Council of Teachers of Mathematics (NCTM) meeting in Las Vegas, NV, and the International Technology Education Association (ITEA) meeting in Columbus, OH. Typically, workshop presenters also staffed a major OSS E/PO exhibit booth, providing a place where teachers could examine materials and discuss them with the OSS staff present at the booth. Teacher workshops were also conducted at regional educators conferences, at museums and science centers in conjunction with major OSS exhibitions, and at numerous other venues throughout the country.

Beyond such direct interactions, OSS also used public television and other media to expand the reach of its educational activities. For example, the Passport to Knowledge (P2K) series produced by Geoff Haines-Stiles Productions, Inc., continued its partnership with OSS through the production and broadcast of two Live from Mars specials during FY 2002. The first special originated live from the NASA Jet Propulsion Laboratory on October 30, 2001, just one week after the Mars Odyssey spacecraft entered its orbit around Mars. The second special was broadcast live from the Mars Imaging Facility at Arizona State University on March 19, 2002, and featured the first results from Odyssey's infrared camera, literally "live from Mars." In both specials, students in locations around the country interacted live with NASA managers and researchers. Each special was broadcast by more than 125 public television stations and simultaneously on NASA TV, reaching an estimated audience of more than 10 million teachers and students. Sequences related the exploration of Mars to key space and Earth science topics that are found in State and national science standards. Companion Web resources provided original biographies and journals, allowing the men and women behind the Odyssey spacecraft to describe their career paths and personal commitment to exploring the Solar System.

Project Manager Roger Gibbs describes the Mars Odyssey spacecraft, **Live from Mars.** (Credit: *Passport to Knowledge*/Geoff Haines-Stiles)

Sun-Earth Day focuses attention on the Sun and its impact on life on Earth. (Credit: Sun-Earth Connection Education Forum)

Direct outreach to the public was accomplished in FY 2002 through activities such as Sun-Earth Day, a national event created by the NASA Sun-Earth Connection Education Forum (SECEF) to celebrate the Sun, the space around Earth (geospace), and how all of it affects life on our planet. The second annual Sun-Earth Day was held on March 20, 2002, with the "Celebrate the Equinox" theme. It featured programs and activities at NASA Centers and a 2-hour televised Webcast featuring discussions on the Sun's connection to the Earth through images, cultural parallels, and activities that Native Americans have used to share Sun-Earth science through several generations. Groups in classrooms, museums, shopping malls, planetariums, and auditoriums around the world participated through numerous special events arranged with materials provided by SECEF. The special Sun-Earth Day events directly involved more than 30,000 people, while the broadcast and Webcast reached millions of additional individuals.

More than a thousand OSS-affiliated scientists, technologists, and support personnel contributed to OSS E/PO efforts in FY 2002 (see Appendix C). Although this is more than a 15 percent increase in the number of such persons who reported contributing to OSS E/PO efforts in FY 2001, these individuals still represent only a small fraction of the potentially available OSS science community. In FY 2002, OSS therefore continued its efforts to encourage and to improve the effectiveness of scientists' participation in E/PO activities. The OSS E/PO Support Network provided exhibits and/or conducted workshops at a dozen major meetings of scientists. These efforts were aimed at increasing scientists' familiarity with OSS E/PO efforts and current education practices, and increasing their participation in E/PO activities. These meetings included those of professional societies such as the American Astronomical Society and the American Geophysical Union, as well the annual Lunar and Planetary Sciences Conference (see Appendix E). In addition, more extensive workshops for scientists interested in E/PO were conducted by the Space Science Institute.

In June 2002, the first national NASA Space Science Education and Public Outreach Conference was held in Chicago with the goals of strengthening and deepening OSS E/PO efforts and, in particular, of enhancing the ability of the space science community to contribute to these efforts. The importance of E/PO to NASA's space science program was underscored by the opening keynote speaker, Dr. Edward J. Weiler, NASA's Associate Administrator for Space Science. Dr. Weiler emphasized the point that education is part of NASA's core mission and that enhancing the quality of science, mathematics, and technology courses, particularly at the precollege level, is key to accomplishing that mission. Among the topics discussed at the conference were ways to better reach members of underserved communities, including people with special needs; the creation of professional development opportunities for educators; the establishment of standards for programs; and better ways to access and disseminate information from NASA space science missions. These discussions helped identify areas requiring attention in the future—areas that also emerged from the more formal evaluation studies described in the next section.

"A solid foundation has been established . . ."

— Space Science Advisory Committee E/PO Task Force

EVALUATION

Significant feedback on the quality of the NASA Office of Space Science (OSS) Education and Public Outreach (E/PO) Program and its effect on the audiences it serves came during FY 2002 from three major sources. First, discussions at the NASA Space Science E/PO Conference in Chicago resulted in substantial critical feedback from scientists and educators who were themselves actively engaged in space science E/PO efforts. Second, the E/PO Task Force chartered by the NASA Space Science Advisory Committee (SScAC) presented its preliminary assessment of how well OSS has succeeded in implementing its E/PO Implementation Plan—which is the foundation of its whole approach to education. This Task Force also considered whether any significant changes in the process, content, or direction of the OSS E/PO Program are needed. Finally, the Program Evaluation and Research Group (PERG) of Lesley University presented its first report from Phase III of its ongoing program evaluation studies of the impact of OSS E/PO efforts on its intended audiences. The feedback from all three sources came to similar conclusions, the highlights of which are summarized below.

All three sources pointed to the substantial progress that the OSS E/PO Program has made over the past several years. The scope and breadth of products and activities, the increased participation of minorities in OSS activities, and the program infrastructure that has been established are seen as having had a significant national impact and as having offered a solid foundation upon which to build future activities. Much credit for these successes was given to the OSS policies of embedding E/PO in each space science mission and research program, of engaging the space science community in E/PO, and of relying heavily on leveraged support from a large number of external education partners.

Critical examination is the key to success. (Credit: Sun-Earth Connection Education Forum/Lou Mayo)

All sources of feedback indicated that the most important issue needing to be addressed is coherence. There is a generally recognized need to build much greater coherence among the many NASA space science educational products being produced through the OSS E/PO Program. In the current system, many space science missions create individual E/PO products and materials based on the scientific and technical content of their own missions. The result is a plethora of space science E/PO products covering a broad range of topics with a broad range of approaches. While this method offers the education community many choices of products, it also induces confusion. Some products may overlap with or duplicate the topics addressed by other products, leaving teachers uncertain as to which product would be best to use for that topic. Meanwhile, other critical topics may not be addressed by any product at all.

To mitigate these problems, the education community strongly recommended that OSS develop an overarching curricular framework that would organize space science educational products in a coherent manner, indicating how such products fit into the requirements of the classroom at various grade levels. Such a framework would be tied to science education standards at each level and would introduce each topic in a sequential manner that would be built upon in subsequent years. Having such a framework would make it easier for educators to use the space science materials in their classrooms. It would also give each of the OSS missions a common basis for determining what types of new materials would be the most useful to develop with an increased focus on quality for those materials that are produced.

The feedback sources also indicated that there is a need for increased professional development opportunities for the implementers of NASA space science education programs. One consequence of having embedded the OSS E/PO Program within the missions and research programs is that a new profession of space science E/PO specialists has been created. These specialists are typically employed by the institutions that manage space science missions and carry out the space science research programs. They have the job of actually planning and carrying out the E/PO efforts of the missions or programs that employ them. While some of these E/PO specialists have formal training in education, many of them do not. They are typically scientists or technologists who have adopted education as a new career. Thus, it is critically important to provide this new community of E/PO specialists with opportunities to learn the practical aspects of developing E/PO activities and products that are based on the

best knowledge and practices of the professional education community. This step will help make the OSS E/PO community a more effective agent at bringing together science content with education needs.

Finally, the sources cited a need to make NASA space science educational products more readily accessible to educators. The NASA Space Science Education Resource Directory (SSERD) is a welcome first step in this direction, but its utility is hampered by a number of unresolved issues. Publicity about the SSERD is inadequate, leaving many educators unaware of its existence. At the present time, the SSERD does not allow searches by standards or by lesson time, nor does it give indications of the quality of the materials in it. The SSERD can be difficult to locate on the Internet, and it can be time-consuming to use (especially for those with slow modems). Materials that are available only in hard-copy cannot be accessed through the SSERD. Some of these issues were already among those slated to be addressed in future upgrades of the SSERD; others are new issues that must be added to the list of future SSERD improvements.

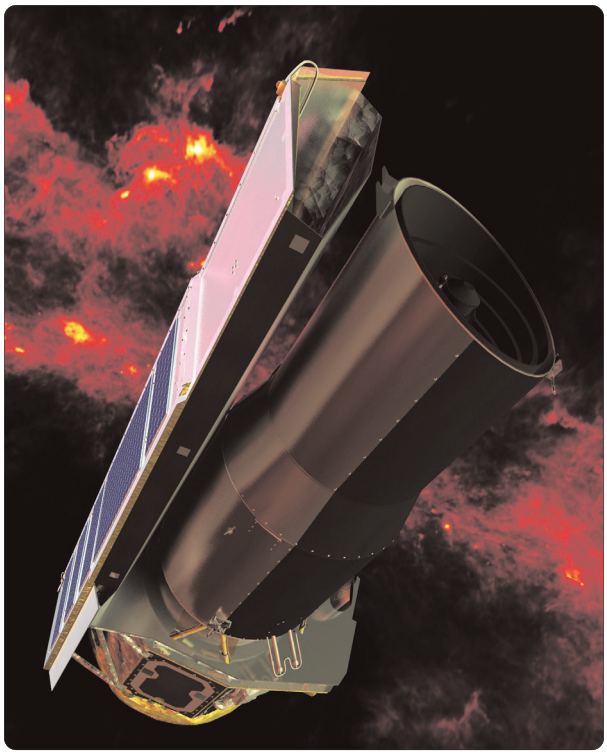
This feedback from the Chicago conference, the SScAC E/PO Task Force, and the PERG evaluation group sets much of the future OSS E/PO agenda, as is described in the following section.

"We will give serious attention to improving the coherence of the vast array of space science educational resources that we produce and offer."

—NASA FY 2002 *Performance and Accountability Report*

SUMMARY AND FUTURE PLANS

In many ways, FY 2002 was a turning point for the NASA Office of Space Science (OSS) Education and Public Outreach (E/PO) Program. It marked a transition from an initial phase focused on establishing the program's infrastructure and nurturing its very rapid start-up to a more mature phase focused on paying much greater attention to improving the program's quality and impact. The Chicago OSS E/PO Conference was a major event marking this transition. The intense interest and enthusiasm shown by the nearly 300 scientists and educators in attendance was a rousing community endorsement of the successes, to date, of the OSS E/PO Program. At the same time, critical feedback from the conference participants foreshadowed the more formal feedback later received in reports from the E/PO Task Force and the PERG evaluation group. Responding to this feedback is the major program priority for FY 2003 and beyond.



The launch of the SIRTF observatory will focus attention on infrared wavelengths. (Credit: NASA Jet Propulsion Laboratory)

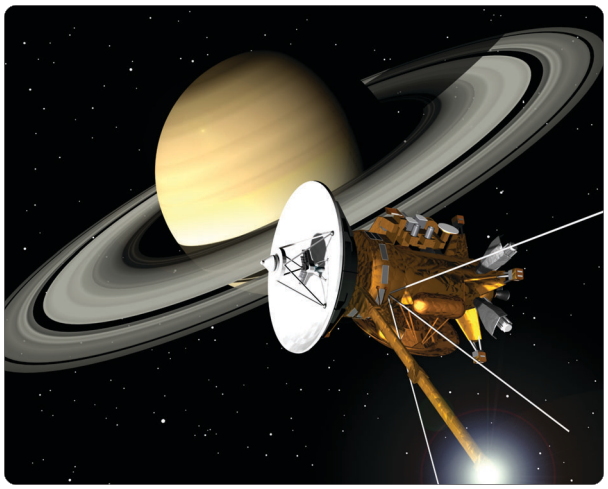
The general priority will be to build on the foundation that has already been established while emphasizing improving the quality and impact of OSS E/PO efforts and extending their reach into new areas. In so doing, further steps will be taken to coordinate OSS E/PO efforts with other similar efforts being undertaken throughout NASA in order to optimize our contribution to the Agency's overall education program.

The coherence of NASA space science materials for educators will be improved by building a framework that will show the appropriate standards-aligned sequencing of space science topics throughout the K–12 years. This will provide overall direction and context for the materials being produced by individual missions. To assist educators in locating useful materials, an increased emphasis will be put on evaluating materials for quality and impact and on improving the search and dissemination mechanisms available through the Space Science Education Resource Directory (SSERD).

Coherent and sustained professional development will be provided for personnel who are engaged in NASA space science education and public outreach in order to increase the effectiveness of their work in education. For OSS E/PO professionals, training in standards and in the practical results from education research will be provided. For space scientists, training aimed at developing a familiarity with education practices will be provided and opportunities to improve presentation techniques will be offered. For educators, opportunities to improve awareness, competency, and leadership in the use of OSS materials that are tied to the space science framework discussed above will be offered.

Major opportunities for students to work directly with NASA space science missions, facilities, and data are anticipated in the coming years. Most notably, as new observatories are launched, new spacecraft arrive at Mars, and far future missions examine icy bodies in the outer Solar System, the quantity of data received at Earth will increase substantially. This will allow an ever-increasing number of students the opportunity to become directly involved in space science research and to make genuine discoveries, as they are given access to images and data that, in many cases, have not yet been critically examined by professional scientists.

OSS efforts to provide opportunities for an increasingly diverse population to participate in space science missions, research, and education and outreach programs will be expanded. A new call will be issued in FY 2003 for proposals from minority institutions that are interested in developing space science capabilities on their campuses. Partnerships with special-interest organizations such as professional societies of minority scientists will continue to be developed and enhanced, and new working partnerships with the diversity initiatives of scientific professional societies will be established.



An artist's conception shows the Cassini spacecraft approaching Saturn, the subject of the **Ringworld** planetarium show. (Credit: NASA Jet Propulsion Laboratory)

The utility and availability of OSS E/PO activities and products will be extended to an increasingly broad population, including such groups as persons with disabilities, girls and women, and residents of rural areas.

The strong partnerships that OSS has developed with the science center, museum, and planetarium communities will continue. At the close of FY 2002, major activities planned for FY 2003 included the debut of Ringworld, a new, updateable planetarium show about Saturn that is being developed in a partnership between the Cassini mission and Sullivan Presentations of Salt Lake City, UT. The Cosmic Questions exhibition was scheduled to begin its national tour with stops at the Midland Center for the Arts in Midland, MI, and the Orlando Science Center in Orlando, FL. The large version of the Hubble Space Telescope: New Views of the Universe exhibition was scheduled to visit the U.S. Space & Rocket Center in Huntsville, AL, and the small version was scheduled for stops at the Virginia Air and Space Center in Hampton, VA, the Kirby Science Discovery Center in Sioux Falls, SD, the U.S. Space & Rocket Center in Huntsville, AL, and the Miami Museum of Science in Miami, FL. Finally, the MarsQuest exhibition was expected to visit the Lafayette Natural History Museum in Lafayette, LA, the Liberty Science Center in Jersey City, NJ, and the Boonshoft Museum of Discovery in Dayton, OH.

Opportunities to use natural phenomena as vehicles for exploring basic issues in space science education will continue to be exploited. The next Sun-Earth Day was scheduled for March 18, 2003, with a focus on auroras, and it centered on the debut of two new Passport to Knowledge science specials, Auroras—Living With A Star and Live From The Aurora. The release of a new children's book and Web site, Auroras: Mysterious Lights in the Sky, featuring striking images of real auroras, was planned in conjunction with Sun-Earth Day, and a math and science television special, Dancing in the Night Sky, was scheduled to follow shortly afterwards as part of the NASA Connect series. Looking farther ahead, a rare transit of the Sun by the planet Venus will occur on June 8, 2004. This event offers OSS an opportunity to highlight the historical significance of such an event in making scientific observations that range from studying the atmosphere of Venus to determining the distance scale of the Universe.

Mars will be a major focus in FY 2003 and FY 2004, with the twin Mars Exploration Rovers scheduled for launch in June or July 2003 and landing on Mars in January 2004. Activities planned in conjunction with these events include new television specials and partnerships with science museums to bring Mars exploration to the public.

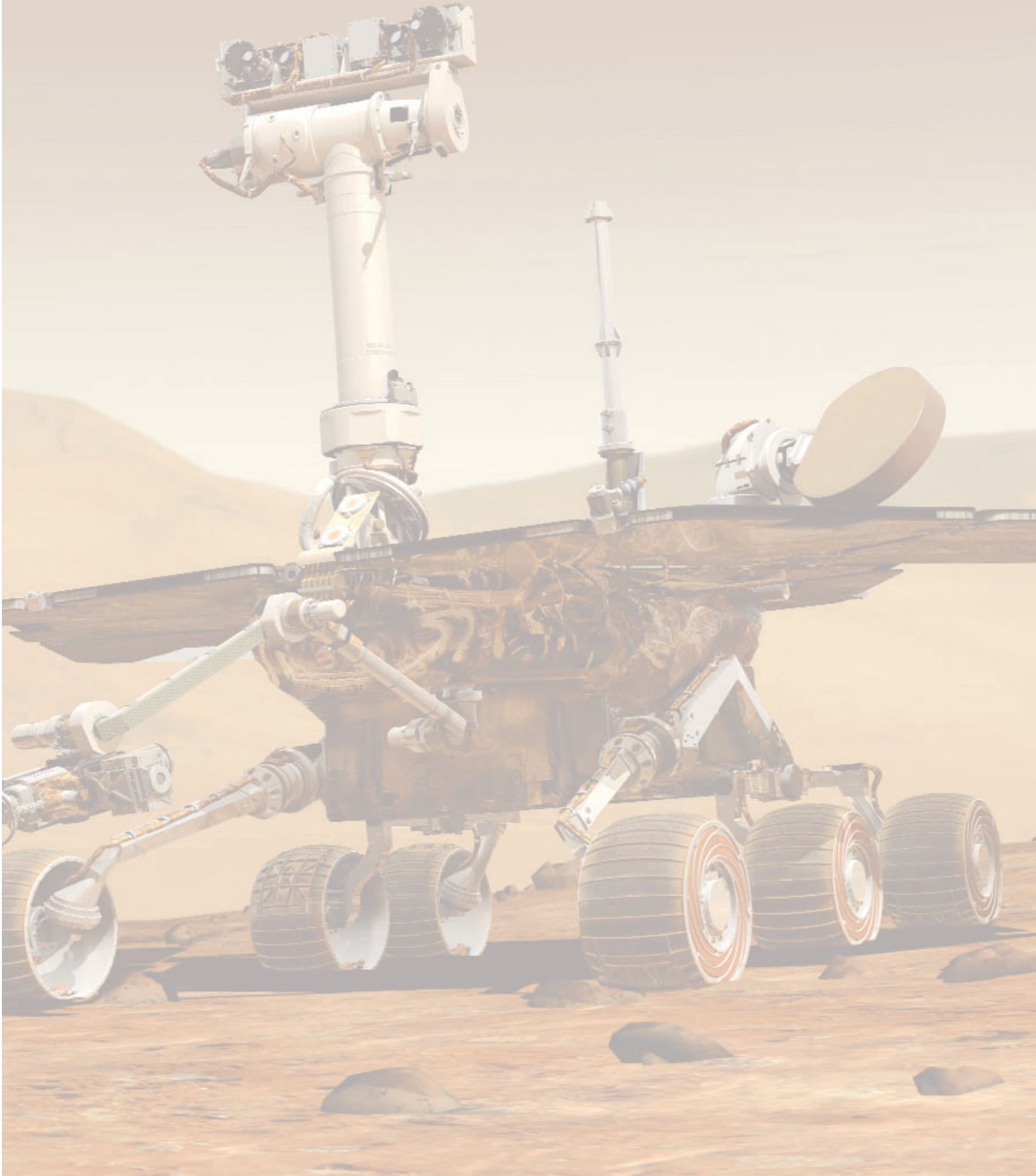
Another new NASA space science guide for middle school teachers is slated to be added to the Lawrence Hall of Science's Great Explorations in Math and Science (GEMS) series in FY 2003. Living With a Star: From Sunscreen to Space Weather, developed by the NASA Sun-Earth Connection Education Forum, allows students to explore the Earth's dynamic relationship to the Sun through such vehicles as a space-weather mystery, a mock mission to outer space, and ultraviolet experiments.

Evaluation will continue to be a major area of emphasis for OSS. The final report from the Space Science Advisory Committee (SScAC) E/PO Task Force and additional results from Phase III of the PERG evaluation study are expected in FY 2003. Responding to such external findings and recommendations will be a top priority for FY 2003 and beyond.

The OSS E/PO Program looks forward to continued growth, continuous improvements in effectiveness and educational impact, increasing efforts to reach nontraditional audiences, and greater cohesiveness both within the OSS E/PO Program itself and with other NASA education efforts. OSS is pleased to be making these contributions as an integral part of NASA's efforts to inspire the next generation of explorers. The unique character and universal appeal of OSS missions and scientific programs allow us to truly inspire and motivate students and to engage the public in ways that only NASA can.

NASA Goddard Space Flight Center scientists Art Poland (left) and Rich Vondrak (right) demonstrate the behavior of Earth's magnetic field near the North Magnetic Pole for **Auroras—Living With a Star**. (Credit: *Passport to Knowledge*/Geoff Haines-Stiles)

Appendices



APPENDIX A. Directory of OSS E/PO Products and Activities

This directory provides detailed information on each of the Office of Space Science (OSS) Education and Public Outreach (E/PO) program products and activities produced or carried out in FY 2002. The listings are grouped into categories as follows, according to the type of E/PO product or activity that they represent.

Science Center Shows/Exhibits:
- **Planetarium Shows:** Planetarium shows developed or produced with direct OSS mission/program involvement.
- **Science Center Exhibits:** Exhibits developed with direct OSS mission/program involvement and installed in a science center or museum.
- **Materials/Support:** Materials or content supplied by OSS missions/programs for use as components of planetarium shows or museum exhibits.

Targeted Outreach:
- **Minority Institution Initiative in Space Science:** Projects that are part of the Minority University Education and Research Partnership Initiative in Space Science—a joint effort of the Office of Space Science and the Office of Equal Opportunity Programs (OEOP).
- **University Research Centers:** Projects that are part of the OEOP University Research Centers Program and have significant involvement with OSS activities.
- **Other Targeted Activities:** Projects that provide substantial targeted outreach to underserved/underutilized groups.

Educational Products:
- E/PO products registered with the Space Science Education Resource Directory during FY 2002.

Educational Activities:
- **Classroom Education:** Activities that are primarily targeted to improving formal education, following the subcategories below:
  - **Systemic Improvement:** Activities that use OSS missions/programs to support local, State, regional, and national mathematics, science, engineering, and technology education change efforts through collaboration with internal and external stakeholders.
  - **Teacher Preparation/Enhancement:** Activities that use OSS missions, facilities, human resources, and programs to provide exposure and experiences to teachers and faculty to support the enhancement of knowledge and skills and to provide access to NASA information in science and mathematics.
  - **Curriculum Development/Dissemination:** Activities that develop, utilize, and disseminate science, mathematics, geography, and technology instructional materials based on OSS missions and results.
  - **Student Support:** Activities that use the OSS missions, facilities, human resources, and programs to provide information, experiences, and research opportunities for students to support the enhancement of knowledge and skill in the areas of science, mathematics, engineering, and technology.
- **Public Outreach:** Activities that are primarily targeted to improving the general public's understanding of science and technology.
- **Scientist Involvement:** Activities that are primarily targeted to encouraging the participation of scientists in E/PO activities.

Each listing contains some or all of the following detailed information:

Title:
Title of the product or activity.

Theme(s):
OSS Science Theme(s) on which the product or activity is focused:
ASO = Astronomical Search for Origins.
SEC = Sun-Earth Connection.
SEU = Structure and Evolution of the Universe.
SSE = Solar System Exploration.

Subject(s):
Subject area(s) that an E/PO product addresses (e.g., physical science, space science)

Format(s):
Format in which an E/PO product is produced (e.g., CD, pamphlet, Web site).

Audience:
Target audience for an E/PO product (e.g., grades K-12, general public).

Mission(s)/Program(s):
OSS mission(s) and program(s) that contributed to producing the product or conducting the activity. Further information on the overall E/PO activities of each mission or program can be found in Appendix B. A listing of all missions and programs according to their acronyms, along with references to where they appear in this report, can be found in Appendix I.

Description:
Narrative description of the product or activity.

Lead:
Person or organization with lead responsibility for the product or activity.

Contact:
Person or organization with contact responsibility for the product or activity.

Primary URL:
Primary Web address for further information on the product or activity.

2nd URL:
Secondary Web address for further information on the product or activity.

Scientist(s):
OSS-affiliated scientists who participated in developing the product or conducting the activity.

Partner(s):
Institutions or organizations that are partners or collaborators in the product or activity.

Event(s):
Dates, location, and numbers of participants for each discrete event associated with an E/PO activity. For example, if the activity is a program of teacher workshops, then each individual workshop is an event. The numbers of participants are counted in three separate categories: direct participants (those whose name, school, or organization is known and who have interactions with the activity leader), anonymous participants (those whose name, school, or organization is not known or who do not have interactions with the activity leader), and Web audiences.

SCIENCE CENTER SHOWS/EXHIBITS

Planetarium Shows

A1. "Journey to the Edge of Space and Time" Planetarium Show

Theme(s): SEU

Msn/Prgm(s): SEU Forum[B13], CXO[B67], SPIDR[B81]

Description: Come along on a fantastic voyage to the edge of all we know. This dynamic show, produced by the Charles Hayden Planetarium, Boston, and the NASA-Smithsonian Structure and Evolution of the Universe Forum, takes the audience on a journey to supermassive black holes, giant galaxy clusters, the Universe's earliest moments, and even to parallel universes that challenge the imagination. With the dawn of a new millennium, new instruments expand our vision of the cosmos. The pieces of a great cosmic puzzle are falling into place, promising answers to questions we once considered unanswerable: Is there an edge of space? Was there a beginning to time? Are there other universes beyond our own, waiting to be discovered? Find out more in "Journey to the Edge of Space and Time."

Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

Contact: Ms. Sandra Daly, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *sdaly@cfa.harvard.edu.* Phone: 617-496-4784.

Primary URL: *http://www.mos.org*

Scientist(s):		
Dr. Roy Gould	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Dr. Simon Steel	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA

Partner(s): Museum of Science — Boston, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
19 Sep 02	30 Sep 02	Museum of Science	Boston, MA	-	3,000	-

A2. "MarsQuest" Planetarium Show

Theme(s): SSE

Msn/Prgm(s): SSE Forum[B12], SSI B/F[B20], JPL SSE Theme[B39], Mars E/PO[B48]

Description: The "MarsQuest" planetarium show is a National Science Foundation (NSF)—funded product produced by Loch Ness Productions in collaboration with the Space Science Institute (SSI) of Boulder, CO, and more than a dozen scientists and education experts. The "MarsQuest" planetarium show is a supplemental component of the "MarsQuest" traveling exhibition now touring the United States, and planetariums at exhibit host sites receive the show free. The show is divided into three sections that present the viewer with the cultural, historical, and scientific aspects of Mars study and exploration. In the first section, "Homage," the show traces Mars through history. The second section, "Mars in Focus," details the Mars of our time—as seen in the night sky, through binoculars and telescopes, and from our Mars explorations. Mission findings from Viking, Pathfinder, and Mars Global Surveyor feature reports on Martian weather, climate, and areology. The narrative compares the climate and terrain of Earth and Mars, and it presents the current thinking about the areologic history of the planet and a rationale for future exploration. "Mars in the Future" examines where on Earth people can prepare to live on Mars, what will be needed to get crewed missions there, and what the first landing may be like. The show ends with "Rhapsody on a Red Planet," a poetically styled "ode to Mars," from the perspective of a future Mars explorer tracing the efforts that led to the first human footsteps on the Red Planet. The show's opening was in Orlando, FL, at the Dr. Phillips CineDome, where it ran in conjunction with SSI's "MarsQuest" exhibit at the Orlando Science Center.

Lead: Ms. Carolyn Collins Petersen, Loch Ness Productions, Groton, MA 01450-3159.
E-mail: *carolyn@lochness.com.* Phone: 978-448-3666.

Primary URL: *http://www.spacescience.org*

Partner(s):	
California Institute of Technology	Pasadena, CA
European Space Agency	Paris, France
Lunar and Planetary Institute	Houston, TX
Malin Space Science Systems	San Diego, CA
NASA Ames Research Center	Moffett Field, CA
NASA Jet Propulsion Laboratory	Pasadena, CA

NASA Johnson Space Center	Houston, TX
SETI Institute	Mountain View, CA
Space Science Institute	Boulder, CO
Space Telescope Science Institute	Baltimore, MD
U.S. Geological Survey	Flagstaff, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Sep 01	31 Aug 02	Coca Cola Space Science Center	Columbus, GA	-	2,847	-
01 Sep 01	31 Aug 02	Flandrau Science Center	Tucson, AZ	-	8,000	-
01 Sep 01	31 Aug 02	Hummel Planetarium, Eastern Kentucky University	Richmond, KY	-	3,076	-
01 Sep 01	31 Aug 02	Orlando Science Center	Orlando, FL	-	680	-
01 Jan 02	31 Aug 02	Radford University	Radford, VA	-	382	-
01 Jun 02	31 Aug 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	17,048	-
01 Jun 02	31 Aug 02	J.M. McDonald Planetarium at the Hastings Museum of Natural and Cultural History	Hastings, NE	-	2,507	-
01 Jun 02	01 Sep 02	Heritage Planetarium	Maryville, TN	-	1,100	-
01 Jul 02	31 Aug 02	Novins Planetarium	Toms River, NJ	-	975	-

A3. "Northern Lights" Planetarium Show

Theme(s): SEC

Msn/Prgm(s): SECEF[B14], FAST[B100], IMAGE[B102]

Description: In collaboration with NASA's Sun-Earth Connection Education Forum, the Lawrence Hall of Science (LHS) has released "Northern Lights"—a new addition to the audience participatory program series, Planetarium Activities for Student Success (PASS). The show uses images, video, and activities that demonstrate the connectivity between our Sun and Earth. Since its release in the early summer of 2002, it has been distributed to 75 institutions nationwide that requested a kit. The show, tailored to small-dome planetariums, engages participants in exploring the beauty and causes of auroras. In addition, participants interactively learn about seasons, sunrise, and sunset. Scientific expertise and multimedia resources, in the form of images and videos with NASA data, were provided by several satellite missions. Visitors can partake of the beauty of the aurora by using fluorescent chalk to sketch the real images of the aurora that they have just seen, and they can view the drawings that glow under black lights. Other program elements include recent scientific views on the causes of auroras, including images and movie clips of the Sun, granules, coronal holes in ultraviolet light, and coronal mass ejections. The "Northern Lights" kit includes a guide with the script, the scientific background, classroom activities, a video or DVD, and a slide set. The "Northern Lights" kit is being distributed along with every STARLAB inflatable planetarium sold. The following are typical comments from some of the recipients thus far: "We will make this program available for school groups as one of our school offerings. Our annual attendance is roughly 38,000 patrons, half of which are school children." and "This program will be used for both school and public groups. We average around 200-300 students a day during the springtime, and about half that number during the winter. [Our] Planetarium services many of the students from the Detroit Public Schools, with a high percentage of these students being from historically underserved minorities."

Lead: Dr. Alan Gould, Lawrence Hall of Science, Berkeley, CA 94720-5200. E-mail: *agould@uclink4.berkeley.edu.* Phone: 510-643-5082.

Contact: Dr. Isabel Hawkins, University of California, Berkeley, Berkeley, CA 94720. E-mail: *isabelh@ssl.berkeley.edu.* Phone: 510-643-5662.

Primary URL: *http://lawrencehallofscience.org/pass*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
28 Jul 02	15 Sep 02	Staerkel Planetarium	Champaign, IL	403	-	-

A4. The Dynamic Sun Planetarium Project

Theme(s): SEC

Msn/Prgm(s): IDEAS[B1], Yohkoh[B121]

Description: The Dynamic Sun Planetarium Project is an Initiative to Develop Education through Astronomy and Space Science (IDEAS) project that developed, produced and presented a planetarium show on solar physics targeted

for the general public. The program involved a partnership among the Montana State University's Solar Physics Research Group, the Physics Education Research Group, and the Museum of the Rockies' Taylor Planetarium. The show utilizes the resources of the active solar physics research group and active scientific visualization data from the Yohkoh SXT mission at the Museum of the Rockies.

Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.

Scientist(s):	Dr. Loren Acton	Montana State University	Bozeman, MT
Partner(s):	Museum of the Rockies		Bozeman, MT

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Jul 98	30 Jun 02	Montana State University	Bozeman, MT	428	-	-

Science Center Exhibits

A5. "Cosmic Questions: Our Place in Space and Time" Traveling Exhibition

Theme(s): SEU

Msn/Prgm(s): SEU Forum[B13], CXO[B67], GLAST[B70], GP-B[B71], LISA[B72], COBE[B74], CHIPS[B75],HETE-2[B78], MAP[B79], SPIDR[B81], Swift[B83], HEASARC[B86], XMM-Newton[B94]

Description: "Cosmic Questions" is a 5,000-square-foot traveling exhibition for science centers and museums, which invites audiences to explore fundamental questions and recent discoveries about the origin, evolution, and structure of the Universe. Among other activities, this highly interactive exhibition offers visitors a chance to go beyond the visible and observe what the Universe would look like if they could see infrared light or x rays, journey to a black hole and study it from a virtual orbiting observatory, discover what it's like to be an astronomer, make the acquaintance of observers on a Hawaiian mountaintop or a team launching a great observatory into space, and program a remote telescope to take a picture of a selected object. "Cosmic Questions" was made possible by generous support from the National Science Foundation and from the NASA Office of Space Science (OSS) Universe Education Forum at the Harvard-Smithsonian Center for Astrophysics (CfA). The exhibition is touring nationally under the management of the Association for Science-Technology Centers. Dozens of scientists from the CfA and from other institutions around the world contributed to "Cosmic Questions" and its accompanying programs.

Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

Primary URL: *http://www.mos.org*

Scientist(s):	Dr. Kenneth Brecher	Boston University	Boston, MA
	Dr. Roger Brissenden	Chandra X-Ray Center	Cambridge, MA
	Dr. Sandra Castro	California Institute of Technology	Pasadena, CA
	Dr. Peter Challis	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
	Dr. Andrea Dupree	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Emilio Falco	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Kathryn Flanagan	Massachusetts Institute of Technology	Cambridge, MA
	Dr. Michael Garcia	Chandra X-Ray Center	Cambridge, MA
	Dr. Owen Gingerich	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Mr. Bruce Gregory	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Robert Kirshner	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Rocky Kolb	Fermilab	Batavia, IL
	Mr. Anthony Lavoie	NASA Marshall Space Flight Center	Marshall Space Flight Center, AL
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Peter Michaud	Gemini Observatory	Hilo, HI
	Dr. Jennifer Mullins	Stanford University	Stanford, CA
	Dr. Stephen Murray	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. E. Samuel Palmer	Harvard University	Cambridge, MA
	Dr. Irene Porro	Massachusetts Institute of Technology	Cambridge, MA
	Dr. Patrick Slane	Chandra X-Ray Center	Cambridge, MA
	Dr. David Spergel	Princeton University	Princeton, NJ

	Dr. Harvey Tananbaum	Chandra X-Ray Center	Cambridge, MA
	Dr. Wallace Tucker	Chandra X-Ray Center	Cambridge, MA
	Dr. Alexander Vilenkin	Tufts University	Medford, MA
	Dr. Jan Vrtilek	Harvard University	Cambridge, MA
	Dr. Martin White	Harvard-Smithsonian Center for Astrophysics,	Cambridge, MA
Partner(s):	Jeff Kennedy Associates, Inc.		Somerville, MA
	Lesley University		Cambridge, MA
	Museum of Science		Boston, MA
	National Science Foundation		Arlington, VA
	Superior Exhibits and Design, Inc.		Elk Grove Village, IL

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
19 Sep 02	30 Sep 02	Museum of Science	Boston, MA	-	20,000	-

A6. Current Science and Technology Center

Theme(s): ASO

Msn/Prgm(s): NESSIE B/F[B18]

Description: The Current Science and Technology (CS and T) Center at the Museum of Science, Boston, is one particularly innovative vehicle for presenting the latest space science news. The CS and T Center is dedicated to communicating current research, innovative technologies and the science behind the news. Museum educators develop and deliver daily live presentations, facilitate guest researcher presentations, and curate the artifacts and electronic exhibits. The facility is equipped with a presentation stage, featuring large plasma displays, and an adjacent exhibit space with updateable touch screens. The live stage and interactive exhibits are supplemented with remotely controlled cameras, a digital graphics and video production studio, and a dynamic Web site—thereby enabling live links through satellite and fiber optics, videoconferencing, and Web-streaming. The dissemination of news in space science and other scientific and technological fields is augmented via a dedicated live link to New England Cable News (NECN). This televised link is new, yet it has already led to in-depth reports on topics in space science.

Lead: Ms. Tania Ruiz, Museum of Science, Boston, MA 02114-1099.
E-mail: *truiz@mos.org.* Phone: 617-589-0402.

Contact: Dr. William Waller, Museum of Science, Boston, MA 02114-1099.
E-mail: *wwaller@mos.org.* Phone: 617-589-0227.

Primary URL: *http://www.mos.org/cst*

2nd URL: *http://www.mos.org/nessie*

Scientist(s):	Dr. Leonard Strachan	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
20 Apr 02	20 Apr 02	Museum of Science	Boston,MA	30	200	-
02 May 02	02 May 02	Museum of Science	Boston, MA	137	113	-

A7. "Hubble Space Telescope: New Views of the Universe" (version 1)

Theme(s): ASO

Msn/Prgm(s): HST[B22]

Description: "Hubble Space Telescope: New Views of the Universe" (version 1) is a 5,000-square-foot traveling exhibition designed to immerse visitors in the magnificence and mystery of the Hubble mission. How old is the Universe? How big is the Universe? What is the fate of the Universe? Where did planets, stars, and galaxies come from? "New Views of the Universe" attempts to answer these and other questions through spectacular imagery, interactive activities, videos, and more. Its 4-year tour began in 1999 and will continue through 2003.

Lead: Mr. John Stoke, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *stoke@stsci.edu.* Phone: 410-338-4394.

Primary URL: *http://www.sites.si.edu/exhibitions/exhibit_main.asp?id=56*

2nd URL: *http://hubble.stsci.edu/*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
06 Oct 01	28 Mar 02	Kennedy Space Center Visitor Center	Kennedy Space Center, FL	-	5,000	-
01 Jun 02	01 Sep 02	Science City at Union Station	Kansas City, MO	-	4,000	-

A8. "Hubble Space Telescope: New Views of the Universe" (version 2)

Theme(s): ASO

Msn/Prgm(s): HST[B22]

Description: "Hubble Space Telescope: New Views of the Universe" (version 2) is a 2,500-square-foot traveling exhibition designed to immerse visitors in the magnificence and mystery of the Hubble mission. How old is the Universe? How big is the Universe? What is the fate of the Universe? Where did planets, stars, and galaxies come from? "New Views of the Universe" attempts to answer these and other questions through spectacular imagery, interactive activities, videos, and more. Its 4-year tour began in 1999 and will continue through 2003.

Lead: Mr. John Stoke, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *stoke@stsci.edu.* Phone: 410-338-4394.

Primary URL: *http://www.sites.si.edu/exhibitions/exhibit_main.asp?id=57*

2nd URL: *http://hubble.stsci.edu/*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Dec 01	24 Feb 02	Discovery Center	Bridgeport, CT	-	2,000	-

A9. Hubble Space Telescope: "ViewSpace"

Theme(s): ASO

Msn/Prgm(s): HST[B22]

Description: "ViewSpace" is a series of multimedia presentations that utilizes high-resolution images, digital video clips, interpretive text, and evocative space music to provide planetariums and science museums with an affordable, engaging means to deliver the drama of space-based astronomy to public audiences. Currently focused on science from the Hubble Space Telescope, "ViewSpace" will soon be expanding its coverage to include exciting science from other NASA space science missions. "ViewSpace" requires a Windows PC and a large-screen display (projector, plasma, or large presentation monitor), provided by the customer. The Space Telescope Science Institute furnishes the presentation software on CD at no cost, with updates provided quarterly. Soon, an Internet-based version of "ViewSpace" will enable a "ViewSpace" theater to display the latest news and images from Hubble (and other missions) as soon as the information is released. "ViewSpace" has been demonstrated to the science center and planetarium communities at the ASTC, IPS, MAPS, and Challenger Center conferences, and it has been greeted with acclaim. Over 100 institutions are currently using "ViewSpace" in their facilities, with more users expected to sign on during the coming year. In addition to the enhanced timeliness, the Internet version will soon offer expanded programming in the form of "Fun Facts" challenge quizzes and news updates from around the NASA Office of Space Science (OSS) mission world.

Lead: Mr. John Stoke, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *stoke@stsci.edu.* Phone: 410-338-4394.

Contact: Ms. Lucy Albert, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *lalbert@stsci.edu.* Phone: 410-338-4857.

Primary URL: *http://informal-sci.stsci.edu/index.html*

A10. "MarsQuest" Traveling Exhibit

Theme(s): SSE

Msn/Prgm(s): SSI B/F[B20], Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Express[B63]

Description: "MarsQuest" is a 4,500-square-foot, $3 million traveling exhibition that will enable millions of Americans to share in the excitement of the scientific exploration of Mars and to learn more about their own planet in the process. The exhibit began a nine-city, three-year tour in October 2000. "MarsQuest" is organized around three intriguing locations on Mars: 1) Olympus Mons, the largest volcano in the Solar System; 2) Valles Marineris, a canyon as long as the United States is wide; and 3) Ares Vallis, the Pathfinder landing site. Each area makes comparisons between Mars and Earth, giving visitors a real sense of the Martian environment. "MarsQuest" visitors encounter more than 20 interactive experiences, four life-size models, and dramatic art-

work of Martian landscapes. Visitors can send commands to maneuver a rover over a simulated Martian landscape, among many other engaging hands-on opportunities. Additional components of the "MarsQuest" program include a 30-minute planetarium show from Loch Ness Productions that is narrated by actor Patrick Stewart, best known as Captain Picard of the TV program "Star Trek, The Next Generation." The MarsQuest Education Program implements onsite, full-day workshops for museum staff and teachers that empower them to use the "MarsQuest" exhibit to share the thrill of scientific discovery with students and the public. Thus far, about 23 scientists have participated in the design, development, and implementation of the "MarsQuest" project. The Space Science Institute led the development of the "MarsQuest" exhibition with major funding from the National Science Foundation and NASA. Additional support was provided by Mitsubishi Digital Electronics America, Inc.; Hewlett-Packard Company; and CBS. For more information on the "MarsQuest" exhibit, please see the primary URL. For the latest "MarsQuest" itinerary, please see the secondary URL.

Lead: Ms. Lisa Curtis, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *curtisl@colorado.edu.* Phone: 303-492-3860.

Primary URL: *http://www.spacescience.org*

2nd URL: *http://www.astc.org/exhibitions/mars/dmars.htm*

Scientist(s):	Dr. Jim Bell	Cornell University	Ithaca, NY
	Dr. Michael Carr	U.S. Geological Survey	Flagstaff, AZ
	Dr. Todd Clancy	Space Science Institute	Boulder, CO
	Dr. Benton C. Clark	Lockheed Martin Space Systems	Littleton, CO
	Dr. Robert Craddock	Smithsonian National Air and Space Museum	Washington, DC
	Dr. Ken Edgett	Malin Space Science Systems	San Diego, CA
	Dr. Robert Haberle	NASA Ames Research Center	Moffett Field, CA
	Dr. William Ingino	University of Colorado at Boulder	Boulder, CO
	Dr. Bruce Jakosky	University of Colorado at Boulder	Boulder, CO
	Dr. Philip James	University of Toledo	Toledo, OH
	Dr. Steve Lee	University of Colorado at Boulder	Boulder, CO
	Dr. Mike Malin	Malin Space Science Systems	San Diego, CA
	Dr. Greg Neumann	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. David Sherrod	Hawaiian Volcano Observatory U.S. Geological Survey	Hawaii National Park, HI
	Dr. Peter Thomas	Cornell University	Ithaca, NY
	Dr. Mary Urquhart	NASA Ames Research Center	Moffett Field, CA
	Ms. Adrienne Wasserma	U.S. Geological Survey	Flagstaff, AZ
Partner(s):	Association of Science-Technology Centers (ASTC)		Washington, DC
	CBS Corporation		New York, NY
	Jeff Kennedy Associates, Inc.		Somerville, MA
	Mystic Scenic Studios		Dedham, MA
	National Science Foundation		Arlington, VA
	Randi Korn and Associates, Inc.		Alexandria, VA
	University of Colorado at Boulder		Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	31 Dec 01	Catawba Science Center	Hickory, NC	-	19,058	-
01 Feb 02	30 Apr 02	Virginia Air and Space Museum	Hampton, VA	-	83,635	-
01 Jun 02	31 Aug 02	Peggy Notebaert Nature Museum	Chicago, IL	-	86,542	-

A11. Skymobile

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: The Skymobile is a unique science outreach program housed in a semitrailer and sponsored by the Natural History Museum of Los Angeles County, CA, with generous funding from the Maxwell H. Gluck Foundation. Upon entering the Skymobile, students find themselves on board a research station on the planet Mars, where they have been recruited to help explore and gather information about the planet. From within the "protected environment" of a dome-like research lab, students study the Martian terrain and rock samples contained within the dome and interpret the landscape surrounding their lab. On the Skymobile, students participate in a geologic field study to familiarize themselves with the conditions and features of Mars. A computer interface

prompts them to contact scientists who are working on the planet surface to learn more about their discoveries. As students gather and record information, they compare their findings to what they (and scientists) already know about the conditions and features of Earth. Students are also introduced to clues that might suggest the presence of water, past or present, and they begin to understand why the search for water is an important goal for Mars exploration. In addition, they analyze "samples" for signs of life. Students work in cooperative groups while on the Skymobile, using technologically appropriate tools to conduct their investigations. The program emphasizes students' understanding of science investigation and basic science process skills, including data collection, classification, and drawing conclusions. Students participating in the Skymobile program are also engaged in a classroom program that introduces them to the concept of microorganisms and the importance of water for living things. Students begin to discover why a search for life on the Red Planet might involve a search for these tiny life forms and evidence of the presence of water.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Dr. Gene McDonald, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Gene.D.McDonald@jpl.nasa.gov.* Phone: 818-354-8014.

Partner(s): Natural History Museum of Los Angeles County — Los Angeles, CA

A12. "Space Weather Center" Traveling Exhibit

Theme(s): SEC

Msn/Prgm(s): SECEF[B14], SSI B/F[B20], ACE[B98], RHESSI[B101], IMAGE[B102], ISTP[B108], SOHO[B112]

Description: This 700-square-foot exhibit shows viewers how space weather (disturbances in space driven by solar activity) plays a role in their everyday lives. The exhibit incorporates engaging hands-on interactives, stunning graphic displays, and near-real-time data from NASA missions that are currently studying the Sun and the near-Earth space environment. Visitors to the "Space Weather Center" learn about solar cycles and space weather, including the effects of solar maximum; the electrical and magnetic changes that take place in space that affect people and equipment on Earth, as well as in space; the cause of the greatest light show on Earth—the aurora; and current events about space weather, including recent discoveries from leading scientists. A companion Web site, "Space Weather Center Online" (Internet address below), offers a virtual tour of the exhibit along with links and additional resources related to exhibit content. The exhibit debuted at the Denver Museum of Natural History in March of 2000. Scientists and education outreach experts have supported various activities at exhibit venues, including teacher workshops, hands-on demonstrations for the public and schools, solar observing, and planetarium shows. The Space Science Institute Broker is collaborating with the Sun-Earth Connection Education Forum (SECEF), the National Optical Astronomy Observatory (NOAO) in Tucson, AZ , Coronado Filters, and the National Radio Astronomy Observatory (NRAO) to plan and implement educational programming during the fall 2002 visit of the "Space Weather Center" traveling exhibit to Kitt Peak Observatory. The "Space Weather Center" exhibit was developed through a partnership between the Space Science Institute, NASA Goddard Space Flight Center, Sun-Earth connection missions, and SECEF.

Lead: Dr. Paul Dusenbery, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *dusenbery@colorado.edu.* Phone: 303-492-2013.

Scientist(s):	Mr. Michael Carlowicz	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Carol Crannell	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Nicola Fox	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Steele Hill	NASA Goddard Space Flight Center,	Greenbelt, MD
	Dr. Robert Hoffman	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Ramon Lopez	University of Texas at El Paso	El Paso, TX
	Mr. Louis Mayo	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Donald Michels	Naval Research Laboratory	Washington, DC
	Ms. Carolyn Ng	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Sten Odenwald	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. James Thieman	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Niescja Turner	University of Texas at El Paso	El Paso, TX
Partner(s):	Condit Exhibits		Denver, CO
	Coronado Instruments		Tucson, AZ
	Johns Hopkins University Applied Physics Laboratory		Laurel, MD
	NASA Goddard Space Flight Center		Greenbelt, MD

	National Optical Astronomy Observatory (NOAO)	Tucson, AZ
	National Radio Astronomy Observatory	Socorro, NM
	University of Texas at El Paso	El Paso, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Sep 01	31 Dec 01	Adler Planetarium and Astronomy Museum	Chicago, IL	-	87,500	-
01 Jan 02	30 Apr 02	Insights El Paso Science Museum	El Paso, TX	-	68,700	-
01 Jun 02	31 Aug 02	Wayne County Community College	Belleville, MI	-	35,000	-

Materials/Support

A13. Astrobiology Workshop for Planetarium Educators

Theme(s): ASO

Msn/Prgm(s): SSI B/F[B20], NAI[B35]

Description: A 3-hour workshop, entitled "Searching for Signs of Life in the Solar System and Beyond," was presented at the International Planetarium Society (IPS) meeting in Wichita, KS. This workshop for planetarium educators explored the places in the Solar System other than Earth where evidence for life might exist (e.g., Mars, Europa, and Titan). It also provided an update on research to identify the signatures of life on extrasolar planets through remote observation. The workshop included an opportunity for participants to interact closely with SETI senior astronomer Seth Shostak and to experience relevant inquiry-based activities.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Dr. Cherilynn Morrow, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *camorrow@colorado.edu.* Phone: 303-492-7321.

Scientist(s):	Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
	Dr. Seth Shostak	SETI Institute	Mountain View, CA
Partner(s):	SETI Institute		Mountain View, CA

A14. "Cosmic Questions" Informal Science Education Programs

Theme(s): SEU

Msn/Prgm(s): SEU Forum[B13]

Description: In conjunction with its "Cosmic Questions" traveling exhibition, the Structure and Evolutiuon of the Universe (SEU) Forum has partnered with the Museum of Science, Boston, to create materials and programs for museum staff at host sites to offer to public audiences. These programs extend the learning experience for exhibition visitors through their interactions with informal science educators who present demonstrations, hands-on activities, and science theater programs.

Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

Primary URL: *http://www.mos.org*

Scientist(s):	Ms. Melinda Lopez	Museum of Science	Boston, MA
Partner(s):	Museum of Science		Boston, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Jul 02	30 Sep 02	Museum of Science	Boston, MA	-	10,000	-

A15. "Cosmic Questions" Interpretation/Docent Activities

Theme(s): SEU

Msn/Prgm(s): SEU Forum[B13], CXO[B67], GP-B[B71], MAP[B79]

Description: In conjunction with its "Cosmic Questions" traveling exhibition, the Structure and Evolution of the Universe (SEU) Forum has partnered with the Museum of Science, Boston, to create materials and props for museum docents or interpreters to use in interactive discussions with visitors. These materials cover several themes, including Learning from Light which uses various light sources, a spectroscope, Chandra X-Ray Telescope spectroscopic gratings and other props; What Is Curved SpaceTime? which uses a Gravity Probe B (GPB) gyroscope and materials provided by the GPB program; and Our Expanding Universe: Models and Evidence which uses materials provided by the MAP education and public outreach program.

Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.
Primary URL: *http://www.mos.org/info*
Partner(s): Museum of Science — Boston, MA

A16. "Cosmic Questions" Professional Development for Informal Science Educators

Theme(s): SEU
Msn/Prgm(s): SEU Forum[B13]
Description: Starting in November of 2001 and continuing through September 2002, the Structure and Evolution of the Universe (SEU) Forum held a series of sessions to help prepare the museum staff for their role in creating programs to accompany the "Cosmic Questions" traveling exhibition and to help them create the resource booklet that will guide future host museums of the exhibition.
Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.
Contact: Ms. Sandra Daly, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *sdaly@cfa.harvard.edu.* Phone: 617-496-4784.

Scientist(s):		
Dr. Kenneth Brecher	Boston University	Boston, MA
Ms. Mary Dussault	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Dr. Roy Gould	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Dr. John Huchra	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Dr. Irene Porro	Massachusetts Institute of Technology	Cambridge, MA
Dr. Howard Smith	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Nov 01	13 Nov 01	Museum of Science	Boston, MA	30	-	-
17 Jan 02	17 Jan 02	Museum of Science	Boston, MA	30	-	-
17 Jan 02	17 Jan 02	Museum of Science	Boston, MA	30	-	-
12 Feb 02	12 Feb 02	Museum of Science	Boston, MA	30	-	-
17 Mar 02	17 Mar 02	Museum of Science	Boston, MA	30	-	-
03 Jun 02	03 Jun 02	Museum of Science	Boston, MA	30	-	-
09 Sep 02	09 Sep 02	Museum of Science	Boston, MA	30	-	-
16 Sep 02	16 Sep 02	Museum of Science	Boston, MA	30	-	-

A17. GLAST High-Energy Informal Education

Theme(s): SEU
Msn/Prgm(s): ARISE[B66], CXO[B67], Con-X[B69], GLAST[B70], GP-B[B71], LISA[B72], CATSAT[B73], CHIPS[B75], EUVE[B76], GALEX[B77], HETE-2[B78], MAP[B79], RXTE[B80], SWAS[B82], Swift[B83], ACCESS[B84], AMS-2[B85], HEASARC[B86], Astro-E2[B87], FIRST[B88], INTEGRAL[B89], Planck[B90], BeppoSAX[B91], SXG[B92], VSOP[B93], XMM-Newton[B94]
Description: Gamma-ray Large Area Space Telescope (GLAST) education and public outreach provides materials and support for science center shows and exhibits that are designed to inform the public about the GLAST mission.
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
Contact: Dr. Phil Plait, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *phil@universe.sonoma.edu.* Phone: 707-664-2190.
Primary URL: *http://glast.sonoma.edu*
2nd URL: *http://glast.sonoma.edu/program.html*

Scientist(s):		
Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
Dr. Philip Plait	Sonoma State University	Rohnert Park, CA

Partner(s): Museum of Science — Boston, MA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
03 Aug 02	03 Aug 02	Napa Valley Museum	Yountville, CA	-	25	-

A18. Heliostat Spectroscopy

Theme(s): SEC
Msn/Prgm(s): SRT[B3], RHESSI[B101], SOHO[B112]
Description: We are designing and implementing a spectrograph to be included in the existing Owens Science Center heliostat system. This spectrograph will enable the Science Center to continue making use of the heliostat to teach science even during solar minimum when the direct image shows few interesting features. The spectrograph will enable the students to study concepts in light and spectroscopy.
Lead: Dr. Therese Kucera, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *terry.kucera@gsfc.nasa.gov.* Phone: 301-286-0829.
Partner(s): Howard B. Owens Science Center — Lanham, MD

A19. Hubble Space Telescope: Immersive Dome Visualizations for Planetariums

Theme(s): SEU
Msn/Prgm(s): HST[B22]
Description: An emerging trend in the planetarium profession is the development of ultra-high-definition video systems to cover a projection dome with immersive environmental simulations. In response to this trend, The Space Telescope Science Institute has begun to develop a series of high-resolution, fish-eye-format visualizations based on scientific research data. The first such visualization, derived from a supercomputer simulation of colliding galaxies, premiered at the Smithsonian National Air and Space Museum planetarium as part of the new program "Infinity Express." Subsequently, this visualization and two others (a time-lapse view of a globular star cluster and a journey through a computer simulation of the large-scale structure of the Universe) were made available to all the major suppliers of immersive planetarium systems, including Spitz, Sky-Skan, Evans and Sutherland, and SGI. They are also available to end users upon request.
Lead: Mr. John Stoke, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *stoke@stsci.edu.* Phone: 410-338-4394.
Primary URL: *http://informal-sci.stsci.edu/index.html*
Partner(s): Smithsonian National Air and Space Museum — Washington, DC

A20. Hubble Space Telescope: International Planetarium Society Slide Service

Theme(s): SEU
Msn/Prgm(s): HST[B22]
Description: In partnership with the International Planetarium Society (IPS), the Space Telescope Science Institute (STScI) distributes first-generation, 35-mm slides of Hubble press release images to planetariums nationwide. Each of the approximately 100 planetariums that is participating in the service receives high-fidelity slides, paying IPS only for the cost of shipment. (STScI furnishes these slides in bulk.) During the past year, over 1000 slides were distributed in this manner, offering planetarium audiences the opportunity to witness Hubble imagery in its full splendor.
Lead: Mr. John Stoke, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *stoke@stsci.edu.* Phone: 410-338-4394.
Primary URL: *http://informal-sci.stsci.edu/*
Partner(s): International Planetarium Society — Bozeman, MT

A21. Hubble Space Telescope: Online Broadcast-Quality Hubble Video Clip Library

Theme(s): SEU
Msn/Prgm(s): HST[B22]
Description: Access to high-resolution Hubble imagery has been available for years, but access to high-quality video clips has been limited to those who have contacted the Space Telescope Science Institute (STScI) directly. As a service to planetarium show producers, museum exhibit designers, and other users of high-end media, STScI has begun assembling an online library of video clips in the mpeg-2 digital format. This is the same format used in DVDs and satellite TV broadcasts, and it offers very high quality. Via the Internet, prospective users can preview low-resolution versions of prospective video clips and download the high-resolution files that they desire.
Lead: Mr. John Stoke, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *stoke@stsci.edu.* Phone: 410-338-4394.
Primary URL: *http://informal-sci.stsci.edu/index.html*

A22. Mars: Informal Educator Workshops

Theme(s): SSE

Msn/Prgm(s): SSI B/F[B20], Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: These workshops for informal educators are professional development opportunities that bring in Mars science and engineering speakers for discussions and questions, cover current science discoveries, and share available, peer-reviewed, formal-education classroom activities.

Contact: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.

Scientist(s):

Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Rosalie Betrue	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Ms. Stephanie Lievense	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Greg Mehall	Arizona State University	Tempe, AZ
Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
Ms. Maura Rountree-Brown	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 02	01 Feb 02	Virginia Air and Space Museum	Hampton, VA	35	-	-
22 Mar 02	22 Mar 02	Arizona State University	Tempe, AZ	35	-	-
20 Apr 02	22 Apr 02	Girl Scouts USA Edith Macy Conference Center	Briarcliff Manor, NY	28	-	-
14 May 02	14 May 02	Peggy Notebaert Nature Museum	Chicago, IL	17	-	-
14 May 02	14 May 02	Peggy Notebaert Nature Museum	Chicago, IL	30	-	-
15 Jun 02	15 Jun 02	DePaul University	Chicago, IL	48	-	-

A23. Mars: Models and Exhibits

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: Mars models and exhibits are loaned or set up in coordination with museum and other informal education partners so that the general public can experience the excitement of ongoing discoveries and mission hardware.

Contact: Ms. Connie Gennaro, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Consuelo.Gennaro@jpl.nasa.gov.* Phone: 818-393-2502.

Scientist(s): Ms. Consuelo Gennaro — NASA Jet Propulsion Laboratory — Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Feb 02	01 Sep 03	Chabot Space and Science Center	Oakland, CA	-	143, 944	-
01 May 02	30 Sep 02	NASA Johnson Space Center	Houston, TX	-	295, 365	-
08 Jul 02	30 Sep 02	San Diego Aerospace Museum	San Diego, CA	-	29, 702	-
07 Aug 02	15 Aug 02	California State Capitol Building	Sacramento, CA	-	75	-
13 Sep 02	01 Dec 02	Pasadena History Museum	Pasadena, CA	-	1, 268	-

A24. Mars: Museum Visualization Alliance

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: The Mars Museum Visualization Alliance is a partnership with science centers, museums, and other informal education partners to disseminate collections of imagery for significant exhibition displays and large-screen viewings. Museums, science centers, and planetariums are venues for the public to “ride along” on NASA missions. During major mission events, participating institutions will have assured and uninterrupted access to visualizations, something that can prove challenging if they are competing on the Internet with hundreds of thousands of interested members of the public. Investments, based on museum partner inputs, will be made in a requisite infrastructure that will provide dedicated servers and bandwidth for access to high-resolution, museum-formatted materials. Satellite downlink opportunities will also be widely publicized through museum networks and associations.

Lead: Ms. Michelle Viotti, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *mviotti@jpl.nasa.gov.* Phone: 818-354-8774.

Scientist(s):	Dr. Paul Andres	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Susan Braunheim-Kalagerakos	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Joy Crisp	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Noss Dale	Arizona State University	Tempe, AZ
	Dr. Eric De Jong	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Matthew Golumbek	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Christine Johnson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Steve Levoe	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Stephanie Lievense	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Greg Mehall	Arizona State University	Tempe, AZ
	Mr. Dale Noss	Arizona State University	Tempe, AZ
	Ms. Anita Sohus	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Aurelio Tinio	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Michelle Viotti	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	Adler Planetarium and Astronomy Museum		Chicago, IL
	American Museum of Natural History		New York, NY
	Carnegie Mellon University		Pittsburgh, PA
	Chabot Space and Science Center		Oakland, CA
	Denver Museum of Nature and Science		Denver, CO
	Exploration Place		Wichita, KS
	Exploratorium		San Francisco, CA
	International Planetarium Society		Bozeman, MT
	Maryland Science Center		Baltimore, MD
	Museum of Science		Boston, MA
	New Mexico Museum of Natural History and Science		Albuquerque, NM
	Science Museum of Minnesota		St. Paul, MN
	Space Science Institute		Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Apr 02	02 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	8	-	-
16 Apr 02	16 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	8	-	-
14 May 02	14 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	8	-	-
04 Jun 02	04 Jun 02	NASA Jet Propulsion Laboratory	Pasadena, CA	7	-	-
25 Jun 02	25 Jun 02	NASA Jet Propulsion Laboratory	Pasadena, CA	8	-	-
09 Jul 02	09 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	11	-	-
16 Jul 02	16 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	4	-	-
23 Jul 02	23 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	3	-	-
10 Aug 02	19 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	5	-	-

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A25. Museum of Discovery and Science/NASA Space Science Education Partnership

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): OSS/Sci. Ctr. Dev.[B8]
Description: The Museum of Discovery and Science's new, immersive aerospace exhibition hall will provide visitors with the opportunity to gain knowledge about Earth, our Solar System, and the Universe. During FY 2002, the Museum has accomplished the following activities: completed a conceptual design; selected various exhibits; fabricated exhibits; and researched, wrote, designed, and fabricated graphics text/panels. The exhibits were delivered on September 3, 2002, and installed on September 21, 2002, and the new exhibition hall opened to the public on September 28, 2002.
Lead: Mr. Joe Cytacki, Museum of Discovery and Science, Fort Lauderdale, FL 33312-1707.
E-mail: *jcytacki@mods.net.* Phone: 954-713-0908.

A26. Near-Earth Asteroid Rendevous (NEAR) Museum and Conference Exhibits and Support

Theme(s): SEC
Msn/Prgm(s): NEAR[B46], TIMED[B118]

Description: The Near-Earth Asteroid Rendezvous (NEAR) and Thermosphere Ionosphere Mesosphere Energetics and Dynamics (TIMED) missions helped scientists, engineers and other team members become involved in the education and public outreach (E/PO) efforts by providing them with opportunities to participate in museum and science center exhibits and events. The missions gave the team members the resources needed to talk at events and activities, to provide demonstrations, and to conduct classroom activities related to the NEAR and/or TIMED mission. These efforts supported State, local and national efforts directed toward the systemic reform of science, mathematics, and technology education. Also, these classroom activities were based on the criteria contained in the national mathematics, science, and technology standards. Exhibits and events were conducted by some of our E/PO partners, such as the Maryland Science Center and the Smithsonian Natural History Museum. These were high-leverage opportunities that were built on existing programs, institutions, and infrastructure. Also the NEAR E/PO effort emphasized collaborations with other planetariums, museums, and science centers across the country by providing the latest images, animations, videos, and movies to support their existing programs and to showcase the current events related to the NEAR mission.

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.

Primary URL: *http://near.jhuapl.edu/*

2nd URL: *http://www.mdsci.org/exhibits/spacelink/index.cfm*

Scientist(s):

Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Benjamin Bussey	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Tim McCoy	Smithsonian National Museum of Natural History	Washington, DC
Dr. Louise Prockter	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	Maryland Science Center	Baltimore, MD	-	500,000	-
01 Oct 01	30 Sep 02	Smithsonian National Museum of Natural History	Washington, DC	-	4,500,000	-
20 Jul 02	20 Jul 02	Maryland Science Center	Baltimore, MD	-	350	-

A27. Planetarium Learning and Teaching Opportunities

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): DePaul B/F[B15]

Description: The Planetarium Learning and Teaching Opportunities (PLATO) small grants program was launched at the annual meeting of the Great Lakes Planetarium Association (GLPA) in October 2000. The program, designed particularly for small planetariums that operate on very small budgets, allows applicants to apply for up to $1,000 in funding through a streamlined process. Seven projects, taking place in five different States, were funded in round one. The next call for proposals will be announced at the GLPA conference in Menasha, WI, on October 23-26, 2002.

Lead: Dr. Bernhard Beck-Winchatz, DePaul University, Chicago, IL 60604.
E-mail: *bbeck@codor.depaul.edu.* Phone: 773-325-4545.

Scientist(s): Dr. Bernhard Beck-Winchatz, DePaul University Chicago, IL

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 May 01	15 Jun 02	Paper Plate Astronomy Education	Granger, IN	69	200	-
06 Jul 01	17 Jun 02	Kalamazoo Valley Museum	Kalamazoo, MI	129	29,000	-
12 Jul 01	30 May 02	Westlake Schools' Planetarium	Westlake, OH	61	-	-
31 Aug 01	30 Jun 02	Shaker Heights High School	Shaker Heights, OH	245	2,150	-
14 Sep 01	15 Jun 02	OCM Board of Cooperative Education	Syracuse, NY	33	-	-
30 Sep 01	30 May 02	Shaker Heights High School	Shaker Heights, OH	204	578	-
12 Oct 01	13 Jun 02	Morton College	Cicero, IL	160	-	-

A28. South Carolina State Museum Observatory, Planetarium, and Theater Project

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): OSS/Sci. Ctr. Dev.[B8]

Description: The Observatory, Planetarium, and Theater Project will expand the South Carolina State Museum by adding an astronomical observatory, multimedia planetarium, and large-format theater. These additions will establish the State Museum as South Carolina's first major center for informal science education. Funding from the NASA Office of Space Science will be used to equip the planetarium with an optical-mechanical star projector and an all-dome video panorama system and to create programs that use these technologies. This sophisticated equipment will enable the State Museum to present a wide range of educational programs in space science and Earth science, as well as in other scientific disciplines. During 2002, the State Museum prepared for the procurement of this equipment by developing a detailed request-for-proposal (RFP) document in conjunction with the South Carolina Budget and Control Board's Office of General Services.

Lead: Mr. William Calloway, South Carolina State Museum, Columbia, SC 29201.
E-mail: *callow@museum.state.sc.us.* Phone: 803-898-4930.

Primary URL: *http://www.museum.state.sc.us*

A29. Stardust Informal Outreach

Theme(s): SSE

Msn/Prgm(s): Stardust[B47]

Description: Stardust informal outreach efforts continue to make direct contact with science centers, planetariums, and museums throughout the United States that are interested in either appending Stardust to existing displays or adding an additional display about the Stardust project and NASA's exploration of comets. Stardust informal outreach efforts will continue to pursue inclusion into museum exhibits about Solar System exploration, cometary science, small bodies exploration, and emerging technologies such as aerogel.

Lead: Ms. Aimee Whalen, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *aimee.l.whalen@jpl.nasa.gov.* Phone: 818-354-3245.

Primary URL: *http://stardust/classroom/museums.html*

2nd URL: *http://stardust.jpl.nasa.gov*

Scientist(s): Mr. Ray Newburn NASA Jet Propulsion Laboratory Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	Baltimore Museum of Industry	Baltimore, MD	-	120,000	-
01 Oct 01	30 Sep 02	California Science Center	Los Angeles, CA	-	240,000	-
01 Oct 01	30 Sep 02	Casper Planetarium	Casper, WY	-	5,000	-
01 Oct 01	30 Sep 02	Muncie Community Schools' Planetarium	Muncie, IN	-	2,500	-
01 Oct 01	30 Sep 02	New Mexico Museum of Natural History and Science	Albuquerque, NM	-	100,000	-
01 Oct 01	30 Sep 02	Onizuka Space Center	Kailua-Kona, HI	250	10,000	-
01 Oct 01	30 Sep 02	T.C. Bird Planetarium	Boise, ID	1,500	6,000	-
01 Oct 01	30 Sep 02	The Boeing Company	Cape Canaveral Air Station, FL	-	6,000	-
01 Oct 01	30 Sep 02	U.S. Air Force, Patrick Air Force Base	Patrick Air Force Base, FL	-	6,000	-
02 Oct 01	30 Sep 02	Newark State Museum	Newark, NJ	-	180,000	-
20 Feb 02	30 Sep 02	Chabot Space and Science Center	Oakland, CA	-	153,600	-
20 Mar 02	30 Sep 02	American Museum of Natural History	New York, NY	-	240,000	-
07 Aug 02	30 Sep 02	East Kentucky Science Center	Prestonsburg, KY	-	7,200	-
01 Sep 02	30 Sep 02	Rainwater Observatory and Planetarium	French Camp, MS	-	300	-
09 Sep 02	30 Sep 02	Western Colorado Museum	Grand Junction, CO	275	-	-
15 Sep 02	30 Sep 02	Fleischmann Planetarium	Reno, NV	-	72,000	-
16 Sep 02	30 Sep 02	National Soaring Museum	Elmira, NY	-	14,000	-
16 Sep 02	30 Sep 02	North Museum of Natural History and Science	Lancaster, PA	-	4,000	-
16 Sep 02	30 Sep 02	STARBASE-ATLANTIS	San Diego, CA	125	-	-

A30. Sun-Earth Connection Education Forum (SECEF) Informal and Public Outreach

Theme(s): SEC

Msn/Prgm(s): SECEF[B14]

Description: The Sun-Earth Connection Education Forum staff members support the efforts of science centers, museums, and planetariums by providing them with images, activities, programs, and scientific presentations. Mission

scientists share the science of their mission with the general public and educators with specific programs developed by a science center. The missions also provide images and animations to support programs developed by the science centers, specifically for educators and for the general public.

Lead: Ms. Karen Meyer, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *karena@ssl.berkeley.edu.* Phone: 510-642-4185.

Contact: Mr. Lou Mayo, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *Louis.A.Mayo.1@gsfc.nasa.gov.* Phone: 301-286-0165.

Primary URL: *http://sunearth.gsfc.nasa.gov*

2nd URL: *http://sunearth.ssl.berkeley.edu*

Partner(s):

Adler Planetarium and Astronomy Museum	Chicago, IL
Chabot Space and Science Center	Oakland, CA
Exploratorium	San Francisco, CA
Lawrence Hall of Science	Berkeley, CA
Maryland Science Center	Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
21 Feb 02	21 Feb 02	Maryland Science Center	Baltimore, MD	30	-	-

A31. Swift High-Energy Informal Education

Theme(s): SEU

Msn/Prgm(s): ARISE[B66], CXO[B67], Con-X[B69], GLAST[B70], GP-B[B71], LISA[B72], CATSAT[B73], CHIPS[B75], EUVE[B76], GALEX[B77], HETE-2[B78], MAP[B79], RXTE[B80], SWAS[B82], Swift[B83], ACCESS[B84], AMS-2[B85], HEASARC[B86], Astro-E2[B87], FIRST[B88], INTEGRAL[B89], Planck[B90], BeppoSAX[B91], SXG[B92], VSOP[B93], XMM-Newton[B94]

Description: Swift education and public outreach (E/PO) provides materials and support for science center shows and exhibits designed to inform the public about Swift mission details.

Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.

Contact: Dr. Phil Plait, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *phil@universe.sonoma.edu.* Phone: 707-664-2190.

Primary URL: *http://swift.sonoma.edu*

2nd URL: *http://swift.sonoma.edu/program.html*

Scientist(s):

Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
Dr. Philip Plait	Sonoma State University	Rohnert Park, CA

Partner(s): Museum of Science — Boston, MA

TARGETED OUTREACH

Minority Institution Initiative in Space Science

A32. A Space Science Curriculum at Hampton University: Development of a Minor, Faculty Enhancement, and K-14 Outreach

Theme(s): ASO, SEC, SEU

Msn/Prgm(s): MI Initiative[B2]

Description: The NASA OSS-sponsored program at Hampton University, A Space Science Curriculum at Hampton University: Development of a Minor, Faculty Enhancement, and K-14 Outreach, has made a significant impact on Hampton students and the local K-12 community. A curriculum in space science has been proposed to the university, and the first undergraduate courses have been offered. An experienced and highly qualified space scientist, Dr. Wayne Pryor, joined the team in the second year of the program. Three faculty members were involved in activities to expand and enhance faculty research at Hampton. In the summer of 2001, Dr. Jawed Jafri (chemistry) and Mr. Abdelkader Baggag (computer science) worked with the Center for Atmospheric Sciences at Hampton and the Laboratory for Atmospheric and Space Physics (LASP) at the University of Colorado, respectively. Dr. Jafri started research in the chemistry of nitric oxide in the thermosphere, while Mr. Baggag along with two Hampton undergraduates, studied the operation, command, and control of space satellites. In the summer of 2002, Dr. Joseph Williams (chemistry), along with students, designed a series of measurements of

hydrogen peroxide's spectrum to aid in interpreting Galileo spacecraft ultraviolet spectra of Jupiter's moon. The K-14 outreach program is directed by Dr. Arthur Bowman (biology). Four Hampton undergraduate students have been trained and hired to introduce space science education to K-12 students. In each of the first two years, more than 1,000 K-12 students have participated in the education and public outreach activities.

Lead: Dr. Ali Omar, Hampton University, Hampton, VA 23668.
E-mail: *ali.omar@hamptonu.edu.* Phone: 757-727-5127.

Partner(s): NASA Office of Equal Opportunity Programs — Washington, DC
University of Colorado at Boulder — Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Feb 02	15 Feb 02	NASA Langley Research Center	Hampton, VA	96	-	-
16 Feb 02	16 Feb 02	Virginia Air and Space Museum	Hampton, VA	-	200	-
21 Mar 02	21 Mar 02	Cooperating Hampton Roads Organizations for Minorities in Engineering (CHROME)	Norfolk, VA	40	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	50	-	-
06 Apr 02	06 Apr 02	NASA Astrobiology Institute (NAI)	Moffett Field, CA	400	-	-
08 Apr 02	08 Apr 02	Cooperating Hampton Roads Organizations for Minorities in Engineering (CHROME)	Norfolk, VA	24	-	-
10 Apr 02	10 Apr 02	Hampton Public Library	Hampton, VA	35	-	-
20 Apr 02	20 Apr 02	Hampton University	Hampton, VA	8	-	-
23 Apr 02	23 Apr 02	Cooperating Hampton Roads Organizations for Minorities in Engineering (CHROME)	Norfolk, VA	24	-	-
23 Apr 02	23 Apr 02	Cooperating Hampton Roads Organizations for Minorities in Engineering (CHROME)	Norfolk, VA	125	-	-
22 May 02	22 May 02	Virginia Academy of Science	Richmond, VA	25	-	-
24 May 02	24 May 02	NASA Langley Research Center	Hampton, VA	20	-	-
03 Jun 02	05 Jun 02	National Science Foundation	Arlington, VA	15	-	-
19 Jun 02	19 Jun 02	Hampton University	Hampton, VA	6	-	-
10 Jul 02	18 Jul 02	NASA Office of Equal Opportunity Programs	Washington, DC	28	-	-
26 Jul 02	26 Jul 02	NASA Langley Research Center	Hampton, VA	21	-	-

A33. An Urban Outreach Program in Space Science: A Collaborative Effort Among NASA, Hispanic-Serving and Black Universities, and School Age Minority Students

Theme(s): ASO, SSE

Msn/Prgm(s): MI Initiative[B2]

Description: An Urban Outreach Program in Space Science has encouraged and developed innovative space science outreach programs that are relevant to a diverse urban population through community events, space-science-related courses and workshops for teachers, and opportunities for students and faculty from minority-serving institutions to participate in space science research programs. The collaboration among the University of Houston-Downtown (UHD), a Hispanic-serving institution; Texas Southern University (TSU), a Historically Black College; the Houston Museum of Natural Science (HMNS), an inner-city museum; and NASA Johnson Space Center (JSC) has enhanced space science education and outreach programs in the greater Houston area. Raul Yzaguirre School for Success (RYSS), a predominantly Hispanic-serving charter school for grades pre-K to 12, is an important collaborator. To accomplish our primary goal of sharing space science with underrepresented students and educators, we have done the following: 1) designed interactive space science demonstrations and presentations, which included hands-on activities for events at HMNS, in community settings and in urban area public and charter schools; 2) trained Space Science Student Ambassadors from minority-serving high schools and colleges to present programs at local venues, including city youth events, HMNS, the Mexican American Engineers and Scientists annual meeting, the Hispanic Forum, a Hispanic-serving charter school, public schools, and YMCA camps; 3) continued an intern program for minority university students to conduct research side by side with NASA JSC scientists; and 4) conducted inservice and graduate courses for science teachers who attended minority-serving universities.

Lead: Dr. Penny Morris, University of Houston-Downtown, Houston, TX 77002.
E-mail: *smithp@uhd.edu; pmorris@ems.jsc.nasa.gov.* Phone: 713-221-8178.

Scientist(s): Dr. Carlton Allen — NASA Johnson Space Center — Houston, TX

	Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
	Ms. Laurie Carrillo	NASA Johnson Space Center	Houston, TX
	Ms. Sangeeta Gad	University of Houston-Downtown	Houston, TX
	Mr. Charles Galindo	Lockheed Martin Engineering and Sciences	Houston, TX
	Ms. Olivia Garza	Raul Yzaguirre School for Success	Houston, TX
	Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
	Dr. Wendell Mendell	NASA Johnson Space Center	Houston, TX
	Dr. Glen Merrill	University of Houston-Downtown	Houston, TX
	Dr. David Mittlefehldt	NASA Johnson Space Center	Houston, TX
	Dr. Penny Morris	University of Houston-Downtown	Houston, TX
	Ms. Andrea Mosie	NASA Johnson Space Center	Houston, TX
	Dr. Victor Obot	Texas Southern University	Houston, TX
	Dr. Patricia Reiff	Rice University	Houston, TX
	Dr. Eileen Stansbery	NASA Johnson Space Center	Houston, TX
	Dr. Carolyn Sumners	Houston Museum of Natural Science	Houston, TX
	Mr. James Wooten	Houston Museum of Natural Science	Houston, TX
Partner(s):	Houston Museum of Natural Science		Houston, TX
	NASA Johnson Space Center		Houston, TX
	NASA Office of Equal Opportunity Programs		Washington, DC
	Raul Yzaguirre School for Success		Houston, TX
	Texas Southern University		Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
17 Oct 01	19 Oct 01	Mexican American Engineers and Scientists Meeting	Houston, TX	228	-	-
10 Nov 01	10 Nov 01	Houston Museum of Natural Science	Houston, TX	675	125	-
30 Nov 01	30 Nov 01	Raul Yzaguirre School for Success	Houston, TX	132	-	-
26 Jan 02	26 Jan 02	Hispanic Forum	Houston, TX	223	75	-
17 Feb 02	17 Feb 02	NASA Johnson Space Center	Houston, TX	12	-	-
02 Mar 02	02 Mar 02	Houston Museum of Natural Science	Houston, TX	12	-	-
23 Mar 02	23 Mar 02	Houston Museum of Natural Science	Houston, TX	-	4,500	-
20 Apr 02	20 Apr 02	Houston Museum of Natural Science	Houston, TX	8	-	-
03 Jun 02	07 Jun 02	University of Houston-Downtown	Houston, TX	26	-	-
03 Jun 02	14 Jun 02	Texas Southern University	Houston, TX	15	1	-
07 Jun 02	07 Jun 02	NASA Johnson Space Center	Houston, TX	15	-	-
08 Jun 02	13 Jul 02	Raul Yzaguirre School for Success	Houston, TX	8	-	-
10 Jun 02	11 Jul 02	University of Houston-Downtown	Houston, TX	292	-	-
11 Jun 02	25 Jul 02	Raul Yzaguirre School for Success	Houston, TX	80	-	-
15 Jun 02	08 Aug 02	YMCA of the Greater Houston Area	Houston, TX	250	-	-
08 Jul 02	08 Aug 02	Texas Southern University	Houston, TX	1	-	-
11 Jul 02	11 Jul 02	University of Houston-Downtown	Houston, TX	302	-	-
02 Aug 02	02 Aug 02	Harris County Precinct 1 Street Olympics	Houston, TX	-	300	-
14 Sep 02	14 Sep 02	Texas Parks and Wildlife	Austin, TX	78	25	-

A34. Astronomy and Astrophysics Course Development at Salish Kootenai College

Theme(s): ASO, SEU

Msn/Prgm(s): MI Initiative[B2]

Description: The goals of this project are to develop an associate-degree transfer program in astronomy and astrophysics, better prepare Salish Kootenai College (SKC) students to participate in ongoing astrophysics research at SKC, and increase the astronomy literacy of nonscience majors. Toward these goals, four new courses in astronomy and astrophysics have been developed: Introduction to Astronomy (on-campus version), Introduction to Astronomy (Internet-delivered version), Stellar Astronomy and Astrophysics, and Galactic Astronomy and Astrophysics. Introduction to Astronomy was offered on the SKC campus for the first time during the spring quarter of 2002, with 10 students enrolling and 7 successfully completing the course. The Internet-delivered Introduction to Astronomy is scheduled for the first time during the spring quarter of 2003. Development of Stellar Astronomy and Astrophysics and Galactic Astronomy and Astrophysics has been completed. SKC library

holdings in astronomy and astrophysics were enhanced with the purchase of 115 new volumes and subscriptions to astronomy and astrophysics magazines and journals. A new associate degree transfer program in astronomy and astrophysics was approved for accepting students into the program during the fall quarter of 2001. Two pre-engineering students successfully completed research internships in gravitational wave astronomy at SKC and LIGO Hanford Observatory in the summer of 2002.

Lead: Dr. Timothy Olson, Salish Kootenai College, Pablo, MT 59855.
E-mail: *tim_olson@skc.edu.* Phone: 406-275-4898.

Scientist(s): Dr. Timothy Olson — Salish Kootenai College — Pablo, MT

Partner(s): NASA Office of Equal Opportunity Programs — Washington, DC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Apr 02	08 Jun 02	Salish Kootenai College	Pablo, MT	11	-	-

A35. Collision Processes in Astrophysical Plasmas

Theme(s): ASO

Msn/Prgm(s): MI Initiative[B2], CXO[B67]

Description: Collision processes that are important for understanding astrophysical plasmas are being studied computationally and experimentally. The collision of atomic ions and electrons with atoms and molecules is the subject of the research. The principal focus is the computational and experimental study of charge exchange collisions and the determination of collision cross sections. This provides spectral diagnostics of galactic and stellar x-ray emission from charge exchange recombination. In addition, electron impact scattering, with a particular emphasis on excitation, is being studied. The research supports the NASA Chandra Emission Line Project. The experimental effort is using an electron beam ion trap (EBIT) to study x-ray emission from charge-exchange recombination (CER) and radiative recombination (RR) of neutral hydrogen and helium with highly charged ions, deriving cross sections as a function of temperature. The calculations employ several related computational theories. An implicit split-operator propagator (ISOP), employing fast Fourier transforms, is in use. This code has the highly desirable feature of avoiding translation factors. Also, a more traditional time-dependent close-coupling (TDCC), molecular orbital method, using translation factors to describe the CER and RR processes, is also being employed. The calculations employ a new wave-packet method that uses a long-time propagator (based on a discrete variable representation (DVR) of a new set of synthetic polynomials) and a basis set in time. Several applications to various collision processes have been published. A vigorous student and faculty exchange has been established with Lawrence Livermore Laboratory. Two graduate students working on this project have passed their Ph.D. qualifying exam in the Florida A&M University Department of Physics. A new faculty position in astrophysics is currently being advertised. Finally, a new astrophysics course is being taught.

Lead: Dr. Charles Weatherford, Florida A&M University, Tallahassee, FL 32307.
E-mail: *weatherf@cennas.nhmfl.gov.* Phone: 850-599-3767.

Primary URL: *http://www.physics.famu.edu/~cweatherford*

Scientist(s): Dr. Peter Beiersdorfer — Lawrence Livermore National Laboratory — Livermore, CA
Dr. Ming Gu — Massachusetts Institute of Technology — Cambridge, MA
Dr. Charles Weatherford — Florida A&M University — Tallahassee, FL

Partner(s): Chandra X-Ray Center — Cambridge, MA
Lawrence Livermore National Laboratory — Livermore, CA
NASA Office of Equal Opportunity Programs — Washington, DC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
22 Jul 02	25 Jul 02	Lawrence Livermore National Laboratory	Livermore, CA	13	-	-

A36. Connecting Sun City with Sun-Earth Connections

Theme(s): ASO, SEC

Msn/Prgm(s): MI Initiative[B2]

Description: Through a mix of school-year and summer activities, Connecting Sun City with Sun-Earth Connections encourages more Hispanic students to pursue science careers and assists teachers in providing improved science education to their students. Our project shows students and teachers the connections between space science and the disciplines of physics, chemistry, biology, geological sciences, and mathematics. The elements of our

project are professional development programs for teachers to help them teach science more effectively, activities for high school and middle school students to encourage them to pursue science careers, public outreach in space science through a collaboration with Insights El Paso Science Museum, and the involvement of University of Texas at El Paso students in these activities.

Lead: Dr. Ramon Lopez, University of Texas at El Paso, El Paso, TX 79968-0515.
E-mail: *relopez@utep.edu.* Phone: 915-747-7534.

Primary URL: *http://nasa.utep.edu/suncity/*

Scientist(s):	Mr. Roberto Arceo	University of Texas at El Paso	El Paso, TX
	Mr. Robert Bruntz	University of Texas at El Paso	El Paso, TX
	Dr. Clarence Cooper	University of Texas at El Paso	El Paso, TX
	Mr. Ismael Diaz	University of Texas at El Paso	El Paso, TX
	Mr. Ramon Figueroa	University of Texas at El Paso	El Paso, TX
	Ms. Adrian Flores	University of Texas at El Paso	El Paso, TX
	Mr. Salvador Hernandez	University of Texas at El Paso	El Paso, TX
	Dr. Louis Irwin	University of Texas at El Paso	El Paso, TX
	Mr. Plamen Krastev	University of Texas at El Paso	El Paso, TX
	Dr. Ramon Lopez	University of Texas at El Paso	El Paso, TX
	Mr. Alejandro Lugo-Solis	University of Texas at El Paso	El Paso, TX
	Mr. Aramis Martinez	University of Texas at El Paso	El Paso, TX
	Dr. Luis Martinez	University of Texas at El Paso	El Paso, TX
	Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
	Dr. Nicholas Pingitore	University of Texas at El Paso	El Paso, TX
	Dr. Niescja Turner	University of Texas at El Paso	El Paso, TX
Partner(s):	Insights El Paso Science Museum		El Paso, TX
	NASA Office of Equal Opportunity Programs		Washington, DC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 02	15 May 02	Insights El Paso Science Museum	El Paso, TX	-	25,263	-
15 Feb 02	15 Feb 02	University of Texas at El Paso	El Paso, TX	24	-	-
26 Feb 02	26 Feb 02	University of Texas at El Paso	El Paso, TX	17	-	-
02 Mar 02	02 Mar 02	Insights El Paso Science Museum	El Paso, TX	16	-	-
02 Mar 02	02 Mar 02	University of Texas at El Paso	El Paso, TX	17	-	-
26 Mar 02	26 Mar 02	University of Texas at El Paso	El Paso, TX	20	-	-
10 Jun 02	12 Jun 02	University of Texas at El Paso	El Paso, TX	18	-	-
09 Jul 02	11 Jul 02	University of Texas at El Paso	El Paso, TX	19	-	-
24 Aug 02	24 Aug 02	University of Texas at El Paso	El Paso, TX	22	-	-
09 Nov 02	09 Nov 02	Socorro Independent School District	El Paso, TX	35	-	-

A37. Enhancement of the Space Science Research Program at South Carolina State University

Theme(s): ASO

Msn/Prgm(s): MI Initiative[B2], SERCH B/F[B19]

Description: South Carolina State University (SCSU) has completed two successful years under its Space Science Minority University award from NASA's Office of Space Science (NAG 5-10145). A number of the original objectives of the SCSU proposal have been met as new collaborations have been established between SCSU faculty and members of the space science community in the areas of research, curriculum development, and outreach. Dissemination of these results includes peer-reviewed publications, presentations at professional meetings, workshops, and public news releases. A new-hire, tenure-track position in astrophysics has been created and filled, using funds from this grant. A faculty member and students have been working with the Advanced Detector Group at the Lawrence Livermore National Laboratory (LLNL) on the design and construction of cryogenic, photon-counting cameras. Another faculty member has published peer-reviewed papers on his Hubble research. A total of eight minority students from around the country have been funded in the summers of 2001 and 2002 to work with researchers at the Goddard Space Flight Center, Kitt Peak National Observatory, LLNL, and the Planetary Science Institute. SCSU twice conducted a successful 1-week course on space science for inservice teachers in grades 6-12 which emphasized hands-on activities and addressed the South Carolina standards related to astronomy and space science. In the area of curriculum development, one faculty member developed new materials for a course on cosmology and established a collaboration with

individuals at Fermilab, Johns Hopkins, and the University of Chicago who are all involved with the Sloan Digital Sky Survey.

Lead: Dr. Donald Walter, South Carolina State University, Orangeburg, SC 29117.
E-mail: *dkw@physics.scsu.edu.* Phone: 803-533-3773.

Scientist(s):	Dr. Kem Cook	Lawrence Livermore National Laboratory	Livermore, CA
	Dr. Mark Everett	Planetary Science Institute	Tucson, AZ
	Mr. Steve Howell	Planetary Science Institute	Tucson, AZ
	Dr. Simon Labov	Lawrence Livermore National Laboratory	Livermore, CA
	Dr. Kenneth Mighell	National Optical Astronomy Observatory (NOAO)	Tucson, AZ
	Dr. Linda Payne	South Carolina State University	Orangeburg, SC
	Dr. Daniel Smith	South Carolina State University	Orangeburg, SC
	Dr. Donald Walter	South Carolina State University	Orangeburg, SC
Partner(s):	Arizona State University		Tempe, AZ
	California Institute of Technology		Pasadena, CA
	Lawrence Livermore National Laboratory		Livermore, CA
	Medgar Evers College		Brooklyn, NY
	NASA Goddard Space Flight Center		Greenbelt, MD
	NASA Office of Equal Opportunity Programs		Washington, DC
	National Optical Astronomy Observatory (NOAO)		Tucson, AZ
	Pisgah Astronomical Research Institute		Rosman, NC
	Planetary Science Institute		Tucson, AZ
	Rice University		Houston, TX
	Tennessee State University		Nashville, TN
	University of Chicago		Chicago, IL
	University of South Carolina		Columbia, SC
	Western Kentucky University		Bowling Green, KY
	York College		Jamaica, NY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
31 Oct 01	02 Nov 02	South Carolina Science Council 26th Annual Convention	Myrtle Beach, SC	35	-	-
19 Jan 02	23 Jan 02	American Association of Physics Teachers (AAPT) Meeting	Philadelphia, PA	-	15	-
26 Jan 02	26 Jan 02	University of South Carolina Aiken	Aiken, SC	20	-	-
20 Feb 02	21 Feb 02	Renaissance Hotel	Portsmouth, VA	-	27	-
13 May 02	09 Aug 02	Lawrence Livermore National Laboratory	Livermore, CA	2	-	-
13 May 02	09 Aug 02	Planetary Science Institute	Tucson, AZ	1	-	-
03 Jun 02	09 Aug 02	National Optical Astronomy Observatory (NOAO)	Tucson, AZ	1	-	-
22 Jul 02	26 Jul 02	South Carolina State University	Orangeburg, SC	10	-	-
01 Dec 02	02 Dec 02	University of South Carolina	Columbia, SC	20	-	-

A38. NASA-HBCU Partnership To Enhance Minority Education and Research Participation in the Space Sciences

Theme(s): SEU

Msn/Prgm(s): MI Initiative[B2], SRT[B3]

Description: This project has three main components: 1) enhancement of Norfolk State University (NSU)'s faculty and student participation in the space sciences; 2) astronomy education of high school science teachers; and 3) general public outreach. We collaborate with members of the Laboratory of High Energy Astrophysics at the Goddard Space Flight Center (GSFC) on the analysis of cosmic-ray data from the Balloon-Borne Experiment with Superconducting Solenoid (BESS) international collaboration. We offer astronomy courses to K-12, inservice teachers of the five school systems of Hampton Roads. These astronomy courses were specially designed for high school teachers and provide hands-on astronomical activities. Our outreach program is centered at the NSU planetarium (shows, public lectures, public telescopic sky-watch, workshops, and seminars).

Lead: Dr. Carlos Salgado, Norfolk State University, Norfolk, VA 23504.
E-mail: *salgado@jlab.org.* Phone: 757-269-5829.

Partner(s): Maryland Science Center — Baltimore, MD

NASA Goddard Space Flight Center	Greenbelt, MD
NASA Office of Equal Opportunity Programs	Washington, DC

A39. New Opportunities Through Minority Initiatives in Space Science

Theme(s): ASO

Msn/Prgm(s): MI Initiative[B2], Navigator[B27]

Description: New Opportunities Through Minority Initiatives in Space Science (NOMISS) is designed to encourage minority students (particularly those of Hawaiian ancestry) to engage in learning about culture and its relevance to the study of space science. Increased public awareness of astronomy within the Hawaiian community is a goal of the program. NOMISS activities engage a broad spectrum of participants—K-12 students and their teachers, undergraduate university students and their professors, and community and business partners—by bringing together modern space science and concepts of Hawaiian celestial navigation and traditions of the land. Dr. Richard Crowe, University of Hawaii at Hilo (UHH) Astronomy Chair, initiated the Astronomy Department's summer course with labwork and field-based telescopic observations from the summit of Mauna Kea. The redesigned undergraduate astronomy curriculum includes a new textbook, a spectrograph, and cultural information. Partnerships with the observatories (Institute for Astronomy, NASA Infrared Telescope Facility, Gemini, Subaru, and Keck Observatories) provide internships for participation in current space science research. UHH Education Chair Dr. Alice Kawakami leads a network of K-12 teachers who participated in two summer retreats and three cultural protocol workshops with classroom activities and excursions to cultural sites, including Mauna Kea. Teachers now are designing and implementing curriculum activities to increase their students' learning about culture, math, and science, particularly astronomy. Coordinator Nathan Chang has been responsible for handling administrative duties, newspaper and magazine articles, requests for talks at business and community organizations, and for electronic media announcements. Public interest in NOMISS is high, as the Hawaiian community focuses on bringing together diverse perspectives about space science on Mauna Kea, the best observational astronomy site on Earth.

Lead: Dr. Richard Crowe, University of Hawaii at Hilo, Hilo, HI 96720-4091.
E-mail: *rcrowe@hubble.uhh.hawaii.edu.* Phone: 808-974-7649.

Contact: Mr. Nathan Chang, Institute for Astronomy, Hilo, HI 96701.
E-mail: *nchang69@hotmail.com.* Phone: 808-933-3331.

Primary URL: *http://hubble.uhh.hawaii.edu/index.html*

2nd URL: *http://hubble.uhh.hawaii.edu/telescope.html*

Scientist(s):	Ms. Kathy Chock	Kamehameha Elementary School	Honolulu, HI
	Dr. Paul Coleman	University of Hawaii at Manoa	Honolulu, HI
	Dr. Richard Crowe	University of Hawaii at Hilo	Hilo, HI
	Dr. Rudolf Danner	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Scott Fisher	Gemini Observatory	Hilo, HI
	Dr. Saeko Hayashi	Subaru Telescope	Hilo, HI
	Dr. William Heacox	University of Hawaii at Hilo	Hilo, HI
	Dr. Klaus Hodapp	University of Hawaii at Manoa	Honolulu, HI
	Dr. Joe Jensen	Gemini Observatory	Hilo, HI
	Mr. Dennis McBride	W.M. Keck Observatory	Kamuela, HI
	Dr. Peter Michaud	Gemini Observatory	Hilo, HI
	Mr. Zoran Ninkov	Rochester Institute of Technology	Rochester, NY
	Dr. Andrew Pickles	University of Hawaii at Manoa	Honolulu, HI
	Mr. Darryl Watanabe	NASA Infrared Telescope Facility (IRTF)	Honolulu, HI
	Dr. Michael West	University of Hawaii at Hilo	Hilo, HI
Partner(s):	Gemini Observatory		Hilo, HI
	Kamehameha Elementary School		Honolulu, HI
	Kamehameha Schools		Hilo, HI
	NASA Infrared Telescope Facility (IRTF)		Honolulu, HI
	NASA Jet Propulsion Laboratory		Pasadena, CA
	NASA Office of Equal Opportunity Programs		Washington, DC
	Subaru Telescope		Hilo, HI
	W.M. Keck Observatory		Kamuela, HI

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	University of Hawaii at Hilo	Hilo, HI	1,156	491,180	-
17 Jun 02	21 Jun 02	University of Hawaii at Hilo	Hilo, HI	18	-	-

A40. New York City Space Science Research Alliance

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): MI Initiative[B2]

Description: The New York City Space Science Research Alliance is a multicampus research center based in the City University of New York (CUNY), so that underrepresented undergraduate students and faculty can become involved in NASA Space Science research and education projects. The Alliance is anchored by CUNY, the Hayden Planetarium of the American Museum of Natural History, and the NASA Goddard Space Flight Center. The Alliance has 1) created a space science major in the CUNY B.S. degree program and is creating space science minor/concentrations on three CUNY campuses; 2) developed or revised 11 courses in space science or related areas and plan 8 more courses over the next year; 3) created research opportunities for students (10 at NASA sites or external universities) and many more within CUNY; 4) initiated faculty development which included attending national conferences and attending an image processing workshop at South Carolina State University; 5) enhanced and revived existing research (evolution of galaxies, aerosols on Jupiter, photometry of near-Earth objects) and established new research (active galactic nuclei, microorganism and planetary surfaces, RHESSI, asteroid detection and deflection) with an emphasis on community college faculty; 6) increased the number of faculty and student presentations at national, regional, and local conferences; and 7) initiated recruitment activities with a space science open house at the Hayden Planetarium. Other partners include the NASA Goddard Institute for Space Studies/Institute on Climate and Planets and the NASA Minority University Space Interdisciplinary Network. The CUNY campuses are Medgar Evers College, the College of Staten Island and its Astrophysical Observatory, the City College of New York, Queensborough Community College, LaGuardia Community College, Hunter College, York College, and Hostos Community College.

Lead: Dr. Leon Johnson, Medgar Evers College, Brooklyn, NY 11225.
E-mail: *lpjohnson99@cswebmail.com.* Phone: 718-270-6454.

Primary URL: *http://nrts.mec.cuny.edu/nycssra*

Scientist(s):

Ms. Shermane Austin,	Medgar Evers College	Brooklyn, NY
Mr. Merrick Berg	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Donna Boccio	Queensborough Community College	Bayside, NY
Dr. Beth Brown,	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Humberto Canate	Hostos Community College	Bronx, NY
Mr. Jim Closs	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Donald Cotten	Queensborough Community College	Bayside, NY
Dr. Carol Crannell	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Chantale Damas	Medgar Evers College	Brooklyn, NY
Dr. Brian Dennis	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. George Dimitiglot	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Susan Dyer	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Ifeanyi Ekejiuba	Medgar Evers College	Brooklyn, NY
Mr. Jay Friedlander	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. James Frost	LaGuardia Community College	Long Island, NY
Mr. Leonard Garcineon	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Steve Greenbaum	Hunter College	New York, NY
Dr. John Grunsfield	NASA Johnson Space Center	Houston, TX
Dr. James Harrington	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Ken Hibbard	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Deborah Jackson	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Leon Johnson	Medgar Evers College	Brooklyn, NY
Ms. Alicia Joseph	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Sheldon Kaufman	Queensborough Community College	Bayside, NY
Dr. Joseph King	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Therese Kucera	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Charles Liu	American Museum of Natural History	New York, NY

	Dr. Stephen Maran	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Nancy Maynard	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Robert Meneghini	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Carolyn Ng	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Tim Paglione	York College	Jamaica, NY
	Dr. Natasha Papitashvili	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Art Poland	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Irving Robbins	College of Staten Island	Staten Island, NY
	Mr. Brett Sapper	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Ron Shiri	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Jeffrey Steiner	City College of New York Educator Resource Center	New York, NY
	Mr. Byron Storck	LaGuardia Community College	Long Island, NY
	Dr. Jean Swank	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. James Thieman	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Valerie Thomas	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. James Tilton	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Neil Tyson	American Museum of Natural History	New York, NY
	Dr. Donald Walter	South Carolina State University	Orangeburg, SC
	Mr. Alex Young	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Esther Zirbel	College of Staten Island	Staten Island, NY
Partner(s):	American Museum of Natural History		New York, NY
	City College of New York		New York, NY
	College of Staten Island		Staten Island, NY
	Hostos Community College		Bronx, NY
	Hunter College		New York, NY
	LaGuardia Community College		Long Island, NY
	NASA Goddard Institute for Space Studies		New York, NY
	NASA Goddard Space Flight Center		Greenbelt, MD
	NASA Office of Equal Opportunity Programs		Washington, DC
	Queensborough Community College		Bayside, NY
	York College		Jamaica, NY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	College of Staten Island	Staten Island, NY	-	1,800	-
17 Nov 01	17 Nov 01	College of Staten Island	Staten Island, NY	-	500	-
18 Nov 01	19 Nov 01	Hayden Planetarium	New York, NY	11	-	-
06 Dec 01	07 Dec 01	NASA Goddard Space Flight Center	Greenbelt, MD	17	-	-
07 Jan 02	11 Jan 02	American Astronomical Society (AAS) Meeting	Washington, DC	5	-	-
27 Apr 02	27 Apr 02	City College of New York	New York, NY	62	-	-
03 May 02	03 May 02	College of Staten Island	Staten Island, NY	-	1,000	-
17 May 02	17 May 02	Hayden Planetarium	New York, NY	19	-	-
03 Jun 02	25 Jul 02	South Carolina State University	Orangeburg, SC	2	-	-
03 Jun 02	01 Aug 02	City College of New York	New York, NY	2	-	-
03 Jun 02	01 Aug 02	College of Staten Island	Staten Island, NY	2	-	-
03 Jun 02	01 Aug 02	LaGuardia Community College	Long Island, NY	8	-	-
03 Jun 02	01 Aug 02	Medgar Evers College	Brooklyn, NY	9	-	-
03 Jun 02	01 Aug 02	Queensborough Community College	Bayside, NY	2	-	-
04 Jun 02	08 Jun 02	American Astronomical Society (AAS) Meeting	Albuquerque, NM	2	-	-
10 Jun 02	15 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	7	-	-
10 Jun 02	15 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	1	-	-
12 Jun 02	14 Jun 02	DePaul University	Chicago, IL	3	-	-
08 Jul 02	10 Jul 02	South Carolina State University	Orangeburg, SC	8	-	-
31 Jul 02	31 Jul 02	NASA Goddard Institute for Space Studies	New York, NY	28	-	-
12 Aug 02	12 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	6	-	-
15 Aug 02	15 Aug 02	City College of New York	New York, NY	20	-	-

A41. Partnerships in Astronomy and Astrophysics Education and Research at Southern University

Theme(s): SEC

Msn/Prgm(s): MI Initiative[B2], SRT[B3], CGRO[B68], ACCESS[B84], HEASARC[B86], SOHO[B112]

Description: Southern University, the largest Historically Black College and University (HBCU) system in the country, is pursuing two collaborative research and education projects involving undergraduate students and their faculty in the areas of experimental high-energy and solar astrophysics. With the Space Science and Particle Astrophysics research group at neighboring Louisiana State University (LSU), we are collaborating in an experimental detector-development project related to gamma-ray astronomy, the Minute-of-Arc Resolution Gamma-ray Imaging Experiment (MARGIE) project. Student and faculty participants are receiving broadly based multidisciplinary instruction and hands-on training in state-of-the-art laboratory techniques. We are also collaborating with scientists at the Smithsonian Astrophysical Observatory (SAO) associated with the Ultraviolet Coronagraph Spectrometer (UVCS) aboard the Solar and Heliospheric Observatory (SOHO) spacecraft. Southern students and faculty are being instructed and trained in the research skills required to actively participate in ongoing UVCS calibration, data-analysis, and scientific projects related to studies of the Sun's corona and the solar wind. SAO is also the lead institution for the proposed Advanced Coronagraphic and Spectroscopic Explorer (ASCE), one of four mission concepts under consideration by NASA for a MIDEX launch in 2007 and 2008. Southern University has been invited by its SAO partners to participate in this new initiative. Both collaborative partnership projects involve regular visits by LSU and SAO scientists to the Southern campus in Baton Rouge as part of a space-science lecture series to teach and mentor students, as well as reciprocal visits by qualified Southern students to LSU and SAO to work on joint research activities. The results of these research projects are also being incorporated into ongoing, local public education and outreach efforts.

Lead: Dr. J. Gregory Stacy, Southern University and A&M College, Baton Rouge, LA 70813.
E-mail: *gstacy@phys.subr.edu.* Phone: 225-771-2831.

Primary URL: *http://www.phys.subr.edu*

2nd URL: *http://www.phys.subr.edu/timbuktu.htm*

Scientist(s):	Dr. Jonathan Ormes	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Leonard Strachan	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Partner(s):	Harvard-Smithsonian Center for Astrophysics		Cambridge, MA
	Louisiana State University		Baton Rouge, LA
	NASA Office of Equal Opportunity Programs		Washington, DC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	Southern University and A&M College	Baton Rouge, LA	4	-	-
04 Nov 01	07 Nov 01	Southern University and A&M College	Baton Rouge, LA	56	-	-
21 Feb 02	22 Feb 02	Southern University and A&M College	Baton Rouge, LA	84	-	-
09 Jun 02	01 Aug 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	1	-	-
10 Jun 02	09 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	1	-	-

A42. Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT)

Theme(s): ASO

Msn/Prgm(s): MI Initiative[B2], SIRTF[B24], SIM[B32], TPF[B34], 2MASS[B36]

Description: The Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) program has three main goals: 1) to create a small, focused, quality, sustainable research capability at Pasadena City College (PCC) in infrared (IR) astronomy that is meaningful to students, faculty, and the scientific community, and, in particular, to apply for time on the Space Infrared Telescope Facility (SIRTF); 2) to use this research capability to establish and strengthen relationships among staff members at the participating institutions of NASA Jet Propulsion Laboratory (JPL), the California Institute of Technology (Caltech), SIRTF, the Infrared Processing and Analysis Center (IPAC) at Caltech, and the Griffith Observatory; and 3) to perform educational outreach and infrared astronomy research dissemination. The latter is being done through existing school programs at the Griffith Observatory planetarium, the planetarium at PCC, and at Native American educational events, as well as through the construction of an infrared exhibit at Griffith Observatory. Due to the special circumstances of a late award, and the events of 9/11/01, the SMARTT program has only been operational since the fall of 2001, so the program activities have been limited. In addition, the launch of SIRTF has been delayed from the summer of 2002 to early January 2003, so research plans have been altered accordingly. The team has continued

to work and train with the SIRTF Science Center, IPAC, and JPL through direct contact, educational seminars in IR astronomy, and reading and mentoring with individual scientists. Outreach activities have continued, as well, with over 10,000 students being directly contacted. Our group provides one-on-one tutoring programs for grades 9-14 at the Tongva Native American Youth Center and at PCC. This component of our program has the additional goal of recruiting prospective students to go to college for the first time and join the research team. A final highlight is the acquisition of an IR camera.

Lead: Mr. John Sepikas, Pasadena City College, Pasadena, CA 91106.
E-mail: *jpsepikas@paccd.cc.ca.us.* Phone: 626-585-7322.

Partner(s):		
	California Institute of Technology	Pasadena, CA
	Griffith Observatory	Los Angeles, CA
	NASA Jet Propulsion Laboratory	Pasadena, CA
	NASA Office of Equal Opportunity Programs	Washington, DC
	SIRTF Science Center/California Institute of Technology	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Oct 01	05 Oct 01	Griffith Observatory	Los Angeles, CA	425	-	-
12 Oct 01	12 Oct 01	Griffith Observatory	Los Angeles, CA	540	-	-
12 Oct 01	12 Oct 01	Pasadena City College	Pasadena, CA	42	-	-
19 Oct 01	19 Oct 01	Griffith Observatory	Los Angeles, CA	760	-	-
22 Oct 01	22 Oct 01	SIRTF Science Center/ California Institute of Technology	Pasadena, CA	151	-	-
26 Oct 01	26 Oct 01	Griffith Observatory	Los Angeles, CA	455	-	-
26 Oct 01	26 Oct 01	Pasadena City College	Pasadena, CA	80	-	-
28 Oct 01	28 Oct 01	Griffith Observatory	Los Angeles, CA	200	-	-
02 Nov 01	02 Nov 01	Griffith Observatory	Los Angeles, CA	530	-	-
05 Nov 01	05 Nov 01	Pasadena City College	Pasadena, CA	89	-	-
09 Nov 01	09 Nov 01	Griffith Observatory	Los Angeles, CA	570	-	-
12 Nov 01	12 Nov 01	Pasadena City College	Pasadena, CA	44	-	-
16 Nov 01	16 Nov 01	Griffith Observatory	Los Angeles, CA	510	-	-
19 Nov 01	19 Nov 01	Pasadena City College	Pasadena, CA	33	-	-
30 Nov 01	30 Nov 01	Griffith Observatory	Los Angeles, CA	580	-	-
03 Dec 01	03 Dec 01	Pasadena City College	Pasadena, CA	86	-	-
05 Dec 01	05 Dec 01	Los Angeles Unified School District	Los Angeles, CA	54	-	-
06 Dec 01	06 Dec 01	Los Angeles Unified School District	Los Angeles, CA	45	-	-
07 Dec 01	07 Dec 01	Griffith Observatory	Los Angeles, CA	730	-	-
12 Dec 01	12 Dec 01	Griffith Observatory	Los Angeles, CA	733	-	-
15 Dec 01	15 Dec 01	Haramokngna American Indian Cultural Center	La Cañada, CA	101	-	-
28 Jan 02	28 Jan 02	Pasadena City College	Pasadena, CA	37	-	-
02 Feb 02	02 Feb 02	Pasadena City College	Pasadena, CA	42	-	-
01 Mar 02	01 Mar 02	Los Angeles Unified School District	Los Angeles, CA	37	-	-
03 Mar 02	03 Mar 02	California Institute of Technology	Pasadena, CA	350	-	-
03 Mar 02	03 Mar 02	Pasadena City College	Pasadena, CA	48	-	-
08 Mar 02	08 Mar 02	Los Angeles Unified School District	Los Angeles, CA	37	-	-
08 Mar 02	08 Mar 02	Los Angeles Unified School District	Los Angeles, CA	37	-	-
18 Mar 02	18 Mar 02	Pasadena City College	Pasadena, CA	37	-	-
22 Mar 02	22 Mar 02	Los Angeles Unified School District	Los Angeles, CA	42	-	-
23 Mar 02	23 Mar 02	California Institute of Technology	Pasadena, CA	1,390	-	-
23 Mar 02	23 Mar 02	Haramokngna American Indian Cultural Center	La Cañada, CA	154	-	-
25 Mar 02	25 Mar 02	Pasadena City College	Pasadena, CA	37	-	-
08 Apr 02	08 Apr 02	Pasadena City College	Pasadena, CA	40	-	-
12 Apr 02	12 Apr 02	Pasadena City College	Pasadena, CA	66	-	-
15 Apr 02	15 Apr 02	Pasadena City College	Pasadena, CA	37	-	-
20 Apr 02	20 Apr 02	Pasadena City College	Pasadena, CA	52	-	-
21 Apr 02	21 Apr 02	California Science Center	Los Angeles, CA	1,270	-	-
22 Apr 02	22 Apr 02	Pasadena City College	Pasadena, CA	84	-	-
24 Apr 02	24 Apr 02	Pasadena City College	Pasadena, CA	37	-	-

26 Apr 02	26 Apr 02	Pasadena City College	Pasadena, CA	68	-	-
27 Apr 02	27 Apr 02	Pasadena City College	Pasadena, CA	41	-	-
03 May 02	03 May 02	Pasadena City College	Pasadena, CA	89	-	-
06 May 02	06 May 02	Pasadena City College	Pasadena, CA	37	-	-
10 May 02	10 May 02	Pasadena City College	Pasadena, CA	37	-	-
13 May 02	13 May 02	Pasadena City College	Pasadena, CA	126	-	-
16 May 02	16 May 02	Pasadena City College	Pasadena, CA	58	-	-
17 May 02	17 May 02	Pasadena City College	Pasadena, CA	42	-	-
18 May 02	18 May 02	Pasadena City College	Pasadena, CA	86	-	-
31 May 02	31 May 02	Pasadena City College	Pasadena, CA	37	-	-
01 Jun 02	01 Jun 02	Pasadena City College	Pasadena, CA	21	-	-

A43. Southwest Internet Program for the Enhancement of Minority Education

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): MI Initiative[B2]

Description: The Internet Based Education (IBE) consortium was formed to implement the aforementioned grant. Members include Diné College (DC), New Mexico Highlands University (NMHU), the University of New Mexico (UNM), Los Alamos National Laboratory (LANL), and the University of California, Berkeley. To enhance accessibility to minority students, the consortium recruited, as a no-cost partner, Colorado's Fort Lewis College. They educate Native American students tuition-free. Year 2002 developments include the following: UNM developed 20 new Internet interactive astronomy labs to replace older less effective labs. DC completed enough Navajo-friendly Internet interactive astronomy labs for a complete semester of work. DC's goal was to replace 90 percent of the words of a traditional course with graphics, animations, and cartoons. Navajo medicinemen helped with Diné constellations. DC expended great effort on the interactive computer grading of assignments but left teachers with the power to control grading. Teachers determine what is to be computer-graded and what is to be hand-graded. Five extra labs are planned. They will deal with astronomical measurements and will borrow heavily from Hands-On Universe. DC will flight-test these new labs starting the second week in October 2002. Academic accomplishments include the following: The consortium developed, tested and piloted a Web-based, introductory astronomy lab course, initially devised at UNM. Student feedback was collected and analyzed and is being incorporated into new courses. This activity paved the way for a formal astronomy course at Diné College (fall 2001/fall 2002), the first in many years. The first purposely built, Navajo-friendly interactive astronomy Internet-based lab debuts in the fall of 2002. The first full Internet-based lecture course will be offered in 2003. Furthermore, an upper-division astrophysics course that incorporates student research projects has devolved at NMHU. We also conducted a number of star parties as public outreach.

Lead: Dr. Steve Semken, Diné College, Shiprock, NM 87420.
E-mail: *scsemken@shiprock.ncc.cc.nm.us.* Phone: 505-368-3630.

Primary URL: *http://www.ibe.ncc.cc.nm.us*

2nd URL: *http://www.unm.edu/~astro1/101lab/home.html*

Scientist(s):	Dr. Neb Duric	University of New Mexico	Albuquerque, NM
	Mr. Robert Friedberg	Diné College	Tsaile, AZ
	Dr. Eileen Ryan	New Mexico Highlands University	Las Vegas, NM
	Dr. William Ryan	New Mexico Highlands University	Las Vegas, NM
Partner(s):	Los Alamos National Laboratory		Los Alamos, NM
	NASA Office of Equal Opportunity Programs		Washington, DC
	New Mexico Highlands University		Las Vegas, NM
	University of California, Berkeley		Berkeley, CA
	University of New Mexico		Albuquerque, NM

A44. Space Science Education and Sun-Earth Connection

Theme(s): SEC

Msn/Prgm(s): MI Initiative[B2]

Description: The objectives of this project are to 1) initiate a B.S. degree program in physics with space science as a concentration area, 2) train minority (especially, African-American) students for eventual careers in space science, 3) establish a space science research group at Alabama A&M University (AAMU) to conduct research in the space science area, and 4) establish partnerships with other institutions to further the goals of this project. Objective 1 has already been fulfilled and objectives 2, 3, and 4 are ongoing. Two African-American students received training during the first year of this project, and two more have enrolled in the second year. The

National Society of Black Physicists Conference and the National Conference of Black Physics Students were jointly held at AAMU on March 13-17, 2002. Ms. Samaiyah Farid completed two summer projects at Lawrence Berkeley Laboratory and Lawrence Livermore National Laboratory (LLNL). Ms. Fana Mulu also completed two summer projects at the University of Wisconsin and LLNL. Two African-American students from local high schools received training at AAMU during the summer of 2002. Collaborative efforts are continuing with the University of Alabama in Huntsville (Wu, Germany, and Wang), NASA Marshall Space Flight Center and the National Space Science and Technology Center (Hathaway and Six), LLNL (Reed and Bala), the University of Texas at El Paso (Lopez), and Boston University (Hughes and Goodrich). Advances in space weather studies (e.g., solar wind effects on geomagnetic storms, substorms and radiation belt formation, numerical simulation studies on coronal mass ejections, and climatological effects of the Sun) have been made.

Lead: Dr. Arjun Tan, Alabama A&M University, Normal, AL 35762.
E-mail: *atan@aamu.edu.* Phone: 256-858-8115.

Partner(s):		
	Lawrence Livermore National Laboratory	Livermore, CA
	NASA Goddard Space Flight Center	Greenbelt, MD
	NASA Marshall Space Flight Center	Marshall Space Flight Center, AL
	NASA Office of Equal Opportunity Programs	Washington, DC
	University of Alabama at Huntsville	Huntsville, AL

A45. Stars on Earth: Providing Underrepresented New Mexico High School Students with Research Experience in Space Science and Preparation for Math, Science, and Technology

Theme(s): SSE
Msn/Prgm(s): MI Initiative[B2]
Description: Stars on Earth is a year-round academic and research-based program opportunity for underrepresented students to build a solid foundation in Earth and planetary sciences, mathematics, technology, and communications. Significant accomplishments during FY 2002 include the following: 1) implemented Physical Geology 101 and 101 lab courses for students attending Southwestern Indian Polytechnic Institute (SIPI); 2) developed and implemented Astronomy 101 and 101 lab courses for students attending SIPI; 3) collaborated ongoingly with the Institute of Meteoritics at the University of New Mexico and with the Meteorite Identification Laboratory at SIPI that provides internship/research experience for college and high school students; 4) submitted work conducted by the SIPI meteorite identification group to the Thirty-Second Lunar and Planetary Science Conference (Karner et al., 2002); 5) continued the implementation of mathematics and science courses for Native American teacher's aides; 6) conducted Saturday academies during which high school students were actively engaged in sessions that integrated Earth and space science, mathematics, and English and participated in college and skill development sessions; and 7) completed a 6-week residential program during which students attended Earth and space, life science, and environmental science classes and labs; developed research projects, presented at poster sessions; and interacted with professionals in the fields.

Lead: Mr. Kirby Gchachu, Southwestern Indian Polytechnic Institute, Albuquerque, NM 87184.
E-mail: *kgchachu@sipi.bia.edu.* Phone: 505-346-7712.

Primary URL: *http://www.sipi.bia.edu*

Partner(s):		
	NASA Office of Equal Opportunity Programs	Washington, DC
	University of New Mexico	Albuquerque, NM

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	17 May 02	Southwestern Indian Polytechnic Institute	Albuquerque, NM	22	-	-
01 Oct 01	30 Sep 02	Southwestern Indian Polytechnic Institute	Albuquerque, NM	19	-	-
01 Oct 01	30 Sep 02	Southwestern Indian Polytechnic Institute	Albuquerque, NM	9	-	-
01 Oct 01	30 Sep 02	Southwestern Indian Polytechnic Institute	Albuquerque, NM	23	-	-
01 Oct 01	30 Sep 02	Southwestern Indian Polytechnic Institute	Albuquerque, NM	53	-	-
09 Jun 02	18 Jul 02	Southwestern Indian Polytechnic Institute	Albuquerque, NM	95	-	-
26 Jun 02	26 Jun 02	Southwestern Indian Polytechnic Institute	Albuquerque, NM	136	-	-

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A46. York College Observatory Educational Outreach Program (YCOOP)

Theme(s): ASO
Msn/Prgm(s): MI Initiative[B2], MAP[B79]
Description: This NASA Office of Space Science (OSS) grant develops a broad program for upgrading science education in

inner-city areas. This program utilizes collaborating institutions to develop education infrastructure at York College and in the secondary-schools of New York City (NYC); sets up training for inservice, secondary school science teachers; and stimulates research in minority institutions. At York, curricular developments include minors and courses in astronomy and physics for majors in the sciences, teacher education, and general education as well as for inservice high school teachers. The NASA OSS grant funding has strengthened the college's physics and astronomy programs by the addition of a new faculty line, by stimulating cooperative programs with the NASA MAP mission and Princeton University that have led to curricular developments and published research for York faculty and undergraduates. Collaboration with units of City University has led to a strengthening of the entire university's program in space science. Collaboration with the MAP mission and the Science, Engineering Mathematics and Aerospace Academy (SEMAA) program is providing enrichment and outreach programs for underrepresented children. The program is impacting the NYC high schools' program in Earth and space sciences by offering faculty development and cooperatively creating curricular materials. After being field-tested in 12 districts, these new astronomy materials will be made available to the entire city. Inservice, teacher-training courses have been created, offering background education and classroom activities for Solar System astronomy and cosmology. An unproposed but supportive weekly YCOOP open house with lectures and sky viewing for college and local communities has been established.

Lead: Dr. Martin Spergel, York College, Jamaica, NY 11451.
E-mail: *spergel@york.cuny.edu.* Phone: 718-262-2650.

Primary URL: *http://natsci.york.cuny.edu/yc_observatory.html*

2nd URL: *http://natsci.york.cuny.edu/~yco/*

Partner(s): NASA Office of Equal Opportunity Programs — Washington, DC
Princeton University — Princeton, NJ

University Research Centers

A47. Center for Automated Space Science

Theme(s): ASO

Msn/Prgm(s): URCs[B4]

Description: We have been developing the capability to make astronomical observations automatically with robotic telescopes and are currently operating seven of these instruments which are located in southern Arizona. We communicate with these telescopes via Internet connections at Tennessee State University (TSU), uploading our observation requests and downloading the resulting data. These telescopes have proven to be capable of producing the most precise measurements of brightness changes in stars that have ever been made. And they do so with amazing efficiency and cost-effectiveness. Each year, we are getting the equivalent amount of data that would have taken 100 years to collect by older manual techniques and at a tiny fraction of the cost. Exciting discoveries have been made. In 1999, one of the telescopes detected the first and, to date, only example of a planet around another star that was moving directly in front of its star, resulting in a shallow eclipse or transit. This discovery proved once and for all that planetary systems around other stars DO exist and also provided the first direct measurements of the physical properties of one of these planets. In early 2002, in collaboration with colleagues at the University of California, Berkeley, and the Carnegie Institution of Washington, the results of a 15-year study were announced. They detailed the first discovery of a planetary system around another star that might be capable of hosting Earth-like planets, although such small planets, if they exist, are still beyond our ability to detect directly. One of the astounding results of this search for planets around other stars is the realization that planetary systems similar to our own, capable of supporting advanced life, might be quite rare in the Universe. Another long-term research program with our robotic telescopes involves the study of several hundred stars with properties very similar to our own Sun, ultimately aimed at understanding the Sun's changing behavior and its impact on Earth's climate.

Lead: Dr. Michael Busby, Tennessee State University, Nashville, TN 37203-3401.
E-mail: *busby@coe.tsuniv.edu.* Phone: 615-963-7013.

Other Targeted Activities

A48. American Association of University Women (AAUW) Math and Science Conference

Theme(s): SSE

Msn/Prgm(s): Galileo[B38]

Description: The lecture on Galileo science and Jupiter exploration was given to 45 seventh and eighth grade girls in Santa Clarita, CA, on March 23, 2002. This lecture was part of the AAUW Math and Science Conference.

Lead: Ms. Kathryn Schimmels, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *kathryn.schimmels@jpl.nasa.gov.* Phone: 818-393-7713.

A49. From the Outer Planets to the Inner City

Theme(s): ASO

Msn/Prgm(s): SIRTF[B24], Navigator[B27], Cassini/Huygens Probe[B37], Galileo[B38], DPSO[B40], Deep Impact[B43], Stardust[B47], Mars E/PO[B48], 2001 Mars Odyssey[B49], Europa Orbiter[B58], DSMS[B60], DS-1[B61], Ulysses[B96], Voyager[B97], ST-5[B120]

Description: The NASA Jet Propulsion Laboratory (JPL) space science missions are committed to developing a continuous NASA presence in inner-city settings by partnering with effective community organizations. From the Outer Planets to the Inner City is an urban education and public outreach effort led by the Europa Orbiter Project with the JPL-wide participation of scientists and engineers. One exemplary community partnership is with Los Angeles' Better Educated Students for Tomorrow (LA's BEST), itself a partnership between the Office of the Mayor of Los Angeles and the Los Angeles Unified School District, the second largest school district in the country. LA's BEST is an afterschool enrichment program, serving 17, 000 third- through fifth-grade students in 101 inner-city elementary schools within the Los Angeles Unified School District. JPL provides educator workshops for the LA's BEST science leaders. JPL also assists in the implementation of a group science project approach, where teams of three or four students work collaboratively to complete a science learning project for judging at local fairs, regional fairs, and a citywide fair held at JPL in March. One highlight of the year is called JPL Daze at LA's BEST, where nearly 60 scientists, engineers, and other JPL employees conducted activities. JPL employees reached about half of the afterschool sites, from December 2001 through March 2002, to conduct hands-on space science learning experiences, reaching over 2,000 children (approximately 65 percent Hispanic, 35 percent African-American). Another exemplary effort was the partnership with Project Universe in Minneapolis, which joined with the Minnesota Science Center to create an evening celebration of African-American contributions to science, featuring JPL cryobot engineer Lloyd French and imaging scientist Jim Klemaszewski on the topic of Europa.

Lead: Mr. Richard Shope III, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *rick.shope@jpl.nasa.gov.* Phone: 818-354-3812.

Primary URL: *http://www.jpl.nasa.gov/europaorbiter/outreach*

2nd URL: *http://www.LAsBEST.org*

Scientist(s):

Ms. Cindy Alarcon-Rivera	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Elizabeth Amini	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Andrea Angrum	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Shari Asplund	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Derek Blackway	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Gary Block	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Jeffrey Booth	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Wayne Bosze	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Susan Braunheim-Kalagerakos	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Scott Carpenter	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Stacy Connaughton	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Karina Edmonds	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Daphna Enzer	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Doug Equils	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Priscilla Ford	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Lloyd French	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Ramon Garcia	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Nick Gautier	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Consuelo Gennaro	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Steve Gillam	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Carol Guerrero	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Richard Guerrero	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Ani Guirakosyan	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Art Hammon	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Larry Huley	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Christine Johnson	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Rhonda Jones	NASA Jet Propulsion Laboratory	Pasadena, CA

Dr. Parvin Kassaie	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Jenny Kim	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Jim Klemaszewski	Academic Research Lab	Phoenix, AZ
Mr. Steve Kulczycki	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Chuck Lahmeyer	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Elizabeth Lamassoure	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Alex Levi	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Shannon McConnell	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Tom Nolan	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Frank O'Donnell	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Claire Perigaud	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Gregory Pomeroy	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Don Potter	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Robert Proctor	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Maura Rountree-Brown	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Jasmine Sandhu	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Seidel	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Anita Sengupta	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. John Sepikas	Pasadena City College	Pasadena, CA
Mr. Stuart Shaklan	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Colleen Sharkey	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Richard Shope	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Anita Sohus	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Robert Staehle	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Anne Sullivan	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Eilene Theilig	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Robert Treuhaft	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Frank Vanlandingham	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Chad Villacorta	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Susan Watanabe	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Thomas Weeks	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Bernard Widynski	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Candice Yui	NASA Jet Propulsion Laboratory	Pasadena, CA

Partner(s): Los Angeles' Better Educated Students for Tomorrow (LA's BEST) — Los Angeles, CA
Project Universe — Minneapolis, MN

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Dec 01	31 Mar 02	Los Angeles' Better Educated Students for Tomorrow (LA's BEST)	Los Angeles, CA	2,319	-	-
07 Feb 02	09 Feb 02	Science Museum of Minnesota	St. Paul, MN	-	350	-
16 Mar 02	16 Mar 02	Los Angeles' Better Educated Students for Tomorrow (LA's BEST)	Los Angeles, CA	254	-	-
20 Apr 02	21 Apr 02	California Science Center	Los Angeles, CA	-	700	-

A50. From the Sun to the Star Nations

Theme(s): SEC

Msn/Prgm(s): SECEF[B14], SSI B/F[B20], Deep Impact[B43], Stardust[B47], Europa Orbiter[B58], DSMS[B60]

Description: From the Sun to the Star Nations engages American Indian communities in four geographical areas: the Diné (Navajo) in Arizona/New Mexico, the Lakota (Sioux) in South Dakota/North Dakota, Native Hawaiians in Hawaii, and Native Alaskans in Alaska. The program provides direct involvement of space scientists with the traditional and education communities. It is led by the Europa project in collaboration with JPL projects Stardust, Deep Impact, and the Deep Space Network as well as the Office of Space Science (OSS) Support Network Space Science Institute Broker and the Sun-Earth Connection Education Forum. The program focuses on the nature of science. By providing quality services, the program's aim is to develop a sustained NASA presence in rural American Indian nations by partnering with effective community-based organizations, such as the World Hope Foundation, based in Boulder, CO. These organizations have extensive experience in working directly with tra-

ditional community leaders, elders, and community members and with the Academic Research Lab, based in Phoenix, AZ, a field coordinator for Arizonan and Alaskan activities. The program has established effective and culturally sensitive strategies of building relations, earning a track record of trust within the community, assessing needs, and responding to needs that are within the scope of its work. The program brings NASA presenters (drawn from JPL projects), Solar System Ambassadors, Solar System educators, the Sun-Earth Connection Education Forum, the Space Science Institute, Diné College, and Sinte Gleska University in the context of K-12 classroom school visits, community skywatching events, educator workshops, and intercultural exchanges that occur in the community over a 2- to 3-day period.

Lead: Mr. Richard Shope III, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *rick.shope@jpl.nasa.gov.* Phone: 818-354-3812.

Primary URL: *http://www.worldhopefoundation.org/*

Scientist(s):	Mr. Ed Anderson	Northern Arizona University	Flagstaff, AZ
	Mr. Steven Kadel	Glendale Community College	Glendale, AZ
	Mr. Jim Klemaszewski	Academic Research Lab	Phoenix, AZ
	Mr. Ed Little	Diné College	Tsaile, AZ
	Dr. Karen Meech	University of Hawaii at Manoa	Honolulu, HI
	Ms. Maura Rountree-Brown	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Richard Shope	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	Academic Research Lab		Phoenix, AZ
	World Hope Foundation		Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Nov 01	18 Nov 01	American Indian Science and Engineering Society (AISES) Meeting	Albuquerque, NM	-	50	-
01 Feb 02	02 Feb 02	Shonto Preparatory School	Shonto, AZ	123	-	-
20 Feb 02	23 Feb 02	Anchorage School District	Anchorage, AK	175	200	-
14 Mar 02	15 Mar 02	Red Rock Day School	Red Valley, AZ	87	150	-
22 Mar 02	22 Mar 02	Journey Museum	Rapid City, SD	280	50	-
26 Apr 02	26 Apr 02	Pinon Unified School District	Pinon, AZ	372	-	-
17 Jun 02	19 Jun 02	University of Hawaii at Hilo	Hilo, HI	360	-	-
11 Sep 02	11 Sep 02	East Valley Astronomy Club	Mesa, AZ	-	80	-

A51. Girl Scouts of the USA (GSUSA)/NASA OSS Partnership

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): ASO Forum[B11], SSE Forum[B12], SECEF[B14], DePaul B/F[B15], SERCH B/F[B19], Navigator[B27], NAI[B35], Cassini/Huygens Probe[B37], Galileo[B38], JPL SSE Theme[B39], DPSO[B40], Deep Impact[B43], Genesis[B44], Astromaterials[B59], DSMS[B60], DS-1[B61]

Description: Working with the GSUSA presents us with the opportunity to reach more than 3.2 million girls, as well as their parents and almost 1 million adult members. We work with scientists and Girl Scout trainers, leaders, and volunteers (including parents) to make science comfortable and fun. They, in turn, work with the girls. We provide training for master trainers and make connections between scientists and the GSUSA councils and the national headquarters for the purposes of proposals, workshops, and more. Another of our primary goals is to introduce girls to careers in science, mathematics, and technology. We do this by submitting quarterly articles for their national "Leader" magazine, providing content for their Web site, providing content for newsletters, providing resources for special events when possible, and helping them develop activity/event kits by using mission information. All training and special events are on a regional and national level. Future plans, with the help of all participating missions, programs, and the Office of Space Science (OSS) Support Network, include a mentoring program and participation in existing Girl Scout diversity programs and their Wider Opportunities program.

Lead: Ms. Rosalie Betrue, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Rosalie.Betrue@jpl.nasa.gov.* Phone: 818-393-5388.

Scientist(s):	Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
	Mr. Troy Cline	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Sheri Klug	Arizona State University	Tempe, AZ
	Dr. Therese Kucera	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Rosaly Lopes	NASA Jet Propulsion Laboratory	Pasadena, CA

	Mr. Louis Mayo	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Carolyn Ng	NASA Goddard Space Flight Center	Greenbelt, MD
Partner(s):	Girl Scouts of the USA (GSUSA) National Headquarters		New York, NY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Nov 01	01 Nov 01	Rivertown Science Center	Kenner, LA	26	-	-
01 Mar 02	01 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	880,000	-
13 Apr 02	13 Apr 02	Smithsonian National Air and Space Museum	Washington, DC	-	550	-
19 Apr 02	23 Apr 02	Girl Scouts USA Edith Macy Conference Center	Briarcliff Manor, NY	30	-	-
15 Jun 02	15 Jun 02	DePaul University, Lincoln Park Campus	Chicago, IL	53	-	-
29 Jul 02	29 Jul 02	NASA Goddard Space Flight Center	Greenbelt, MD	65	-	-

A52. Journey through the Universe

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): Challenger Center[B6]

Description: Journey through the Universe (JttU) is an innovative, community-based initiative that aims to increase community participation in education by establishing a network of underserved and underrepresented communities that are committed to sustainable communitywide science, mathematics, and technology education. Funded by grants from NASA Headquarters' Minority University Research and Education Division (MURED) and the NASA Office of Space Science, the program uses Earth science, space science, human space flight, and aeronautics, within a multidisciplinary (cross-curricular) context, to engage entire communities. The Challenger Center provides the JttU network with diverse national resources, including original programming, comprehensive materials, and a supportive network of scientists and educators. Communities integrate these resources into existing communitywide science, mathematics, and technology education programs, and they use these resources to extend communitywide education in creative and sustainable new ways. The unique JttU program resulting from this partnership is meant to reflect the strengths, capabilities, and personality of the community, and the community's strategic vision for education. JttU communities are empowered to develop sustainable and lasting collaborations between area schools, museums, science centers, businesses, families, and other local resources. JttU resources are delivered within a framework that provides for awareness building in the first years and works toward sustainability in the third year and beyond. There are currently nine communities in the JttU Network: Tuskegee, AL; Nogales, AZ; San Diego, CA; Washington, DC; Moscow, ID; Muncie, IN; Labette County, KS; Marquette, MI; and Broken Arrow, OK.

Lead: Dr. Jeffrey Goldstein, Challenger Center for Space Science Education, Alexandria, VA 22314.
E-mail: *journey@challenger.org.* Phone: 703-683-9740.

Contact: Ms. Stacy Smith, Challenger Center for Space Science Education, Alexandria, VA 22314.
E-mail: *journey@challenger.org.* Phone: 703-683-9740.

Primary URL: *http://www.challenger.org/journey*

2nd URL: *http://www.challenger.org*

Scientist(s):	Dr. Mario Acuna	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Connie Bertka	American Association for the Advancement of Science (AAAS)	Washington, DC
	Dr. Matthew Bobrowsky	Challenger Center for Space Science Education	Alexandria, VA
	Dr. Steve Brody	NASA Office of Space Science	Washington, DC
	Dr. Taft Broome	Howard University	Washington, DC
	Dr. Scott Budzein	Naval Research Laboratory	Washington, DC
	Dr. George Carruthers	Naval Research Laboratory	Washington, DC
	Dr. William Clancey	NASA Ames Research Center	Moffett Field, CA
	Dr. Deborah Domingue	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Dr. Rob Eppler	Swales Aerospace	Beltsville, MD
	Dr. Herb Frey	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Harold Geller	George Mason University	Fairfax, VA
	Dr. Jeffrey Goldstein	Challenger Center for Space Science Education	Alexandria, VA
	Dr. Kevin Grazier	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Wanda Harding	NASA Office of Human Resources and Education	Washington, DC
	Dr. James Harrington	NASA Goddard Space Flight Center	Greenbelt, MD

Mr. Nathan James	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Andrew Johnston	Smithsonian National Air and Space Museum	Washington, DC
Dr. Ramona Kessel	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Sidambi Kumar	Howard University	Washington, DC
Dr. Brooke Lakew	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. David Leisawitz	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Timothy Livengood	Challenger Center for Space Science Education	Alexandria, VA
Mr. Louis Mayo	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Marla Moore	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Carolyn Ng	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Adriana Ocampo	NASA Office of Space Science	Washington, DC
Dr. Agnes Pasco-Conaty	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Art Poland	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Jason Rhodes	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Nancy Grace Roman		
Dr. Paul Romani	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Andrew Santo	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Amy Simon-Miller	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
Dr. Sonya Smith	Howard University	Washington, DC
Dr. Michelle Thaller	SIRTF Science Center/ California Institute of Technology	Pasadena, CA
Dr. James Thieman	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Tom Troland	University of Kentucky	Lexington, KY
Dr. Robin Vaughan	Johns Hopkins University	Baltimore, MD
Dr. Kim Weaver	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Nathaniel Woodrick	Howard University	Washington, DC

Partner(s):	American Association for the Advancement of Science (AAAS)	Washington, DC
	California Institute of Technology	Pasadena, CA
	George Mason University	Fairfax, VA
	Howard University	Washington, DC
	Johns Hopkins University	Baltimore, MD
	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Montgomery College	Germantown, MD
	NASA Ames Research Center	Moffett Field, CA
	NASA Goddard Space Flight Center	Greenbelt, MD
	NASA Johnson Space Center	Houston, TX
	NASA Kennedy Space Center	Kennedy Space Center, FL
	NASA Office of Equal Opportunity Programs	Washington, DC
	National Capital Astronomers	Washington, DC
	Naval Research Laboratory	Washington, DC
	Smithsonian National Air and Space Museum	Washington, DC
	Space Telescope Science Institute	Baltimore, MD
	Swales Aerospace	Beltsville, MD
	University of Kentucky	Lexington, KY
	University of Maryland	College Park, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Oct 01	20 Oct 01	Washington Journey to the Universe Week	Washington, DC	7,685	271,215	-
25 Jan 02	31 Jan 02	Tuskegee-Montgomery Journey to the Universe Week	Tuskegee-Montgomery, AL	7, 444	455	-
25 Feb 02	01 Mar 02	Nogales Journey to the Universe Week	Nogales, AZ	4,587	15,775	-
18 Mar 02	22 Mar 02	Marquette Journey to the Universe Week	Marquette, MI	3,821	35,650	-

28 Apr 02	03 May 02	Altamont Journey through the Universe Week	Altamont, KS	3,895	1,825	-

A53. NASA Astrobiology Institute (NAI) Minority Faculty Fellowship Program

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: The NAI Faculty Fellowship Program provides opportunities for researchers from qualified minority institutions to initiate joint undertakings with NAI investigators. The NAI anticipates that these short-term exchanges, by introducing the Fellow and the host NAI Member, will generate new collegial interactions, enlist additional academic institutions in the NAI's participant base, and provide the Fellow's home institution and students with lasting connections. The long-range objectives are twofold. First, the program will assist in the formation of scientific collaborations which lead to joint research proposals that are successful in peer review competitions, particularly those that result in the selection of NAI Lead Teams. Second, the program will extend the national academic underpinning of astrobiology at the collegiate level, educating and training the next generation of astrobiologists.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Karen Bradford, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kbradford@mail.arc.nasa.gov.* Phone: 650-604-0809.

Primary URL: *http://nai.arc.nasa.gov/institute/minority_coop.cfm*

Partner(s):	Arizona State University	Tempe, AZ
	Carnegie Institute of Washington	Washington, DC
	Pennsylvania State University	University Park, PA
	University of California, Los Angeles	Los Angeles, CA
	University of Colorado at Boulder	Boulder, CO
	University of Washington	Seattle, WA

A54. Navigator: Imagine A New World Program

Theme(s): ASO

Msn/Prgm(s): Navigator[B27], MSC[B28], KECK[B29], SIM[B32], ST-3[B33], TPF[B34]

Description: The Imagine A New World informal education program uses art, language arts, mathematics, and music as a potential bridge to stimulate underrepresented girls in the area of science. We provide inquiry-based learning opportunities for discovery, inviting participants to use fun creative energy while gaining science and math literacy. We provide minority female role models, training opportunities, and science content on the search for habitable planets.

Lead: Ms. Rhonda Jones, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *rhonda.r.jones@jpl.nasa.gov.* Phone: 818-354-1562.

Scientist(s):	Ms. Karina Edmonds	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	Girls, Inc.		Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 Feb 02	18 May 02	Girls, Inc.	Pasadena, CA	95	-	-
25 Apr 02	25 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	9	-	-
18 May 02	18 May 02	Pasadena City College	Pasadena, CA	248	37	-

A55. Navigator: Minority Outreach Program

Theme(s): ASO

Msn/Prgm(s): Navigator[B27], KECK[B29], SIM[B32], ST-3[B33], TPF[B34]

Description: The Navigator Program lays out a roadmap for a bold series of projects, spanning almost a generation. By the year 2021, we envision an interconnected array of Next Generation Space Telescope-class telescopes in space, sensitive enough to capture the faint glow of the reflected light from a distant planet and acute enough to separate this faint glimmer from the blinding glare of its parent star. These will be the most sensitive instruments humans have ever attempted to build, capable of reaching beyond the bounds of our Solar System. What might our own world look like 20 years from now? The previous two decades have brought social, political, and technological changes that had not been predicted with any accuracy. Today, we know that there will be changes ahead that we similarly cannot foresee. However, we can make one prediction with reasonable confidence. In 20 years, America will be an even more diverse society than it is today. The parents of the chil-

dren of the next generation are already born. We do not know the music they will dance to or the technological gadgets they will use. But we do know that the majority of the population will have one or more Hispanic or African-American ancestors; they will embrace a multitude of traditional and popular cultures, and they will include individuals with a wide range of economic means and physical abilities.

Lead: Ms. Rhonda Jones, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *rhonda.r.jones@jpl.nasa.gov.* Phone: 818-354-1562.

Scientist(s):	Dr. Nahide Craig	University of California, Berkeley	Berkeley, CA
	Dr. Rudolf Danner	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Ayanna Howard	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	National Society of Black Physicists (NSBP)		Greensboro, NC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Mar 01	17 Mar 01	National Society of Black Physicists Meeting	Huntsville, AL	52	-	-
20 Oct 01	20 Oct 01	Pasadena City College	Pasadena, CA	51	200	-
20 Oct 01	20 Oct 01	Women At Work	Pasadena, CA	66	200	-
15 Nov 01	17 Nov 01	National Alliance of Black School Educators (NABSE) Conference	Los Angeles, CA	90	100	-
25 Mar 02	28 Mar 02	National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE)	Washington, DC	35	-	-
10 Jul 02	10 Jul 02	Compton Community College	Compton, CA	-	200	-
27 Jul 02	31 Jul 02	National Urban League Conference	Los Angeles, CA	-	250	-

A56. Outreach to Native Americans in the Western Region

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SSI B/F[B20]

Description: One of the primary goals of the Broker/Facilitator program at the Space Science Institute (SSI) is to provide strategically valuable support for indigenous communities in our region. This strategic support includes providing professional development opportunities in space science for educators of Native American students; facilitating the development of, access to, and use of exemplary curricular materials appropriate for indigenous communities; providing awareness training for NASA scientists and educators who will be working in Native American communities; and facilitating Native American access to the process and results of space science research. The SSI Broker's intention is to provide these services while using guiding principles which include respect for spiritual and cultural values, mindfulness of indigenous knowledge and perspective, approval of elders and community members, and engagement of Native American educators or consultants in each step of the process. This year the SSI Broker provided astronomy workshops at three conferences targeting Native American students and represented the NASA Office of Space Science (OSS) at NASA Awareness Days for the North Dakota Tribal Colleges. For NASA Awareness Days, the SSI Broker gave a presentation on OSS opportunities for Tribal Colleges and Native American students as well as an interactive presentation on basic astronomy to more than a 100 local school children.

Lead: Dr. Cherilynn Morrow, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *camorrow@colorado.edu.* Phone: 303-492-7321.

Contact: Ms. Christy Edwards, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *edwardcl@colorado.edu.* Phone: 303-735-4880.

Scientist(s):	Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Nov 01	18 Nov 01	American Indian Science and Engineering Society (AISES) Meeting	Albuquerque, NM	-	35	-
22 Mar 02	23 Mar 02	World Hope Foundation	Boulder, CO	-	-	-
03 Apr 02	15 Apr 02	NASA Awareness Days: North Dakota Tribal Colleges	Spirit Lake, ND	-	170	-
24 Jun 02	28 Jun 02	Natives, Africans, Asians, Latinos(as) and Allies (NAALA) Gathering	Mission, SD	16	-	-
26 Sep 02	29 Sep 02	Society for Advancement of Native Americans				

A57. Professional Societies of Minority Scientists/OSS Collaboration

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SRT[B3], OSS/Outreach[B7], ASO Forum[B11], SSE Forum[B12], SEU Forum[B13], SECEF[B14], DePaul B/F[B15], LPI B/F[B16], MARSSB[B17], NESSIE B/F[B18], SERCH B/F[B19], SSI B/F[B20], S2N2 B/F[B21], SPIDR[B81]

Description: A network of professional societies of minority scientists is working with the NASA Office of Space Science (OSS) in order to broaden the diversity of participants in OSS missions and education and public outreach (E/PO) projects and to improve the effectiveness of OSS support for activities of the professional societies. An emphasis is placed on engaging society members as consultants and partners and on establishing collaborations early in the planning process for major activities or programs. The most significant outcome in FY 2002 was the first successful collaboration of one of the professional societies on an OSS mission proposal that was selected for flight. The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) will be an E/PO partner with the University of California, Berkeley, on Boston University's Spectroscopy and Photometry of the Intergalactic Medium's Diffuse Radiation (SPIDR) mission. SPIDR was selected for flight under the OSS Small Explorers (SMEX) Program. NOBCChE's undergraduate students will produce a series of biographical and professional profiles of NOBCChE scientists, and SPIDR scientists will participate in annual NOBCChE conferences and professional workshops. Also in FY 2002, minority scientists identified through the professional societies' network began service on the E/PO planning and advisory committees for the OSS Navigator Program and the Cassini/Huygens mission to Saturn. OSS supported activities of the professional societies through an enhanced presence at the NOBCChE and American Indian Science and Engineering Society (AISES) conferences (in early FY 2003) and by becoming a sponsor of the Richard Tapia Celebration of Diversity in Computing conference, celebrating the technical contributions and career interests of diverse people in computing fields.

Lead: Dr. Philip Sakimoto, NASA Office of Space Science, Washington, DC 20546.
E-mail: *phil.sakimoto@hq.nasa.gov.* Phone: 202-358-0949.

Contact: Dr. Lynn Narasimhan, DePaul University, Chicago, IL 60604.
E-mail: *cnarasim@depaul.edu.* Phone: 773-325-1854.

Partner(s):

American Indian Science and Engineering Society (AISES)	Albuquerque, NM
Boston University	Boston, MA
Coalition to Diversify Computing (CDC)	Evanston, IL
Council for African-American Researchers in the Mathematical Sciences (CAARMS)	Buffalo, NY
Institute for African-American e-Culture	Boston, MA
National Association of Black Geologists and Geophysicists	Houston, TX
National Association of Mathematicians	Atlanta, GA
National Institutes of Health Black Scientists Association	Clarksburg, MD
National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE)	Washington, DC
National Society of Black Physicists (NSBP)	Greensboro, NC
National Society of Hispanic Physicists	Nashville, TN
Society for the Advancement of Chicanos and Native Americans in Science	Santa Cruz, CA
University of California, Berkeley	Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
18 Oct 01	21 Oct 01	Richard Tapia Celebration of Diversity in Computing	Houston, TX	-	-	-
24 Mar 02	29 Mar 02	National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) Conference	New Orleans, LA	-	-	-

A58. Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Outreach to Underserved and Minority Groups

Theme(s): SEC

Msn/Prgm(s): RHESSI[B101]

Description: RHESSI education and public outreach (E/PO) partners with representatives of minority organizations to con-

duct targeted outreach to underserved, minority, and economically disadvantaged schools, school districts, and professional development programs.

Lead: Dr. Nahide Craig, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

Contact: Dr. Bryan Mendez, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *bmendez@ssl.berkeley.edu.* Phone: 510-643-2178.

Scientist(s): Dr. Nahide Craig — University of California, Berkeley — Berkeley, CA

Partner(s): National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) — Washington, DC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
24 Mar 02	29 Mar 02	National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) Conference	New Orleans, LA	90	-	-

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A59. Sun-Earth Connection Education Forum (SECEF) Targeted Outreach to Native Americans

Theme(s): SEC

Msn/Prgm(s): SECEF[B14]

Description: The Sun-Earth Connection Education Forum (SECEF) partners with representatives of minority organizations to conduct targeted outreach to underserved/underutilized groups. Native American elders, teachers, and students partner with SECEF staff to collaborate on ways to increase the awareness of the Native American cultures and the scientific parallels.

Lead: Mr. Troy Cline, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *cline@mail630.gsfc.nasa.gov.* Phone: 301-286-6606.

Contact: Dr. Greg Schultz, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *schultz@ssl.berkeley.edu.* Phone: 510-643-0012.

Primary URL: *http://sunearth.gsfc.nasa.gov/sunearthday/native.htm*

Scientist(s):
- Mr. Troy Cline — NASA Goddard Space Flight Center — Greenbelt, MD
- Mr. Jim Klemaszewski — Academic Research Lab — Phoenix, AZ
- Ms. Elaine Lewis — NASA Goddard Space Flight Center — Greenbelt, MD
- Dr. Greg Schultz — University of California, Berkeley — Berkeley, CA
- Mr. Richard Shope — NASA Jet Propulsion Laboratory — Pasadena, CA
- Mr. Keith Watt — Arizona State University — Tempe, AZ

Partner(s): World Hope Foundation — Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	University of California, Berkeley	Berkeley, CA	68	-	-
26 Apr 02	26 Apr 02	NASA Goddard Space Flight Center	Greenbelt, MD	26	-	-
23 Jul 02	27 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	60	-	-

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A60. Sun-Earth Day Information for Tribal Schools

Theme(s): SEC

Msn/Prgm(s): S2N2 B/F[B21], LWS[B119]

Description: Information and materials on Sun-Earth Day 2002 were distributed to teachers at tribal schools in Washington State by the Science and Tribes Educational Partnership program at the University of Washington. Since Sun-Earth Day 2002 had a special emphasis on Native American traditions regarding the Sun, the goal was to make teachers at tribal schools aware of the opportunity to get their classrooms involved with Sun-Earth Day.

Contact: Ms. Nan Little, University of Washington, Seattle, WA 98195-1310.
E-mail: *klittle@u.washington.edu.* Phone: 202-616-6255.

A61. Women in Science and Engineering (WISE) Camp—Science Projects in Astrobiology

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: WISE Camp 2002 was a 2-week residential summer program for young women entering the 11th and 12th grades. WISE Camp is a program of Penn State's WISE Institute. The high school students were engaged in

projects designed to expose them to some of the important questions in astrobiology and to some of the approaches used to answer those questions. Students chose to participate in one of three projects: Spectral Analysis for the Fingerprint of Life, Chemical Analysis for the Modern Fingerprints of Life, or Chemical Analysis for Ancient Fingerprints of Life.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
17 Jun 02	28 Jun 02	Pennsylvania State University	University Park, PA	33	-	-

EDUCATIONAL PRODUCTS

A62. Active Astronomy: Classroom Activities for Learning About Infrared (IR) Light

Theme(s): ASO
Msn/Prgm(s): SOFIA[B25]
Description: Active Astronomy was developed by Stratospheric Observatory For Infrared Astronomy's (SOFIA's) education and public outreach program, working in close collaboration with the Physics Department's team at the Montana State University in Bozeman. It is a set of four classroom activities that allows students to explore invisible light. The activities are designed to supplement classroom instruction on the electromagnetic spectrum, where experiments ordinarily show only the behavior of visible light. All activities are standards-based (national science education standards). The activities were evaluated by the Origins Forum evaluation team at the Space Telescope Science Institute and subsequently were tested in more than 20 middle and high school classrooms across the United States. Active Astronomy is disseminated via the SOFIA Web site and the Space Sciences Educational Resource Directory.
Lead: Ms. Edna DeVore, SETI Institute, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.
Contact: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.
Primary URL: *http://sofia.arc.nasa.gov/Edu/materials/edu_materials.html*

Scientist(s):	Dr. Michael Bennett	Astronomical Society of the Pacific (ASP)	San Francisco, CA
	Ms. Edna DeVore	SETI Institute	Mountain View, CA
Partner(s):	Montana State University		Bozeman, MT

A63. Astrobiology Article in "Science Scope"

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: A four-page article appeared in the November/December 2001 issue of "Science Scope" magazine published by the National Science Teachers Association (NSTA), entitled "Astrobiology: Discovering New Worlds of Life." The article was coauthored by Charles C. James and Cindy Lee Van Dover and included a full-color poster insert with six panels of informative text that described the deep-sea hydrothermal vent community at Dudley's Pillar. The article was linked to appropriate Web sites via the National Science Teacher Association's sciLINKS (Internet address below). The article and poster received a Best in Category award from the National Printing and Graphics Communication Competition in March 2002.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Mr. Charles James, Carnegie Institute of Washington, Washington, DC 20015.
E-mail: *ccjames@pst.ciw.edu.*
Primary URL: *http://www.scilinks.org*

A64. "Astrobiology: Discovering New Worlds of Life" Poster

Theme(s): ASO
Format(s):: Poster/Wallsheet
Msn/Prgm(s): NAI[B35]
Description: The publication is the second in a series of astrobiology materials for middle and high school teachers annd was distributed nationwide and in Spain. The poster, "Astrobiology: Discovering New Worlds of Life," depicts

Dudley's Pillar, a rich hydrothermal vent community. The poster includes text about the organisms found at the site as well as the importance of such sites to the field of astrobiology. The posters were distributed in the following ways: NSTA conferences, NASA events, universities (such as Montana State, Hampton, Rutgers, William and Mary, and George Mason), Frey Scientific, and direct mail to teachers.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Mr. Charles James, Carnegie Institute of Washington, Washington, DC 20015.
E-mail: *ccjames@pst.ciw.edu.*

A65. Astrobiology: "The Search for Life in the Universe" Magazine

Theme(s): ASO
Format(s): PDF, Booklet
Msn/Prgm(s): NAI[B35]
Description: This color publication provides an overview of the field of astrobiology, written for the high school level. The piece was originally published by "Research Penn State" magazine in their January 2001 issue and is based on a lecture series that was held at Penn State University in January 2000. The lecture series and the magazine supplement feature NASA Astrobiology Institute scientists from Penn State University, The University of Colorado, and Harvard University as well as researchers from the SETI Institute and Rice University. The Penn State Astrobiology Research Center and Pfizer, Inc., provided funding for the publication. The Pennsylvania Space Grant Consortium is distributing the publication to interested educators, students, researchers, and others across the country and internationally. Portable Document Format (PDF) and Web versions are also available.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Dr. Lisa Brown, Pennsylvania State University, University Park, PA 16802.
E-mail: *lisabrown@psu.edu.* Phone: 814-863-7687.

Primary URL: *http://www.psu.edu/spacegrant/astrobiology/*

A66. Astrobiology: "The Search for Water"

Theme(s): ASO
Format(s): Booklet
Msn/Prgm(s): NAI[B35]
Description: The "Search for Water" is a booklet for middle school teachers that helps to develop an understanding of the importance of water to life on Earth and the possible places where water exists in our Solar System. The booklet is distributed to middle schools by request, direct mail via NSTA conferences, Frey Scientific, and NASA.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Mr. Charles James, Carnegie Institute of Washington, Washington, DC 20015.
E-mail: *ccjames@pst.ciw.edu.*

A67. "Astronomia Multi-Onda!"

Theme(s): ASO
Subject(s): Space Science
Format(s): Web Site
Audience(s): Grades 9-12, Adult/Continuing Education, Community College, General Public
Msn/Prgm(s): SIRTF[B24]
Description: This is a Spanish language Web site that teaches us why we need to study objects in space at many wavelengths. It includes a general overview of what we learn in each part of the spectrum and why we need to send telescopes into space.

Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.

Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000748&mode=full*
2nd URL: *http://ipac.jpl.nasa.gov/SIRTFspanish/Multiwave/multiwave1_sp_06sep01.html*

A68. Astronomy Foundations Through Art and Paper Plates (AFTAPP)—Serving the Universe on a Paper Plate

Theme(s): ASO

Subject(s): Earth Science, Mathematics, Space Science, Life Science
Format(s): Web Site
Audience(s): Grades K-12, Adult/Continuing Education, General Public
Msn/Prgm(s): IDEAS[B1]
Description: Paper Plate Education asserts that anything worth teaching ought be reducible to a paper plate. We call it Paper Plate Reduction. While welcoming and soliciting plate-based lesson plans from various fields of study, we ask scientists, in particular, to put their research into laymen's terms and to develop paper plate activities that illustrate their respective pursuits. In reducing various notions of interest, individuals have created over 88 engaging paper plate activities, including lessons in space science, music theory, archeology, celestial navigation, African-American history, geometry, and art.
Lead: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.

Scientist(s):			
	Dr. William Mackey	NASA Glenn Research Center	Cleveland, OH

A69. Aurora Poster
Theme(s): SEC
Subject(s): Earth Science, Mathematics, Physical Science, Space Science, Technology
Format(s): Poster/Wallsheet
Audience(s): Grades 5-8, Adult/Continuing Education, Community College, General Public
Msn/Prgm(s): Polar[B111]
Description: This poster contains full-color aurora photos and graphics, and it covers what the aurora looks like, its causes, where and when it can be seen, its history, and the cultural aspects of auroras. The poster also contains a lesson on planning a trip to see the aurora and covers national education standards in science, mathematics, and geography.
Lead: Ms. Beth Jacob, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *beth@gamma.gsfc.nasa.gov.* Phone: 301-286-7209.

Scientist(s):			
	Dr. Nicola Fox	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Barbara Giles	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Robert Hoffman	NASA Goddard Space Flight Center	Greenbelt, MD

A70. "Bright Cosmic Lights of the Milky Way"
Theme(s): SEU
Subject(s): Space Science
Format(s): Poster/Wallsheet
Audience(s): Grades 3-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): CXO[B67]
Description: This wall poster displays the Chandra observation of the center of the Milky Way. The reverse side identifies the x-ray sources, provides additional background about the observation, and gives links to the Chandra public Web site for further information and images in other wavelengths.
Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.

A71. "Calor y Temperatura"
Theme(s): ASO
Subject(s): Physical Science
Format(s): Web Site
Audience(s): Grades 6-12
Msn/Prgm(s): SIRTF[B24]
Description: This is a Spanish language Web site that introduces the concepts of heat, temperature, and heat transfer and detection. It also introduces several examples of what we can learn by detecting heat and measuring temperature and includes links to related classroom lesson plans and activities.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000749&mode=full*
2nd URL: *http://ipac.jpl.nasa.gov/SIRTFspanish/Thermal/tempheat.html*

A72. "Cassini Unveils the Myth"

Theme(s): SSE
Subject(s): Space Science
Format(s): Poster/Wallsheet, Web Site
Audience(s): Grades 5-8, General Public
Msn/Prgm(s): Cassini/Huygens Probe[B37]
Description: This is an educational wallsheet.
Lead: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000724&mode=full*

Scientist(s):			
	Dr. Ellis Miner	NASA Jet Propulsion Laboratory	Pasadena, CA

A73. Catch a Gravitational Wave, Dude!

Theme(s): SEU
Subject(s): Physical Science, Space Science, Technology
Format(s): PDF
Audience(s): Grades 6-8
Msn/Prgm(s): LISA[B72]
Description: Using surfer lingo, this electronic document introduces the concept of gravitational waves (GWs). It describes their probable sources (binary star systems, black holes, supernovas) and what we could learn about these sources if only we could detect the gravitational waves they produce. The document describes the proposed Laser Interferometer Space Antenna (LISA) mission to detect GWs. It includes an exciting classroom science-bowl-type game (including all the questions and answers), played in teams to reinforce new concepts and vocabulary.
Lead: Ms. Diane Fisher, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *diane.k.fisher@jpl.nasa.gov.* Phone: 818-354-9105.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000723&mode=full*

Scientist(s):			
	Dr. Thomas Prince	NASA Jet Propulsion Laboratory	Pasadena, CA

A74. "Catching Gamma-Ray Bursts on the Fly" Swift Brochure

Theme(s): SEU
Subject(s): Physical Science, Space Science, Technology
Format(s): Brochure, PDF, Web Site
Audience(s): Grades 6-12, General Public
Msn/Prgm(s): Swift[B83]
Description: This brochure informs the public about the Swift mission. It describes in detail the science that Swift will do and how it will do it. The description includes the three on-board instruments and their parameters, background information on gamma-ray bursts, and detection methods. It also describes current thinking about the origin of the still-mysterious gamma-ray bursts—the biggest explosions seen in the Universe today.
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.

Scientist(s):			
	Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
	Dr. Neil Gehrels	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. John Nousek	Pennsylvania State University	University Park, PA

A75. "Center of Galaxy M51: The Whirlpool Galaxy"

Theme(s): ASO
Subject(s): Space Science
Format(s): Lithograph
Audience(s): Grades K-12
Msn/Prgm(s): HST[B22]
Description: This Hubble Space Telescope image shows the stellar fireworks seen in the core of the Whirlpool Galaxy, also known as M51. The back of this lithograph describes the history of how astronomers have viewed this galaxy over the last 150 years. It also shows the location of specific features in M51, and it provides a ground-based telescope image that shows M51 with its companion galaxy. The gravitational interaction between M51 and its companion is responsible for much of M51's new star birth.

Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.

Scientist(s):	Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
	Dr. Terry Teays	Space Telescope Science Institute	Baltimore, MD

A76. Chandra Images CD-ROM

Theme(s): SEU
Subject(s): Space Science
Format(s): CD-ROM
Audience(s): Grades 4-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): CXO[B67]
Description: This CD-ROM contains Chandra images and associated background information about x-ray sources.
Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.

A77. Chemistry and Astrobiology Educational Films

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: These eight hour-long educational documentaries cover the science of chemistry. They are designed for high school teachers and are to be used in professional development workshops for the purpose of advancing and enhancing the knowledge and skills of high school chemistry teachers. Each hour-long documentary includes an unusual, innovative lead-in to the subject that sets the stage for the various ways in which different teachers approach this topic. The series now airs in the United States on the Corporation for Public Broadcasting (CPB)/The Annenberg Channel.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Ms. Catherine Tsairides, NASA Ames Research Center, Moffett Field, CA 94035-1000.
E-mail: *ctsairides@mail.arc.nasa.gov.* Phone: 650-604-0808.

Scientist(s):	Dr. Louis Allamandola	NASA Ames Research Center	Moffett Field, CA

A78. Cosmic Journeys Collectible Card Game

Theme(s): SEU
Subject(s): Space Science, Technology
Format(s): Card Set
Audience(s): Grades 6-12, General Public
Msn/Prgm(s): CXO[B67], Con-X[B69], GLAST[B70], LISA[B72], MAP[B79], HEASARC[B86]
Description: This is a card game in which students act as mission commanders to collect the necessary components to complete up to five different satellite missions. Players face various obstacles as they explore and learn about technology, history, and the Universe.
Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

Scientist(s):	Ms. Lindsay Clark	Arizona State University	Tempe, AZ
	Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD

A79. Deep Impact "Comet on a Stick!"

Theme(s): SSE
Subject(s): Space Science
Format(s): PDF, Web Site
Audience(s): Grades 2-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): Deep Impact[B43]
Description: Students learn that the process of modeling happens throughout the life of a mission. This lesson plan provides instructions to construct the simple model of a comet on a stick. It leads students to evaluate and modifiy these models in a way that will best communicate cometary structure and environments. Students create their own models of their understanding of comets.
Lead: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.

Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000753&mode=full*
Scientist(s): Mr. Bill Smythe NASA Jet Propulsion Laboratory Pasadena, CA

A80. Deep Impact Poster
Theme(s): SSE
Subject(s): Space Science
Format(s): PDF, Poster/Wallsheet, Web Site
Audience(s): Grades 4-12, Adult/Continuing Education, General Public, Higher Education
Msn/Prgm(s): Deep Impact[B43]
Description: This poster shows an artist's rendering of the Deep Impact mission. The back shows excerpts and Internet addresses for Deep Impact activities on the Web site. The poster can be printed in large landscape format or used as a handout. The poster was distributed by the National Science Teachers Association (NSTA).
Lead: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000752&mode=full*
Scientist(s): Dr. Lucy McFadden University of Maryland College Park, MD

A81. Deep Impact Science Poster
Theme(s): SSE
Subject(s): Space Science, Technology
Format(s): PDF, Poster/Wallsheet, Web Site
Audience(s): Grades 5-12, Community College, General Public, Higher Education, Vocational Education
Msn/Prgm(s): Deep Impact[B43]
Description: This project was created by the science team as a general overview of the mission. It can be copied in large landscape format or run onto an 8.5" X 11" handout. It's appropriate for an exhibit or general information on the mission.
Lead: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000751&mode=full*
Scientist(s): Dr. Michael A'Hearn University of Maryland College Park, MD

A82. "Design a Tortilla Spacecraft!"
Theme(s): SEC, SSE
Subject(s): Physical Science, Space Science, Technology
Format(s): Web Site
Audience(s): Grades 3-6, General Public
Msn/Prgm(s): ST-5[B120]
Description: What do batteries, gasoline, and tortillas have in common? They are all ways to store energy. Find out how many tortillas it would take to power the Space Shuttle! "Design a Tortilla Spacecraft!" provides a hands-on activity that explains the different ways to store energy.
Lead: Ms. Diane Fisher, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *diane.k.fisher@jpl.nasa.gov.* Phone: 818-354-9105.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000710&mode=full*
Scientist(s): Ms. Diane Fisher NASA Jet Propulsion Laboratory Pasadena, CA

A83. "Does the Universe Have a Fingerprint?" Factcard
Theme(s): SEU
Subject(s): Physical Science, Space Science, Technology
Format(s): PDF
Audience(s): Grades 11-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): MAP[B79]
Description: This is a 4" x 6" factcard about the significance of the pattern of microwave radiation that the Microwave Anisotropy Probe (MAP) has detected. The card uses the analogy of human fingerprints to show the ability to identify the right "suspect" from the pattern.
Lead: Ms. Lindsay Bartolone, Adler Planetarium and Astronomy Museum, Chicago, IL 60605.
E-mail: *Lindsay_Clark@adlernet.org.* Phone: 312-322-0316.
Primary URL: *http://map.gsfc.nasa.gov/m_ig/factcards/MAP_Fingerprint.pdf*

Scientist(s):	Ms. Lindsay Bartolone	Adler Planetarium and Astronomy Museum,	Chicago, IL
	Dr. Charles Bennett	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Britt Griswold	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Gary Hinshaw	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. David Spergel	Princeton University	Princeton, NJ

A84. "El Experimento del Herschel!"

Theme(s): ASO
Subject(s): Physical Science, Space Science
Format(s): Web Site
Audience(s): Grades 6-8
Msn/Prgm(s): SIRTF[B24]
Description: This is a Spanish language Web site. Students perform a version of the experiment of 1800, in which a form of radiation other than visible light was discovered by the famous astronomer Sir Frederick William Herschel.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000750&mode=full*

A85. Exploring Comets and Modeling for Mission Success

Theme(s): SSE
Subject(s): Space Science
Format(s): PDF
Audience(s): Grades 8-12, General Public
Msn/Prgm(s): Deep Impact[B43]
Description: This introduction to comet basics investigates and duplicates the methods scientists used to learn about comets throughout history, from a view of the sky to current space missions. Students build and eliminate their own theories as they perform fun activities matched to national science standards. There will be updates.
Lead: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000578&mode=full*
Scientist(s): Dr. Jacklyn Green — NASA Jet Propulsion Laboratory — Pasadena, CA

A86. "Exploring the Earth's Magnetic Field"—An IMAGE Satellite Guide

Theme(s): SEC
Subject(s): Space Science
Format(s): PDF
Audience(s): Grades 3-12
Msn/Prgm(s): IMAGE[B102]
Description: This is an introduction to planetary magnetism, beginning with grade-appropriate explorations of common toy magnets and electromagnets. It culminates with an exploration of how the terrestrial magnetosphere functions, including hands-on activities in building a simple magnetometer and investigating satellite and ground-based data on magnetic storms and auroras.
Lead: Mr. Nathan James, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *nate.james@gsfc.nasa.gov.* Phone: 301-286-9789.

A87. "Fingerprints of Life" CD and Web Site

Theme(s): ASO, SSE
Subject(s): Earth Science, Space Science, Life Science
Format(s): CD-ROM, Web Site
Audience(s): Grades 6-12, Higher Education
Msn/Prgm(s): NAI[B35]
Description: "Fingerprints of Life" is a multifaceted teacher resource on astrobiology and life in extreme environments. It contains classroom activities, presentation-ready slideshows with scripts, and many other resources. It shows how NASA research on microbial life on Earth helps to identify possible signs of life in Martian meteorites.
Lead: Dr. Marilyn Lindstrom, NASA Johnson Space Center, Houston, TX 77058.
E-mail: *marilyn.m.lindstrom1@jsc.nasa.gov.* Phone: 281-483-5135.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000773&mode=full*

Scientist(s):	Dr. Carlton Allen	NASA Johnson Space Center	Houston, TX
	Dr. Everett Gibson	NASA Johnson Space Center	Houston, TX
	Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
	Dr. David McKay	NASA Johnson Space Center	Houston, TX

A88. "Galaxy Clusters X-Ray and Optical Light"

Theme(s): SEU
Subject(s): Space Science
Format(s): Lithograph
Audience(s): Grades 4-12, General Public
Msn/Prgm(s): CXO[B67]
Description: This is a lithograph that compares images of the same cluster of galaxies in optical and x-ray light. The purpose is to show why multiwavelength observations are necessary. Side 2 has two activities keyed to national science standards.
Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.

A89. "Galaxy Hunter" Web Site

Theme(s): ASO
Subject(s): Mathematics, Space Science
Format(s): Web Site
Audience(s): Grades 10-12
Msn/Prgm(s): HST[B22]
Description: "Galaxy Hunter" uses real data from the Hubble Space Telescope to strengthen students' understanding of simple random samples. Students will examine galaxies in the Hubble Deep Fields, the deepest visible-light images of the Universe. They will investigate any bias in sampling techniques and use minimum/maximum plots to determine the optimal sample size based on the variability of different-size samples. Students also will use statistical data in order to make conjectures about the Universe.
Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000706&mode=full*

Scientist(s):	Dr. Richard Arquilla	Space Telescope Science Institute	Baltimore, MD
	Dr. Patricia Knezek	National Optical Astronomy Observatory (NOAO)	Tucson, AZ
	Dr. Ray Lucas	Space Telescope Science Institute	Baltimore, MD
	Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD

A90. Genesis Products

Theme(s): SSE
Msn/Prgm(s): Genesis[B44]
Description: These free standards-aligned classroom materials are from NASA's Genesis mission: modules with teacher guides, student activities, and student texts. There are also technology applications for each module. McREL-developed supplemental materials include fact sheets, educational videos, a cleanroom interactive field trip, and interactive periodic-table modeling software.
Lead: Dr. Gilbert Yanow, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *gilbert.yanow@jpl.nasa.gov.* Phone: 818-354-8060.
Contact: Mr. Greg Rawls, Mid-continent Research for Education and Learning (McREL), Aurora, CO 80014.
E-mail: *grawls@mcrel.org.* Phone: 303-632-5583.
Primary URL: *http://genesismission.jpl.nasa.gov*

A91. Gravity Probe B Classroom Lithograph Set

Theme(s): SEU
Subject(s): Physical Science, Space Science, Technology
Format(s): Lithograph
Audience(s): Grades 7-12, Community College, General Public, Higher Education
Msn/Prgm(s): GP-B[B71]
Description: This set of eight lithographs describes the science and technology of Gravity Probe B. Topics include the structure of spacetime, the roundest sphere, using the London moment, the cool dewar, the telescope and guide

star, and the miniscule angles to measure.
Lead: Ms. Shannon Range, Stanford University, Stanford, CA 94305.
E-mail: *www@relgyro.stanford.edu.*
Primary URL: *http://einstein.stanford.edu*

A92. Gravity Probe B Wallsheet
Theme(s): SEU
Subject(s): Physical Science, Space Science
Format(s): PDF, Poster/Wallsheet, Web Site
Audience(s): Grades 7-12, Community College, General Public, Higher Education
Msn/Prgm(s): GP-B[B71]
Description: This is a large-size wallsheet. The front side is a collage image of Einstein, the Gravity Probe B satellite, and related items. The back side contains text and images describing the mission and related science and technology.
Lead: Ms. Shannon Range, Stanford University, Stanford, CA 94305.
E-mail: *www@relgyro.stanford.edu.*
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000644&mode=full*

A93. Gravity Probe B: "Examining Einstein's Spacetime with Gyroscopes" Educator Guide
Theme(s): SEU
Subject(s): Physical Science, Space Science, Technology
Format(s): Book, PDF
Audience(s): Grades 8-12, Community College, General Public, Higher Education
Msn/Prgm(s): GP-B[B71]
Description: This lesson guide is for teachers and students from grades 8-12 to early undergraduates. It takes students from assumptions about gravity to a simple understanding of curved spacetime and the technology of Gravity Probe B. It includes demonstrations and activities.
Lead: Ms. Shannon Range, Stanford University, Stanford, CA 94305.
E-mail: *www@relgyro.stanford.edu.*
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000643&mode=full*

A94. "Greetings from L2" Factcard
Theme(s): SEU
Subject(s): Mathematics, Space Science, Technology
Format(s): PDF
Audience(s): Grades 11-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): MAP[B79]
Description: This 4" x 6" factcard provides an overview of the Lagrange points that are generated by the Sun-Earth gravitational fields and explains why the Microwave Anisotropy Probe (MAP) mission uses the L2 point.
Lead: Ms. Lindsay Bartolone, Adler Planetarium and Astronomy Museum, Chicago, IL 60605.
E-mail: *Lindsay_Clark@adlernet.org.* Phone: 312-322-0316.
Primary URL: *http://map.gsfc.nasa.gov/m_ig/factcards/MAP_Greetings.pdf*

Scientist(s):	Ms. Lindsay Bartolone	Adler Planetarium and Astronomy Museum	Chicago, IL
	Dr. Charles Bennett	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Britt Griswold	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Gary Hinshaw	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. David Spergel	Princeton University	Princeton, NJ

A95. "Heat and Temperature" Web Site
Theme(s): ASO
Subject(s): Physical Science
Format(s): Web Site
Audience(s): Grades 6-12
Msn/Prgm(s): SIRTF[B24]
Description: In this Web site, we introduce the concepts of heat and temperature, and heat transfer and detection. It also introduces several examples of what can be learned by detecting heat and measuring temperature. Links to related classroom lesson plans and activities are also included.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.

E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000744&mode=full*

A96. HESSI Book Cover
Theme(s): SEC
Subject(s): Space Science
Format(s): Book
Audience(s): Grades 5-8
Msn/Prgm(s): RHESSI[B101]
Description: The HESSI (now RHESSI) book cover is designed to be used in a classroom setting with students in grades 5-8. The students use transparencies of grid optics to determine the location of flares on the Sun.
Lead: Mr. Nathan James, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *nate.james@gsfc.nasa.gov.* Phone: 301-286-9789.

A97. "HESSI Spacecraft Model" Booklet
Theme(s): SEC
Subject(s): Space Science
Format(s): Booklet
Audience(s): Grades 5-8
Msn/Prgm(s): RHESSI[B101]
Description: The "HESSI Spacecraft Model" booklet is designed to be used in a classroom setting with students in grades 5-8. The students work in teams to construct the components of the model and make presentations on the results of their efforts. (HESSI has been redesignated as RHESSI.)
Lead: Mr. Nathan James, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *nate.james@gsfc.nasa.gov.* Phone: 301-286-9789.

A98. Hubble Space Telescope (HST) Formal Education
Theme(s): ASO
Msn/Prgm(s): HST[B22]
Description: The Formal Education branch of the Office of Public Outreach at the Space Telescope Science Institute develops both online and hard-copy, curriculum-support products for the K-12 formal education community. These products, such as the popular Amazing Space series, are formulated in strict compliance with national education standards and are subject to rigorous program evaluation before and after release.
Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.

Scientist(s):	Ms. Heather Bradbury	Space Telescope Science Institute	Baltimore, MD
	Ms. Bonnie Eisenhamer	Space Telescope Science Institute	Baltimore, MD
	Mr. Dan McCallister	Space Telescope Science Institute	Baltimore, MD
	Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
	Dr. Terry Teays	Space Telescope Science Institute	Baltimore, MD

A99. Hubble Space Telescope (HST): Amazing Space
Theme(s): ASO
Msn/Prgm(s): HST[B22]
Description: Amazing Space, a collaboration between scientists and teachers augmented by professional graphic artists, Web developers, programmers, and technical writers, is a line of educational products generated by the Formal Education Branch of the Office of Public Outreach at the Space Telescope Science Institute. Amazing Space products incorporate real scientific data from NASA missions (primarily HST) and include several interactive online activities as well as engaging printed material, such as the popular trading cards and Hubble Deep Field activity packet. These curriculum support tools, which come complete with comprehensive teacher pages and suggested educational activities, can be used in the classroom and support national education standards.
Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.
Primary URL: *http://amazing-space.stsci.edu/*

Scientist(s):	Ms. Heather Bradbury	Space Telescope Science Institute	Baltimore, MD
	Ms. Bonnie Eisenhamer	Space Telescope Science Institute	Baltimore, MD

Ms. Linda Knisely	Space Telescope Science Institute	Baltimore, MD
Ms. Tibi Marin	Kansas State University	Salina, KS
Mr. Dan McCallister	Space Telescope Science Institute	Baltimore, MD
Mr. Tony Roman	Space Telescope Science Institute	Baltimore, MD
Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
Mr. John Stoke	Space Telescope Science Institute	Baltimore, MD
Dr. Terry Teays	Space Telescope Science Institute	Baltimore, MD

A100. IMAGE Internet Activities

Theme(s): SEC
Msn/Prgm(s): IMAGE[B102]
Description: IMAGE Internet resources include an extensive collection of classroom activities and an "Ask the Space Scientist" Web page, along with resources that describe recent IMAGE discoveries as well as space weather and its impacts on human technology.
Lead: Dr. Sten Odenwald, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *odenwald@mail630.gsfc.nasa.gov.* Phone: 301-286-6953.
Primary URL: http://image.gsfc.nasa.gov/poetry

Scientist(s):	Dr. Sten Odenwald	NASA Goddard Space Flight Center	Greenbelt, MD
Partner(s):	Rice University		Houston, TX

A101. "Infrared Image Gallery" Web Site

Theme(s): ASO
Subject(s): Space Science, Life Science
Format(s): Web Site
Audience(s): Grades K-5, General Public
Msn/Prgm(s): SIRTF[B24]
Description: See what the world around us looks like in a different light. In this gallery, you will view infrared images of everyday objects. The infrared images displayed in the categories listed show the heat radiated by objects around us. Infrared is primarily heat radiation and is emitted by anything with a temperature—even objects that we think of as being very cold. As you tour this gallery, you will see what familiar objects look like when viewed through an infrared camera. The scale shown to the right of each image is the temperature in degrees Fahrenheit.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000742&mode=full*

A102. "Infrared Yellowstone" Web Site

Theme(s): ASO
Subject(s): Earth Science, Space Science
Format(s): Web Site
Audience(s): Grades 6-12, General Public
Msn/Prgm(s): SIRTF[B24]
Description: This Web site offers a view of Yellowstone National Park in the infrared! As you tour this gallery, you will see several visible and infrared views of the geothermal features found in Yellowstone National Park, such as geysers, hot springs, bubbling mud pots, and a variety of other geothermal features. The temperature scale (Fahrenheit) below the infrared images will tell you which colors represent warmer or cooler temperatures. The temperatures on the scale are a measure of the heat or thermal radiation detected by our infrared camera.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000740&mode=full*

A103. "Infrared Zoo" Web Site

Theme(s): ASO
Subject(s): Space Science, Life Science
Format(s): Web Site
Audience(s): Grades 3-8, General Public
Msn/Prgm(s): SIRTF[B24]

Description: What do animals look like in the infrared? Infrared light shows us the heat radiated by the world around us. As you tour this Web site, you will actually see the differences between warm- and cold-blooded animals. Infrared also allows us to study how well feathers, fur, and blubber insulate animals. As you tour this "infrared zoo," see what new information you can gather about the animals here that you would not get from a visible light picture.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000741&mode=full*

A104. "Make a Comet Model and Eat It!"
Theme(s): SSE
Subject(s): Space Science
Format(s): PDF, Web Site
Audience(s): Grades 2-9, General Public
Msn/Prgm(s): Deep Impact[B43]
Description: In this activity, students make an ice cream comet, adding their own choice of "comet debris." They trade their comet with another team and become "spectrometers" using their senses as filters to decide what is in the new comet they've been given. Comet background science is provided.
Lead: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000736&mode=full*
Scientist(s): Dr. Lucy McFadden University of Maryland College Park, MD

A105. "Mapping the Surface of a Planet" Student Guide
Theme(s): SSE
Subject(s): Earth Science, Mathematics, Space Science, Technology
Format(s): CD-ROM, Web Site
Audience(s): Grades 5-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): MGS[B51]
Description: This activity guide illustrates how students can use planetary comparisons between Earth and Mars to learn basic geologic activities (i.e., volcanoes, impact cratering, layering, river processes, and crosscutting relationships to help their understanding of a planet's history). This lesson uses current science results, as it contains actual orbital data from the Mars Global Surveyor mission. The lessons in this activity are aligned to the national science education standards and will help students to sharpen core skills such as observation, synthesis, and analysis processes.
Lead: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000774&mode=full*
Scientist(s): Dr. Phil Christensen Arizona State University Tempe, AZ
Dr. Vicky Hamilton Arizona State University Tempe, AZ
Dr. James Rice Arizona State University Tempe, AZ
Dr. Steve Ruff Arizona State University Tempe, AZ

A106. "Mapping the Surface of a Planet" Teacher Guide
Theme(s): SSE
Subject(s): Earth Science, Mathematics, Space Science
Format(s): CD-ROM, Web Site
Audience(s): Grades 5-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): MGS[B51]
Description: This activity guide illustrates how teachers can use planetary comparisons between Earth and Mars to teach basic geologic activities (i.e., volcanoes, impact cratering, layering, river processes, and crosscutting relationships to help the students understand a planet's history). This lesson uses current science results, as it contains actual orbital data from the Mars Global Surveyor mission. The lessons in this activity are aligned to the national science education standards and help students to sharpen core skills such as observation, synthesis, and analysis processes.
Lead: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.

Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000772&mode=full*

Scientist(s):			
	Dr. Phil Christensen	Arizona State University	Tempe, AZ
	Dr. Vicky Hamilton	Arizona State University	Tempe, AZ
	Dr. James Rice	Arizona State University	Tempe, AZ
	Dr. Steve Ruff	Arizona State University	Tempe, AZ

A107. Mars Student Imaging Project Resource Manual

Theme(s): SSE
Subject(s): Earth Science, Physical Science, Space Science, Technology
Format(s): Web Site
Audience(s): Grades 5-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): 2001 Mars Odyssey[B49]
Description: This manual is a fun, informational resource guide about Mars. Teachers and students can learn about the history of Mars exploration, beginning with early astronomers and going all the way through current missions to Mars. Earth and Mars comparisons are used to show the similarities and differences between the planets.
Lead: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000775&mode=full*

Scientist(s):			
	Dr. Phil Christensen	Arizona State University	Tempe, AZ
	Dr. Vicky Hamilton	Arizona State University	Tempe, AZ
	Dr. Steve Ruff	Arizona State University	Tempe, AZ

A108. Mars Student Imaging Project Student Handbook and Activity Guide

Theme(s): SSE
Subject(s): Earth Science, Mathematics, Physical Science, Space Science, Technology
Format(s): Web Site
Audience(s): Grades 5-12, Community College, General Public
Msn/Prgm(s): 2001 Mars Odyssey[B49]
Description: The activities in this handbook take the student through the scientific method, following the process that real scientists follow to study another planet, in this case, Mars. Students in grades 5-12 can participate in a student-directed, authentic research project that will allow them to investigate Mars, using an image they target with the Thermal Emission Imaging System (THEMIS) camera on board the Mars Odyssey spacecraft. All the lessons in this guide are aligned to national science education standards.
Lead: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000777&mode=full*

Scientist(s):			
	Ms. Kelly Bender	Arizona State University	Tempe, AZ
	Dr. Phil Christensen	Arizona State University	Tempe, AZ
	Mr. Greg Mehall	Arizona State University	Tempe, AZ

A109. Mars Student Imaging Project Teacher Guide

Theme(s): SSE
Subject(s): Earth Science, Mathematics, Physical Science, Space Science, Technology
Format(s): Web Site
Audience(s): Grades 5-12, Community College, General Public
Msn/Prgm(s): 2001 Mars Odyssey[B49]
Description: This guide outlines the Mars Student Imaging Project for adult facilitators. It contains step-by-step instructions and teaching tips on how best to guide a 5th through 12th grade student team through the project, allowing the students to become actual science collaborators on a current Mars mission. This project is aligned to national science education standards.
Lead: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000776&mode=full*

Scientist(s):			
	Dr. Phil Christensen	Arizona State University	Tempe, AZ

A110. "Microwaves in Space?" Factcard

Theme(s): SEU

Subject(s): Physical Science, Space Science, Technology
Format(s): PDF
Audience(s): Grades 6-12, Adult/Continuing Education, General Public
Msn/Prgm(s): MAP[B79]
Description: This 4" x 6" factcard provides an overview of cosmic microwaves, using microwave ovens as a reference point from everyday life.
Lead: Ms. Lindsay Bartolone, Adler Planetarium and Astronomy Museum, Chicago, IL 60605.
E-mail: *Lindsay_Clark@adlernet.org.* Phone: 312-322-0316.
Primary URL: *http://map.gsfc.nasa.gov/m_ig/factcards/MAP_Microwaves.pdf*

Scientist(s):		
Ms. Lindsay Bartolone	Adler Planetarium and Astronomy Museum	Chicago, IL
Dr. Charles Bennett	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Britt Griswold	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Gary Hinshaw	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. David Spergel	Princeton University	Princeton, NJ

A111. "Mission Mastermind"
Theme(s): ASO
Subject(s): Space Science
Format(s): Web Site
Audience(s): Grades 6-8
Msn/Prgm(s): HST[B22]
Description: Be the mastermind behind the mission! Outwit the computer virus that has scrambled the Hubble Space Telescope's Servicing Mission 3B. This interactive lesson is filled with video clips and up-to-the minute information from NASA and the Space Telescope Science Institute. It challenges students to use critical thinking and reading skills to search for word and picture clues from the events of the 2002 Servicing Mission 3B. Their mission is to reorganize the sequence of events into the correct order.
Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000707&mode=full*

Scientist(s):		
Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
Mr. Michael Wenz	NASA Goddard Space Flight Center	Greenbelt, MD

A112. "Multiwavelength Astronomy Web Site"
Theme(s): ASO
Subject(s): Space Science
Format(s): Web Site
Audience(s): Grades 9-12, Adult/Continuing Education, Community College, General Public
Msn/Prgm(s): SIRTF[B24]
Description: This Web site teaches us why we need to study objects in space at many wavelengths. It includes a general overview of what we learn in each part of the spectrum and why we need to send telescopes into space.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000735&mode=full*

A113. "Newton's First Law of Motion"
Theme(s): SEU
Subject(s): Mathematics, Physical Science, Space Science
Format(s): PDF, Poster/Wallsheet, Web Site
Audience(s): Grades 7-12, Adult/Continuing Education, Community College
Msn/Prgm(s): Swift[B83]
Description: The "Newton's First Law of Motion" poster presents everyday examples of Newton's first law. The poster is accompanied by an activity guide for Newton's First Law of Motion, providing teachers with background information pertaining to the activities and preparation suggestions for each of the included students activities. It also provides material lists for each activity, demonstrations, and the Internet addresses of supporting Web sites relating to Newton's laws. This is the part of a set of four activity modules that introduces the students to the relationship between force and motion.
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.

E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
Scientist(s): Dr. Lynn Cominsky Sonoma State University Rohnert Park, CA

A114. "Newton's Laws of Gravitation" Teacher Guide
Theme(s): SEU
Subject(s): Mathematics, Physical Science, Space Science
Format(s): PDF, Web Site
Audience(s): Grades 7-12, Adult/Continuing Education, Community College
Msn/Prgm(s): Swift[B83]
Description: The "Newton's Laws of Gravitation" teacher guide and activity guide complement the "Newton's Laws of Motion" poster and teacher guide sets. This guide provides teachers with background information pertaining to the activities and preparation suggestions for each of the included student activities. It also provides material lists for each activity and demonstration. The two activities introduce students to the principles behind Newton's Law of Gravitation, one of Newton's most important physical laws.
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
Scientist(s): Dr. Lynn Cominsky Sonoma State University Rohnert Park, CA

A115. "Newton's Second Law of Motion"
Theme(s): SEU
Subject(s): Mathematics, Physical Science, Space Science
Format(s): PDF, Poster/Wallsheet, Web Site
Audience(s): Grades 7-12, Adult/Continuing Education, Community College
Msn/Prgm(s): Swift[B83]
Description: The "Newton's Second Law of Motion" poster presents everyday examples of Newton's second law. The poster is accompanied by an activity guide for Newton's Second Law of Motion, providing teachers with background information pertaining to the activities and preparation suggestions for each of the included student activities. It also provides material lists for each activity, demonstrations, and the Internet addresses of supporting Web sites relating to Newton's first law. This is the part of a set of four activity modules that introduces the students to the relationship between force and motion.
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
Scientist(s): Dr. Lynn Cominsky Sonoma State University Rohnert Park, CA

A116. "Newton's Third Law of Motion"
Theme(s): SEU
Subject(s): Mathematics, Physical Science
Format(s): PDF, Poster/Wallsheet, Web Site
Audience(s): Grades 7-12, Adult/Continuing Education, Community College
Msn/Prgm(s): Swift[B83]
Description: The "Newton's Third Law of Motion" poster presents everyday examples of Newton's third law. The poster is accompanied by an activity guide for Newton's First Law of Motion, providing teachers with background information pertaining to the activities and preparation suggestions for each of the included student activities. It also provides material lists for each activity, demonstrations, and the Internet addresses of supporting Web sites relating to Newton's laws. This is the part of a set of four activity modules that introduces the students to the relationship between force and motion.
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
Scientist(s): Dr. Lynn Cominsky Sonoma State University Rohnert Park, CA

A117. "Our Infrared World" Web Site
Theme(s): ASO
Subject(s): Earth Science, Space Science
Format(s): Web Site
Audience(s): Grades K-8, General Public
Msn/Prgm(s): SIRTF[B24]
Description: This Web site contains many different video clips where you can view footage of geothermal features and lava

flows taken at Yellowstone and Hawaii's Volcanoes National Parks.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000743&mode=full*

A118. "Planet Impact"
Theme(s): ASO
Subject(s): Physical Science, Space Science
Format(s): Web Site
Audience(s): Grades 5-8
Msn/Prgm(s): HST[B22]
Description: This Hubble Space Telescope Amazing Space activity is inspired by the crash of comet Shoemaker-Levy 9 into Jupiter. In this interactive online activity, students investigate how the gravitational force of a large Solar System body, such as Jupiter, can affect the path of a smaller body, such as a comet. They will launch a comet to learn how gravity can change its path. They also learn how changing the speed, the angle of approach, or the masses of large and small bodies affect the force of gravity on a comet. Students are challenged to use this knowledge to crash their own comet into Jupiter or make their comet fly past the planet without colliding with it.
Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000715&mode=full*

Scientist(s):	Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
	Dr. Alex Storrs	Towson University	Towson, MD
	Dr. Frank Summers	Space Telescope Science Institute	Baltimore, MD

A119. "Planet Quest" Activities for Students
Theme(s): ASO
Subject(s): Mathematics, Space Science
Format(s): Booklet
Audience(s): Grades 5-12
Msn/Prgm(s): KECK[B29], SIM[B32], ST-3[B33], TPF[B34]
Description: These four hands-on activities are designed to help students see how measurement and computation in mathematics can be used in real-world applications. Students will experiment with some of the same techniques and concepts that NASA scientists employ.
Lead: Ms. Jenny Tieu, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *jenny.tieu@jpl.nasa.gov.* Phone: 818-393-4765.

Scientist(s):	Dr. Rudolf Danner	NASA Jet Propulsion Laboratory	Pasadena, CA

A120. "Planet Quest: The Search for Another Earth"
Theme(s): ASO
Subject(s): Space Science, Technology
Format(s): Web Site
Audience(s): Grades 4-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): KECK[B29], SIM[B32], ST-3[B33], TPF[B34]
Description: This multimedia-rich information hub tracks the discovery of extrasolar planets and the NASA missions that study them, including the Keck Interferometer, the Space Interferometry Mission, and the Terrestrial Planet Finder. Online articles and activities explain methods of detecting new planets. Virtual reality simulations and tours allow users to interact with mission spacecraft and conceptual planetary systems.
Lead: Mr. Randal Jackson, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *randal.k.jackson@jpl.nasa.gov.* Phone: 818-394-5239.

Scientist(s):	Dr. Rudolf Danner	NASA Jet Propulsion Laboratory	Pasadena, CA

A121. "Polly's and Ernie's Adventures in Space"
Theme(s): SEC
Subject(s): Space Science
Format(s): Booklet
Audience(s): Grades 5-7

Msn/Prgm(s): IMAGE[B102]
Description: This illustrated story with math activities follows the voyage of Polly Proton and Ernie Electron as they travel the solar wind to Earth and meet up with friends to create the northern lights.
Lead: Mr. Nathan James, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *nate.james@gsfc.nasa.gov.* Phone: 301-286-9789.

A122. "Seeing and Exploring the Universe Resource Guide" (2002)

Theme(s): SEU
Subject(s): Space Science
Format(s): Brochure, PDF, Web Site
Audience(s): Grades 6-12, General Public
Msn/Prgm(s): CXO[B67], Con-X[B69], GLAST[B70], GP-B[B71], LISA[B72], CHIPS[B75], GALEX[B77], HETE-2[B78], MAP[B79], RXTE[B80], SWAS[B82], Swift[B83], HEASARC[B86], Astro-E2[B87], INTEGRAL[B89], XMM-Newton[B94]
Description: The "Seeing and Exploring the Universe Resource Guide" (2002) provides an overview of 16 current and near-future Structure and Evolution of the Universe theme missions. A description of the science and eduction and public outreach (E/PO) program for each mission is provided, along with a list of other relevant resources and mission and E/PO Web sites. The guide also provides an educator-response form. The missions described in the guide are as follows: Advanced Composition Explorer (ACE), Astro-E2, Chandra, Cosmic Hot Interstellar Plasma Spectrometer (CHIPS), Constellation X-ray Mission (CON-X), Galaxy Evolution Explorer (GALEX), Gamma-Ray Large Area Space Telescope (GLAST), Gravity Probe-B (GP-B), High Energy Transient Explorer 2 (HETE-2), International Gamma-Ray Astrophysics Laboratory (INTEGRAL), Laser Interferometer Space Antenna (LISA), Microwave Anisotropy Probe (MAP), Rossi X-ray Timing Explorer (RXTE), Submillimeter Wave Astronomy Satellite (SWAS), Swift, and X-ray Multi-Mirror-Newton Mission (XMM-Newton).
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.

Scientist(s):	Dr. Charles Bennett	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Eric Christian	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
	Dr. Nahide Craig	University of California Berkeley	Berkeley, CA
	Dr. Ilana Harrus	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Gary Melnick	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Irene Porro	Massachusetts Institute of Technology	Cambridge, MA
	Dr. Tycho von Rosenvinge	NASA Goddard Space Flight Center	Greenbelt, MD

A123. "Seeing the Universe in a Whole New Light"

Theme(s): SEU
Subject(s): Space Science
Format(s): Poster/Wallsheet
Audience(s): Grades 3-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): CXO[B67]
Description: This is a poster of 72 images taken by the Chandra X-Ray Observatory during its first two years of science operations. Included are all types of sources observed by Chandra, to date, as well as composite images that show the source in several wavelengths. A short description of each source is given on the reverse side of the poster.
Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.

A124. "Should This Laser Slinging Slug Have Fired His Weapon?" Factcard

Theme(s): SEU
Subject(s): Mathematics, Physical Science, Space Science, Technology
Format(s): PDF
Audience(s): Grades 11-12, Adult/Continuing Education, Community College, General Public, Higher Education
Msn/Prgm(s): MAP[B79]
Description: This 4" x 6" factcard discusses the shape of space and how light is affected by the amount of dark matter and energy in the Universe. The Microwave Anisotropy Probe (MAP) microwave detection gives us enormous insight into the creation of this matter and energy.

Lead: Ms. Lindsay Bartolone, Adler Planetarium and Astronomy Museum, Chicago, IL 60605.
E-mail: *Lindsay_Clark@adlernet.org.* Phone: 312-322-0316.
Primary URL: *http://map.gsfc.nasa.gov/m_ig/factcards/MAP_UniShape.pdf*

Scientist(s):	Ms. Lindsay Bartolone	Adler Planetarium and Astronomy Museum	Chicago, IL
	Dr. Charles Bennett	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Britt Griswold	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Gary Hinshaw	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. David Spergel	Princeton University	Princeton, NJ

A125. Sun-Earth Scale Model Brochure

Theme(s): SEC
Subject(s): Space Science
Format(s): Brochure
Audience(s): Grades K-12, General Public
Msn/Prgm(s): TRACE[B106]
Description: Simple, hands-on, eye-catching, and thought-provoking, this paper-based brochure allows users to discover the vastness of the Sun-Earth size and distance scale. At the same time, this unusually shaped brochure provides succinct information about the Sun-Earth Connection Education Forum. The solar image from the TRACE spacecraft offers a contemporary view of the dynamic Sun, including magnetic activity, sunspots, and other solar phenomena.
Lead: Mr. Nathan James, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *nate.james@gsfc.nasa.gov.* Phone: 301-286-9789.

Scientist(s):	Dr. Isabel Hawkins	University of California Berkeley	Berkeley, CA

A126. "Sunspots Lesson Plan Resource Guide"

Theme(s): SEC
Subject(s): Physical Science, Space Science
Format(s): CD, Booklet
Audience(s): Grades 9-12, Adult/Continuing Education, Community College, General Public
Msn/Prgm(s): RHESSI[B101]
Description: This complete and self-contained teacher guide is for use with the sunspots online lesson. This booklet/CD combination contains background information on solar science, student worksheets and answer keys, and prepared graphing sheets for the research activity. All materials and the lesson are included on the CD with supporting software for both PC and Macintosh computers.
Lead: Ms. Anne Miller-Bagwell, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *annem@ssl.berkeley.edu.* Phone: 510-643-6295.
Primary URL: *http://cse.ssl.berkeley.edu/SegwayEd/abtsunspots.html*

Scientist(s):	Dr. George Fisher	University of California, Berkeley	Berkeley, CA

A127. "The Joy of Science" Video Series

Theme(s): ASO, SEC, SEU, SSE
Subject(s): Physical Science, Physics
Format(s): Video/VHS, DVD
Msn/Prgm(s): NAI[B35]
Description: Dr. Robert Hazen of the Carnegie Institute of Washington, a NASA Astrobiology Institute member, recorded the 60-lecture video series, "The Joy of Science," which is distributed nationally by The Teaching Company. The series includes several lectures on astrobiology themes.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Primary URL: *http://www.teach12.com/ttc/Assets/coursedescriptions/1100.asp*

Scientist(s):	Dr. Robert Hazen	Carnegie Institute of Washington	Washington, DC

A128. "The Multiwavelength Universe"

Theme(s): ASO
Subject(s): Space Science
Format(s): PDF, Poster/Wallsheet
Audience(s): Grades 7-12, General Public

Msn/Prgm(s): SIRTF[B24]
Description: This breathtaking wallsheet illustrates the different information that can be obtained by observing astronomical objects at different wavelengths across the electromagnetic spectrum. The full-color front features six multiwavelength composites with insets showing various objects as seen at numerous discreet wavelengths. The back contains nine 8.5" x 11" panels explaining the concepts and rationales behind multiwavelength astronomy.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000729&mode=full*

A129. TIMED Spacecraft Mobile
Theme(s): SEC
Subject(s): Space Science
Format(s): Brochure, Web Site
Audience(s): Grades 5-8
Msn/Prgm(s): TIMED[B118]
Description: Students enhance their knowledge of NASA spacecraft and scientific facts as they assemble this colorful mobile. Each element of the mobile contains an image and one fact or scientific concept. The cover for this four-color trifold contains background information about the TIMED mission and two language arts exercises to reinforce space science vocabulary. This product is available in hard-copy and electronic formats.
Lead: Mr. Nathan James, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *nate.james@gsfc.nasa.gov.* Phone: 301-286-9789.
Primary URL: *http://www.timed.jhuapl.edu/education2/new_index.html*
2nd URL: *http://www.timed.jhuapl.edu/education2/01-0125_Mobile.pdf*

A130. TIMED Spacecraft Model
Theme(s): SEC
Subject(s): Space Science
Format(s): Brochure, Web Site
Audience(s): Grades 5-8
Msn/Prgm(s): TIMED[B118]
Description: Students will enhance their knowledge of NASA spacecraft and scientific facts as they assemble this colorful model. The cover of this four-color trifold contains background information about the Thermosphere Ionosphere Mesosphere Energetics and Dynamics (TIMED) mission as well as two language arts activities to reinforce space science vocabulary and concepts. This product is available in hard-copy and electronic formats.
Lead: Mr. Nathan James, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *nate.james@gsfc.nasa.gov.* Phone: 301-286-9789.

A131. "Touch the Sun"
Theme(s): SEC
Subject(s): Space Science
Format(s): Book
Audience(s): Grades 9-12
Msn/Prgm(s): Solar-B[B116]
Description: "Touch the Sun" is a curriculum guide designed for the Solar-B "Touch the Sun" teacher-training workshop at Chabot Space & Science Center. The solar observing and instrument construction activities in the guide form the core curriculum of the workshop. The activities are designed to be conducted by high school students in the classroom environment.
Lead: Mr. Nathan James, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *nate.james@gsfc.nasa.gov.* Phone: 301-286-9789.

A132. "What Is It? Learn About Infrared Images" Web Site
Theme(s): ASO
Subject(s): Space Science
Format(s): Web Site
Audience(s): Grades 6-8, General Public
Msn/Prgm(s): SIRTF[B24]

Description: We can learn a lot about the Universe, Earth, and everyday objects by viewing them in a different "light." In this Web site, we learn about infrared imaging by viewing a variety of objects in the infrared. We will see several examples of infrared imaging and learn some interesting facts about infrared radiation. The object is to try to guess what each image is and find the answers that will teach us interesting facts about the infrared light.
Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.
Primary URL: *http://teachspacescience.org/cgi-bin/search.plex?catid=10000739&mode=full*

EDUCATIONAL ACTIVITIES

Classroom Education

Systemic Improvement

A133. Chicago Teacher Advisory
Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): DePaul B/F[B15]
Description: The Chicago Teachers' Advisory is a partnership between the DePaul Broker/Facilitator group and Chicago teachers whose goal is to develop ways to bring space science to the schoolchildren of Chicago. Advisory meetings called Space Science Symposia occur one to two times a year and attract a broad group of teachers who are representative of the Chicago Public Schools system. Sessions are a mixture of space science presentations by local scientists and discussions in areas such as curriculum and professional development, NASA resources, and communication. Other special events occur as needs and opportunities arise. Planning for symposia and other events is done in monthly meetings by a small group of teachers who are known as Teacher Consultants.
Lead: Dr. Lynn Narasimhan, DePaul University, Chicago, IL 60604.
E-mail: *cnarasim@depaul.edu.* Phone: 773-325-1854.
Contact: Ms. Karen Cullen, DePaul University, Chicago, IL 60604.
E-mail: *kcullen@depaul.edu.* Phone: 773-325-4516.
Scientist(s): Dr. Bernhard Beck-Winchatz — DePaul University, — Chicago, IL
Dr. Jim Kaler — University of Illinois at Urbana-Champaign — Urbana, IL
Dr. James Sweitzer — DePaul University — Chicago, IL
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
06 Oct 01	06 Oct 01	DePaul University	Chicago, IL	14	-	-
29 Oct 01	29 Oct 02	DePaul University	Chicago, IL	8	-	-
05 Nov 01	09 Nov 01	Goethe Elementary School	Chicago, IL	100	-	-
27 Nov 01	27 Nov 01	DePaul University	Chicago, IL	13	-	-
26 Jan 02	26 Jan 02	DePaul University	Chicago, IL	116	-	-
08 Feb 02	08 Feb 02	Pershing Magnet School	Chicago, IL	12	75	-
18 Feb 02	18 Feb 02	DePaul University	Chicago, IL	11	-	-
21 Feb 02	21 Feb 02	Adler Planetarium and Astronomy Museum	Chicago, IL	125	-	-
05 Mar 02	05 Mar 02	DePaul University	Chicago, IL	18	-	-
18 Mar 02	18 Mar 02	Bateman Elementary School	Chicago, IL	12	65	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	5	30	-
10 Apr 02	10 Apr 02	Walter Payton High School	Chicago, IL	20	-	-
23 Apr 02	23 Apr 02	DePaul University	Chicago, IL	50	-	-
23 Apr 02	23 Apr 02	DePaul University	Chicago, IL	90	245	-
09 Aug 02	09 Aug 02	Navy Pier	Chicago, IL	87	100	-

A134. South Carolina Coalition for Science and Mathematics Education (SCCSME)
Theme(s): ASO
Msn/Prgm(s): SERCH B/F[B19]
Description: SCCSME will work to strengthen collaboration between business and education leaders in South Carolina for

the purpose of refining and implementing recent policy initiatives affecting mathematics, science, and technology education (MSTE). The interest of the business community in systemically improving education has increased significantly because of those initiatives.

Lead: Dr. Linda Payne, South Carolina State University, Orangeburg, SC 29117.
E-mail: *lpayne@scsu.edu.* Phone: 803-556-7113.

A135. Space Science Curriculum Development and Training for the Milwaukee Public Schools

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): DePaul B/F[B15]
Description: This workshop series is designed to update and implement a space science curriculum in the Milwaukee public schools.
Lead: Dr. Bernhard Beck-Winchatz, DePaul University, Chicago, IL 60604.
E-mail: *bbeck@codor.depaul.edu.* Phone: 773-325-4545.
Scientist(s): Dr. Bernhard Beck-Winchatz — DePaul University — Chicago, IL
Partner(s): Space Education Initiatives, Inc. — Green Bay, WI
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Jun 02	28 Jun 02	Milwaukee Public Schools	Milwaukee, WI	14	-	-
20 Aug 02	22 Aug 02	Milwaukee Public Schools	Milwaukee, WI	25	-	-

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A136. Stardust Conference Workshops

Theme(s): SSE
Msn/Prgm(s): Stardust[B47]
Description: Stardust staff presented workshops at conferences to highlight NASA Office of Space Science and Stardust educational resources.
Lead: Ms. Aimee Whalen, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *aimee.l.whalen@jpl.nasa.gov.* Phone: 818-354-3245.
Scientist(s): Mr. Chuck Acton — NASA Jet Propulsion Laboratory — Pasadena, CA
Mr. Steven Jones — NASA Jet Propulsion Laboratory — Pasadena, CA
Mr. Ray Newburn — NASA Jet Propulsion Laboratory — Pasadena, CA
Ms. Maura Rountree-Brown — NASA Jet Propulsion Laboratory — Pasadena, CA
Mr. Bill Smythe — NASA Jet Propulsion Laboratory — Pasadena, CA
Ms. Aimee Whalen — NASA Jet Propulsion Laboratory — Pasadena, CA
Ms. Shirley Wolff — NASA Jet Propulsion Laboratory — Pasadena, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
20 Jan 02	30 Jan 02	NASA Jet Propulsion Laboratory	Pasadena, CA	31	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	125	-	-
25 Sep 02	28 Sep 02	Society for the Advancement of Chicanos and Native Americans in Science	Santa Cruz, CA	35	300	-

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A137. Sun-Earth Connection Education Forum (SECEF) Formal Education Systemic Improvement

Theme(s): SEC
Msn/Prgm(s): SECEF[B14]
Description: The SECEF collaborates with local, State, regional, and national science, mathematics, technology, and engineering institutions to support systemic improvement and influence policy in K-12 education.
Lead: Mr. Lou Mayo, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *Louis.A.Mayo.1@gsfc.nasa.gov.* Phone: 301-286-0165.
Scientist(s): Mr. Louis Mayo — NASA Goddard Space Flight Center — Greenbelt, MD
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	Maryland State Board of Education	Baltimore, MD	15	246,150	-
01 Oct 01	30 Sep 02	Montgomery County Public Schools	Rockville, MD	25	142,000	-

Teacher Preparation/Enhancement

A138. A Space Science Module for Los Alamos Space Science Outreach (LASSO)

Theme(s): SEC

Msn/Prgm(s): SRT[B3], ACE[B98], IMAGE[B102], TWINS[B107]

Description: The Los Alamos Space Science Outreach (LASSO) program is based on teacher workshops, in which K-14 teachers spend several weeks at Los Alamos National Laboratory (LANL) learning space science from lab scientists and developing methods and materials for teaching this science to their students. The program is designed to provide teachers with hands-on space science training as well as assistance in developing lesson plans for use in their classrooms. The program supports an instructional model based on education research and cognitive theory. Students and teachers engage in activities that encourage critical thinking and a constructivist approach to learning. LASSO is run through the Los Alamos Science Education Team, ensuring that the teacher workshop program is grounded in sound pedagogical methods and meets current education standards. This year, workshops focused on the solar wind and Earth's magnetosphere. The program focus was on current space science projects, including the Advanced Composition Explorer (ACE), the Magnetospheric Plasma Analyzers (MPA), the Imager for Magnetopause-to-Auroral Global Exploration (IMAGE), and the Two Wide-angle Imaging Neutral-atom Spectrometers (TWINS). This year, as part of the space-weather module, we developed a new hands-on activity to give the teachers a better understanding of Sun-Earth connections. In this activity, the teachers used ACE data to identify coronal mass ejections (CMEs) in the solar wind, and then studied the association between CMEs and geomagnetic storms. LASSO is an umbrella program for space science education activities at LANL. LASSO was created to enhance the science and math interests and skills of both New Mexico and national students. The LASSO umbrella allows for maximum leveraging of education and public outreach (E/PO) funding from a number of projects (and thus maximum educational benefits to both students and teachers), while providing a format for expression of the unique scientific perspective of each project.

Lead: Dr. Ruth Skoug, Los Alamos National Laboratory, Los Alamos, NM 87545.
E-mail: *rskoug@lanl.gov.* Phone: 505-667-6594.

Primary URL: *http://set.lanl.gov/programs/lasso/lassomain.htm*

Scientist(s):

Mr. Philip Barker	Los Alamos National Laboratory	Los Alamos, NM
Mr. Joseph Borovsky	Los Alamos National Laboratory	Los Alamos, NM
Dr. Peter Gary	Los Alamos National Laboratory	Los Alamos, NM
Dr. Dan Reisenfeld	Los Alamos National Laboratory	Los Alamos, NM
Dr. Ruth Skoug	Los Alamos National Laboratory	Los Alamos, NM
Dr. John Steinberg	Los Alamos National Laboratory	Los Alamos, NM
Dr. Michelle Thomsen	Los Alamos National Laboratory	Los Alamos, NM

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
08 Jul 02	09 Aug 02	Los Alamos National Laboratory	Los Alamos, NM	7	-	-

A139. A Tale of Two Deserts: Training Educators to Understand Water-Formed Features in the Desert Southwest and on Mars Using Image-Based Exercises

Theme(s): SSE

Msn/Prgm(s): SRT[B3]

Description: The focus of our activities is teacher training, student education, and public information in recognizing the water-formed features on Earth and Mars that are key to the exploration of Mars in NASA's new "follow the water" strategy. This will help our target audience to be a part of the discoveries being made by current and future Mars missions. The primary approach to provide this training and education is a computer-based exercise that is aligned to national science education standards (NSES), followed by the implementation of the exercise through teacher workshops. The exercise uses a combination of images of selected Earth-based landforms in the desert southwest, many of which are near major metropolitan areas familiar to our target audience. The exercise then compares Earth's features with similar features seen in Mars Global Surveyor and 2001 Mars Odyssey images. In addition to using landform images, a hands-on/minds-on model component has been developed for the exercise. This involves having students create analog desert landforms and eroding them with wind and running water. The model was designed so that the evolution of landforms provides a "link" to the image-based portion of the exercises. Assessments of student learning are conducted throughout

the exercise. The exercise will be presented at two teacher-training seminars at Arizona State University (November 8 and 22, 2003) and videoconferenced concurrently to educators at two remote locations in the desert southwest. A core group of 20 master teachers (grades 9-12), primarily from schools with large underserved or underutilized populations, will be trained in the use of the NSES-aligned exercises, which are being produced in English and Spanish. Each master teacher will then train two additional teachers to use the exercises. Each participating educator will receive a CD-ROM that contains a copy of the classroom exercises, as well as a packet of other space-related educational materials.

Lead: Dr. Ronald Greeley, Arizona State University, Tempe, AZ 85287.
E-mail: *greeley@asu.edu.* Phone: 480-965-7045.

Contact: Mr. Steven Kadel, Glendale Community College, Glendale, AZ 85302.
E-mail: *s.kadel@gcmail.maricopa.edu.* Phone: 623-845-3618.

Scientist(s):	Dr. Ronald Greeley	Arizona State University	Tempe, AZ
	Mr. Steven Kadel	Glendale Community College	Glendale, AZ
Partner(s):	University of New Mexico		Albuquerque, NM

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Jun 02	30 Sep 02	Arizona State University	Tempe, AZ	2	-	-

A140. "A Teacher's Guide to the Universe" MAP Workshop

Theme(s): SEU
Msn/Prgm(s): MAP[B79]
Description: This workshop, which has been given at national and local conventions, introduces middle school, high school, and college teachers to cosmology and how to teach students about the origins and evolution of the Universe in a hands-on way in their classrooms. This workshop directs them to resources found on the Internet, such as the "A Teacher's Guide to the Universe" Web site, the "Cosmic Journeys" Web site, and the Structure and Evolution of the Universe (SEU) Forum Web site. SEU Forum educator kits were distributed as a part of these workshops.

Lead: Dr. David Spergel, Princeton University, Princeton, NJ 08544-1001.
E-mail: *dns@astro.princeton.edu.* Phone: 609-258-3589.

Contact: Ms. Lindsay Bartolone, Adler Planetarium and Astronomy Museum, Chicago, IL 60605.
E-mail: *Lindsay_Clark@adlernet.org.* Phone: 312-322-0316.

Primary URL: *http://www.astro.princeton.edu/~clark/teachersguide.html*
2nd URL: *http://map.gsfc.nasa.gov*

Scientist(s):	Ms. Lindsay Bartolone	Adler Planetarium and Astronomy Museum	Chicago, IL
	Dr. David Spergel	Princeton University	Princeton, NJ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
12 Oct 01	12 Oct 01	Illinois Science Teachers Association	Champaign, IL	-	51	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	51	-

A141. Astrobiology Module for Toward Other Planetary Systems (TOPS) Teacher Workshop

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: A 2-day module, "Life Signatures," composed of lectures and hands-on activities focusing on astrobiology concepts, was presented to middle and high school teachers and students at the National Science Foundation (NSF)-funded TOPS workshop organized by Karen Meech and Tim Slater in Hawaii. A 45-minute lecture, entitled "Astrobiology: Life Signatures," was given by John Stolz and a 45-minute workshop/presentation, entitled "Educational Resources of the NASA Astrobiology Institute," was given by Lorraine Olendzenski. The emphasis was on Earth's history and relevant life signatures, including biomineralization and chemical signatures. The "What Is Life?" activity from the Astrobiology Educator's Resource Guide was introduced, and electronic resources (including the astrobiology Web site and microscope) were demonstrated. Four subsequent lab sessions, each an hour long, were devoted to making Winogradsky columns (two sessions), the "Can They Tell the Difference?" lab activity (to demonstrate chemical signatures of life), and the "Living Sands" lab activity (to demonstrate the physical traces of life). Fifty middle and high school teachers and students from Pacific Island

nations and selected mainland schools attended. The distributed materials included NASA Astrobiology Institute and microscope bookmarks, "Life on Earth and Elsewhere?" educator resource guides, planet cards, and a directory of links to astrobiology education materials.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Lorraine Olendzenski, University of Connecticut, Storrs-Mansfield, CT 06269.
E-mail: *lco95001@uconnvm.uconn.edu.* Phone: 860-486-1887.

Primary URL: *http://www.ifa.hawaii.edu/tops/*

Scientist(s):	Dr. Karen Meech	University of Hawaii at Manoa	Honolulu, HI
	Dr. Lorraine Olendzenski	University of Connecticut	Storrs-Mansfield, CT
	Dr. Timothy Slater	University of Arizona	Tucson, AZ
	Dr. John Stolz	Duquesne University	Pittsburgh, PA
Partner(s):	Bishop Museum		Honolulu, HI
	University of Hawaii at Manoa		Honolulu, HI

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
10 Jun 02	28 Jun 02	University of Hawaii at Manoa	Honolulu, HI	50	-	-

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A142. Astrobiology: "The Origins and Early Evolution of Life" Educator Workshop

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: This 5-day residential workshop for inservice teachers was designed to expose middle and high school science teachers to current thinking about the origin and early evolution of life in a way that they can pass on to their students. The course combined lectures by several Penn State faculty, hands-on classroom activities, lab tours, and a field trip to a local bog. Classroom activities included some from TERC's draft high school curriculum. Evaluations were conducted daily by using participant surveys. Following the workshop, the teachers were added to our existing listserv discussion group to facilitate and track the application of knowledge from the workshop back to the classrooms. The Penn State Astrobiology Research Center and the Pennsylvania Space Grant Consortium provided funding for the workshop. Housing, meals, and some travel support were provided. Teachers were charged tuition for two graduate credits from Penn State. The workshop was approved by the Pennsylvania Department of Education for Act 48 Professional Development credit.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Dr. Lisa Brown, Pennsylvania State University, University Park, PA 16802.
E-mail: *lisabrown@psu.edu.* Phone: 814-863-7687.

Primary URL: *http://www.outreach.psu.edu/C&I/Science4Teachers/*

A143. Astromaterials Sample Distribution

Theme(s): SSE

Msn/Prgm(s): Astromaterials[B59]

Description: The Astromaterials Curation Office has supported education for over 25 years by loaning samples of Moon rocks and meteorites for precollege and university classroom use. The Lunar and Meteorite Sample Disk Program is a collaboration between the curator's office and the NASA Education Office. The program loans Lucite® disks, each containing six extraterrestrial rock or soil samples, to precollege teachers. After attending a certification and training workshop by NASA educators, teachers receive NASA's lunar and meteorite teacher guides and are authorized to borrow the sample disks. The curator also loans Lunar and Meteorites Educational Thin Sections to colleges for use in geology classes. The curator has also developed lunar and Mars soil simulants for engineering use. Small bags of the Mars simulant are available to educators.

Lead: Dr. Marilyn Lindstrom, NASA Johnson Space Center, Houston, TX 77058.
E-mail: *marilyn.m.lindstrom1@jsc.nasa.gov.* Phone: 281-483-5135.

Contact: Mr. Larry Bilbrough, NASA Office of Human Resources and Education, Washington, DC 20546.
E-mail: *lbilbrou@hq.nasa.gov.* Phone: 202-358-3048.

Primary URL: *http://curator.jsc.nasa.gov/lunar/samreq/samreq.htm*

2nd URL: *http://spacelink.nasa.gov/Educational.Services/NASA.Education.Programs*

Scientist(s):	Dr. Carlton Allen	NASA Johnson Space Center	Houston, TX
	Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX

	Dr. Gary Lofgren	NASA Johnson Space Center	Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	NASA Johnson Space Center	Houston, TX	134	340	-

A144. "Beyond the Visible Universe: Teaching Invisible Astronomy"

Theme(s): ASO

Msn/Prgm(s): SIRTF[B24], SOFIA[B25]

Description: "Beyond the Visible Universe: Teaching Invisible Astronomy" is a 1-hour workshop on infrared astronomy that includes demonstrations with an infrared camera, resource materials for teachers and college instructors who participate, and a view to the future of infrared astronomy with the Stratospheric Observatory for Infrared Astronomy (SOFIA) and the Space Infrared Telescope Facility (SIRTF). The goal of the workshop is to raise educators' awareness of NASA's infrared research programs and the expected contributions to our understanding of the origin and evolution of the Universe. Workshop demonstrations introduce infrared imaging (with an infrared camera and/or the infrared video produced by SIRTF) with information on how participants can integrate similar activities into their curriculum. Future opportunities to participate in SOFIA research missions are described, and participants are invited to register for the SOFIA quarterly electronic newsletter.

Lead: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.

Contact: Ms. Edna DeVore, SETI Institute, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.

Primary URL: *http://sofia.arc.nasa.gov/Edu/calendar/edu_calendar.html*

Scientist(s):	Dr. Michael Bennett	Astronomical Society of the Pacific (ASP)	San Francisco, CA
	Ms. Edna DeVore	SETI Institute	Mountain View, CA
	Dr. Michelle Thaller	SIRTF Science Center/ California Institute of Technology	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	30	-	-

A145. "Black Holes in a Different Light" Workshop

Theme(s): SEU

Msn/Prgm(s): HEASARC[B86]

Description: Even though nothing—not even light—can escape from inside a black hole, astronomers know much about black holes by what happens around them. In addition, the region near a black hole offers an opportunity to study how matter behaves under the black hole's intense gravity. These phenomena reveal themselves differently in different wavelengths of light. In this workshop, we explore what we know about black holes by studying them in different regions of the electromagnetic spectrum. We also discuss the phenomena which occur outside the black hole and how we observe them. Participants perform classroom activities which explore the nature of black holes and use data from NASA missions and the XMM-Newton satellite to study black holes at different wavelengths. Participants receive an information and activity booklet published by Imagine the Universe! containing ideas for further classroom projects.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

Primary URL: *http://heasarc.gsfc.nasa.gov*

2nd URL: *http://imagine.gsfc.nasa.gov*

Scientist(s):	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	100	-	-
26 Jun 02	26 Jun 02	NASA Goddard Space Flight Center	Greenbelt, MD	5	-	-
28 Jun 02	28 Jun 02	Tufts University	Medford, MA	25	-	-

A146. Carnegie Academy for Science Education Summer Institute

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: An intensive 5-week graduate science institute for elementary teachers in the District of Columbia Public Schools, this institute is organized around a broad theme of science. In 2001 and 2002, the institute was organized around the theme of astrobiology. Teachers experience a range of activities, concepts, and content that enables them to teach science and mathematics more effectively. Astrobiology-related themes included microbes, hydrothermal vent morphology and biology, extrasolar planets, planetary geology, and mission design. Scientists contribute to the work of classroom educators by highlighting scientific discoveries and leading activities.
Contact: Dr. Ines Cifuentes, Carnegie Institute of Washington, Washington, DC 20015.
E-mail: *lcifuentes@pst.ciw.edu.* Phone: 202-939-1103.

A147. Cassini Conferences

Theme(s): SSE
Msn/Prgm(s): Cassini/Huygens Probe[B37]
Description: The Cassini-Huygens mission provides workshop and exhibit support for conferences.
Lead: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.
Contact: Ms. Laurita Borst, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *laurita.m.borst@jpl.nasa.gov.* Phone: 818-354-7855.

Scientist(s):			
	Mr. David Atkinson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Todd Barber	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Shannon McConnell	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	50	-
28 Jul 02	01 Aug 02	International Planetarium Society Conference	Wichita, KS	-	250	-
02 Aug 02	03 Aug 02	National Astronomical League Conference	Salt Lake City, UT	100	-	-

A148. Chandra X-Ray Center Teacher Workshops and Presentations

Theme(s): SEU
Msn/Prgm(s): SEU Forum[B13], CXO[B67], GLAST[B70]
Description: In collaboration with the Wright Center for Science Education at Tufts University, the Chandra X-Ray Center holds workshops for teachers on space science topics, provides scientist and educator presenters to teacher workshops and conferences sponsored by other organizations, and carries out a program to prepare Chandra Teacher Resource Agents through workshops and the Wright Center Teacher-Scholar program. This year's teacher workshop, on topics focused on cosmology, was attended by 30 teachers. In addition, a workshop focused on the development of activities, demonstrations, and educational products was attended by 18 educators, many of them Chandra Teacher Resource Agents.
Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.
Primary URL: *http://chandra.harvard.edu*
2nd URL: *http://www.tufts.edu/as/wright_center*

Scientist(s):			
	Ms. Kimberly Kowal	Chandra X-Ray Center	Cambridge, MA
	Mr. George Leonberger	Tufts University	Medford, MA
	Ms. Kathleen Lestition	Chandra X-Ray Center	Cambridge, MA
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Terry Matilsky	Rutgers University	Piscataway, NJ
	Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
	Dr. Harvey Tananbaum	Chandra X-Ray Center	Cambridge, MA
	Ms. Donna Young	Tufts University	Medford, MA
Partner(s):	Tufts University		Medford, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Nov 01	15 Nov 01	NASA Goddard Space Flight Center	Greenbelt, MD	30	-	-
05 Dec 01	08 Dec 01	Pennsylvania State Science Teachers Association	Hershey, PA	30	-	-
19 Jan 02	23 Jan 02	American Association of Physics Teachers (AAPT) Meeting	Philadelphia, PA	30	-	-
24 Jan 02	27 Jan 02	Science Olympiad Eastern Regional	Newark, DE	50	-	-
26 Jun 02	01 Jul 02	Tufts University	Medford, MA	36	-	-
28 Jul 02	02 Aug 02	Tufts University	Medford, MA	23	-	-
10 Aug 02	15 Aug 02	Davis & Elkins College	Elkins, WV	35	-	-

A149. Connections: Image Processing, Mars, and Science

Theme(s): SSE

Msn/Prgm(s): IDEAS[B1]

Description: Connections: Image Processing, Mars, and Science is a project funded by the Initiative to Develop Education through Astronomy and Space Science (IDEAS) program. Its goals were to develop a Web site, conduct summer workshops for teachers, design and produce a planetarium show, have teachers bring their students to Buffalo State College to view the planetarium show, and do activities related to astronomy with Buffalo State College preservice teachers in the Science Teaching Center.

Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.

Scientist(s): Ms. Robyn Harrison — National Radio Astronomy Observatory — Socorro, NM

Partner(s): Buffalo State College — Buffalo, NY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 99	04 Sep 02	Buffalo State College	Buffalo, NY	32	-	-

A150. Cosmic Hot Interstellar Plasma Spectrometer (CHIPS) Formal Education Teacher Inservice Preparation

Theme(s): SEU

Msn/Prgm(s): CHIPS[B75]

Description: The CHIPS education and public outreach team participates in workshops to meet the needs of educators at all grade levels. We present these workshops to inservice educators to teach them the most recent and relevant discoveries about CHIPS science, which they will then teach in their classrooms. Mission scientists participate in the workshops to share the science content. Education specialists provide integrated hands-on activities to demonstrate science application in the classroom.

Lead: Dr. Nahide Craig, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

Contact: Dr. Bryan Mendez, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *bmendez@ssl.berkeley.edu.* Phone: 510-643-2178.

A151. "Cosmic Questions" Professional Development for Classroom Educators

Theme(s): SEU

Msn/Prgm(s): SEU Forum[B13]

Description: In conjunction with its "Cosmic Questions" traveling exhibition, the Structure and Evolution of the Universe (SEU) Forum has partnered with the Museum of Science, Boston, to create materials and programs that help teachers of grades 7-12 to enhance their own content knowledge and prepare them to effectively use the exhibition to meet science and mathematics education standards. All museums or science centers that host the exhibition will receive a supply of "Cosmic Questions" educator guides for teachers, a train-the-trainers session for professional development providers, and a set of workshop templates that outlines an adaptable professional development syllabus.

Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

Scientist(s): Ms. Mary Dussault — Harvard-Smithsonian Center for Astrophysics — Cambridge, MA
Dr. Roy Gould — Harvard-Smithsonian Center for Astrophysics — Cambridge, MA

	Ms. Erika Reinfeld	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Partner(s):	Museum of Science		Boston, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
19 Sep 02	19 Sep 02	Museum of Science	Boston, MA	150	-	-

A152. Deep Impact Educator Training

Theme(s): SSE

Msn/Prgm(s): Deep Impact[B43]

Description: The Deep Impact mission science, engineering, and outreach team presents educator training on a continual basis throughout the year, including workshops, lectures, classes, unique presentations, and tours. Educators are given background training on the mission, technology, and comet science and educational activity materials that match national standards and generally accompany the presentations. Preservice educators are part of this audience. Educators were used to evaluate some new activities, and special relationships are being formed now with educators who will host events during the Deep Impact encounter in 2005. The team supports educators through direct relationships in the classrooms or at workshops rather than merely by sending materials.

Contact: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.

Scientist(s):	Mr. Art Hammon	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Lucy McFadden	University of Maryland	College Park, MD
	Dr. Karen Meech	University of Hawaii at Manoa	Honolulu, HI
	Ms. Maura Rountree-Brown	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Richard Shope	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Bill Smythe	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Gretchen Walker	University of Maryland	College Park, MD
	Ms. Aimee Whalen	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	Ball Aerospace Technologies Corporation		Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Mar 02	07 Mar 02	Howard B. Owens Science Center	Lanham, MD	8	-	-
22 Mar 02	23 Mar 02	Rapid City Holiday Inn	Rapid City, SD	35	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	800	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	400	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	75	-	-
05 Apr 02	05 Apr 02	Hilton Cincinnati	Cincinnati, OH	50	-	-
10 Apr 02	10 Apr 02	Sheraton Dover Hotel	Dover, DE	-	25	-
10 Apr 02	11 Apr 02	Sheraton Dover Hotel	Dover, DE	275	-	-
23 Apr 02	28 Apr 02	National Council for the Teachers of Mathematics (NCTM) Conference	Las Vegas, NV	-	1,000	-
25 Apr 02	25 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	8	-	-
08 May 02	10 May 02	International Storytelling Center	Jonesborough, TN	24	-	-
16 May 02	16 May 02	University of Maryland	College Park, MD	23	-	-
17 May 02	17 May 02	Maryland Science Center	Baltimore, MD	20	-	-
06 Jun 02	06 Jun 02	Los Angeles County Office of Education	Downey, CA	57	-	-
18 Jun 02	21 Jun 02	University of Hawaii at Manoa	Honolulu, HI	60	-	-
30 Jun 02	30 Jun 02	University of Hawaii at Manoa	Honolulu, HI	80	-	-
16 Jul 02	16 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	28	-	-
08 Aug 02	10 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	39	-	-
23 Aug 02	23 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	11	-	-
26 Sep 02	29 Sep 02	Society for Advancement of Native Americans and Chicanos in Science National Conference	Anaheim, CA	19	-	-

26 Sep 02	29 Sep 02	Society for Advancement of Native Americans and Chicanos in Science National Conference	Anaheim, CA	-	1,800	-
06 Nov 02	06 Nov 02	NASA Jet Propulsion Laboratory Educator Resource Center	Pomona, CA	8	-	-
10 Dec 02	10 Dec 02	NASA Jet Propulsion Laboratory Educator Resource Center	Pomona, CA	8	-	-

A153. Deep Space Network Formal Education

Theme(s): SSE

Msn/Prgm(s): DSMS[B60]

Description: The Deep Space Network's main formal education initiative is the Goldstone Apple Valley Radio Telescope (GAVRT) project which can be found under a separate heading. However, when an opportunity arises, we take advantage of other avenues, collaborations, or partnerships that provide formal educational materials or training to enhance educators' and students' classroom activities.

Lead: Ms. Shirley Wolff, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *shirley.e.wolff@jpl.nasa.gov.* Phone: 818-354-4069.

Primary URL: *http://deepspace.jpl.nasa.gov*

Scientist(s):			
	Mr. Art Hammon	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Jeff Osman	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Aimee Whalen	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Shirley Wolff	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Sep 02	29 Sep 02	Society for Advancement of Native Americans and Chicanos in Science National Conference	Anaheim, CA	25	300	-

A154. Did You See the Moon Last Night?

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): IDEAS[B1]

Description: Did You See the Moon Last Night? was an Initiative to Develop Education through Astronomy and Space Science (IDEAS) project that sought to develop and present a workshop that integrates the teaching of science, art, and writing through inquiry within the context of astronomy. Building on the framework of Project ASTRO-Tucson, the National Optical Astronomy Observatory (NOAO) Educational Outreach Department established teacher/astronomer partnerships during a 2-day training workshop. The workshop included hands-on astronomy activities, opportunities to observe the Moon and other astronomical objects from Kitt Peak National Observatory, and instruction on integrating art and writing through a focused study of the Moon by authors, educators, and astronomers.

Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.

Primary URL: *http://www.noao.edu/education/astrotucson.html*

Scientist(s): Ms. Suzanne Jacoby — National Optical Astronomy Observatory (NOAO) — Tucson, AZ

Partner(s): National Optical Astronomy Observatory (NOAO) — Tucson, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Mar 00	31 Aug 01	National Optical Astronomy Observatory (NOAO)	Tucson, AZ	666	-	-

A155. "Earth in Space"—Capturing Student Curiosity

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SERCH B/F[B19]

Description: Capturing the curiosity of eighth grade students and enriching their knowledge of our Solar System through engaging, kit-based inquiry experiences is our goal. This project will explore the implementation of the kit-based curricular materials, titled "Earth in Space," that were developed by the National Science Resources Center (NSRC)/Smithsonian Institution. The "Earth in Space" curriculum focuses on the fundamental space science concepts and principles to be addressed in grades 5-8 by the national science education standards. These curricular materials will help teachers in South Carolina address an area of the South Carolina eighth

grade space science standards through meaningful inquiry-based experiences.
Lead: Ms. Elizabeth Edmondson, Clemson University, Clemson, SC 29634.
E-mail: *elizabe@clemson.edu.* Phone: 864-656-1863.
Partner(s): College of Charleston — Charleston, SC
South Carolina Space Grant Consortium — Charleston, SC

A156. "Europa: An Ice Experience" Educator Workshops

Theme(s): SSE
Msn/Prgm(s): Europa Orbiter[B58]
Description: "Europa: An Ice Experience" is an innovative educator workshop that incorporates experiential teaching for conceptual change.
Lead: Mr. Richard Shope III, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *rick.shope@jpl.nasa.gov.* Phone: 818-354-3812.
Scientist(s): Mr. Richard Shope — NASA Jet Propulsion Laboratory — Pasadena, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
19 Oct 01	19 Oct 01	Los Angeles' Better Educated Students for Tomorrow (LA's BEST)	Los Angeles, CA	21	-	-
25 Oct 01	27 Oct 01	California Science Teachers Association Meeting	Palm Springs, CA	-	200	-
15 Jan 02	15 Jan 02	NASA Jet Propulsion Laboratory Educator Resource Center	Pomona, CA	12	-	-
28 Feb 02	03 Mar 02	California Association for the Gifted Conference	Palm Springs, CA	185	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	300	-
15 May 02	15 May 02	Peary Middle School	Gardena, CA	45	-	-
17 May 02	17 May 02	NASA Jet Propulsion Laboratory Educator Resource Center	Pomona, CA	13	-	-
21 May 02	21 May 02	Laurel Elementary School	Whittier, CA	230	-	-
23 May 02	29 May 02	Nightingale Middle School	Los Angeles, CA	74	120	-
10 Aug 02	10 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	35	-	-

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A157. Examining Einstein's Spacetime with Gravity Probe B

Theme(s): SEU
Msn/Prgm(s): GLAST[B70], GP-B[B71]
Description: Gravity Probe B's educator guide and demonstrations were presented to a dozen educator-ambassadors. These high school science teachers were participating in a weeklong workshop where they learned about different science missions and related educational materials.
Lead: Ms. Shannon Range, Stanford University, Stanford, CA 94305.
E-mail: *www@relgyro.stanford.edu.*
Contact: Dr. Jennifer Mullins, Stanford University, Stanford, CA 94305.
E-mail: *www@relgyro.stanford.edu.*
Primary URL: *http://einstein.stanford.edu*

A158. Exceptional Space Science Materials for Exceptional Students

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): ASO Forum[B11], SSE Forum[B12], SEU Forum[B13], SECEF[B14], SERCH B/F[B19], Mars E/PO[B48]
Description: This project's purpose is 1) to familiarize developers of NASA Office Space Science (OSS) education materials with the diversity of exceptional classroom and audience needs; 2) to familiarize educators of exceptional students with the wide variety of standards-based space science educational support materials available from NASA; 3) to evaluate several popular classroom materials from the different OSS themes for use in exceptional classrooms; 4) to build a communication and support network of exceptional teachers and NASA mission-related personnel. The goals are 1) to provide teachers of exceptional students with exciting new resources to use in their classrooms and give them some experience in using them; 2) to provide recommendations for modifications and future design issues to developers of NASA mission-related educational products so that

they are readily useable by exceptional audiences; 3) to begin developing a handbook of best practices for use in other workshops and educational settings for members of the NASA OSS Education Support Network; and 4) to form the nexus of a network of educators and product developers who will continue to work together to raise awareness of exceptional-needs educational materials and to be a part of an extended advisory network for NASA. Participants include local and regional educators involved in exceptional student programs, South Carolina School for the Deaf and Blind teachers, NASA Headquarters, the Office of Space Science Education Support Network, and NASA Centers. Participants will share their knowledge and professional experiences through short presentations and interactive activities and group discussions.

Lead: Dr. Cassandra Runyon, College of Charleston, Charleston, SC 29424.
E-mail: *cass@cofc.edu.* Phone: 843-953-8279.

Primary URL: *http://serch.cofc.edu/serch/*

Scientist(s):		
Mr. Troy Cline	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Keith Watt	Arizona State University	Tempe, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Jun 02	05 Jun 02	National Space Science and Technology Center	Huntsville, AL	31	1	-

A159. "Explore the Invisible Universe"

Theme(s): ASO
Msn/Prgm(s): SOFIA[B25]
Description: "Explore the Invisible Universe" is a 1-hour workshop on infrared astronomy that includes demonstrations with an infrared camera, resource materials for teachers and college instructors who participate, and a view to the future of infrared astronomy with the Stratospheric Observatory for Infrared Astronomy (SOFIA) and the Space Infrared Telescope Facility (SIRTF). The goal of the workshop is to raise educators' awareness of NASA's infrared research programs and the expected contributions to our understanding of the origin and evolution of the Universe. Workshop demonstrations introduce infrared imaging (with an infrared camera and/or the infrared video produced by SIRTF) with information on how participants can integrate similar activities into their curriculum. Future opportunities to participate in SOFIA research missions are described, and participants are invited to register for the SOFIA quarterly electronic newsletter.

Lead: Ms. Edna DeVore, SETI Institute, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.

Contact: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.

Primary URL: *http://sofia.arc.nasa.gov/Edu/calendar/edu_calendar.html*

Scientist(s):		
Ms. Edna DeVore	SETI Institute	Mountain View, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Oct 01	27 Oct 01	California Science Teachers Association Meeting	Palm Springs, CA	60	-	-

A160. "Exploring the Solar System" Teacher Workshops

Theme(s): SSE
Msn/Prgm(s): Mars E/PO[B48], Astromaterials[B59]
Description: "Exploring the Solar System" teacher workshops are collaborations between the NASA Johnson Space Center scientist-educator team and other Solar System education groups to train teachers to use Solar System examples while teaching Earth science. The focus is on comparative planetology and the processes that operate on multiple planets. The workshops use a variety of NASA space science curricular materials. Presentations include background information, hands-on and inquiry-based activities, and, often, an interdisciplinary approach.

Lead: Dr. Marilyn Lindstrom, NASA Johnson Space Center, Houston, TX 77058.
E-mail: *marilyn.m.lindstrom1@jsc.nasa.gov.* Phone: 281-483-5135.

Primary URL: *http://ares.jsc.nasa.gov/education*

Scientist(s):		
Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Mary Drake	NASA Johnson Space Center	Houston, TX
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX

	Ms. Shannon McConnell	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Cassandra Runyon	College of Charleston	Charleston, SC
	Ms. Kay Tobola	Lockheed Martin Engineering and Sciences	Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Nov 01	03 Nov 01	Science Teachers Association of Texas Meeting	Austin, TX	100	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	50	-	-
11 May 02	11 May 02	Museum of Science	Boston, MA	50	-	-
10 Sep 02	10 Sep 02	Houston Museum of Natural Science	Houston, TX	50	-	-

A161. "Exploring the Solar System: A Multisensory Approach"

Theme(s): SSE

Msn/Prgm(s): SEU Forum[B13], NESSIE B/F[B18], SERCH B/F[B19]

Description: Come explore our Solar System in a fun-filled, action-packed, daylong workshop. We will use numerous hands-on activities to explore the many geologic processes that are active in our Solar System. Workshop activities are targeted to teachers of grades 4-8, with the discussion being targeted to higher and lower grades as well as special-needs audiences. All activities have been tested by teachers, scientists, and students and are guaranteed to stimulate your students' imagination! Registered participants will receive classroom materials, including recent posters, maps, slide-sets, activity workbooks, planetary image and data CDs, and much more.

Lead: Dr. Cassandra Runyon, College of Charleston, Charleston, SC 29424.
E-mail: *cass@cofc.edu.* Phone: 843-953-8279.

Contact: Ms. Kathryn Guimond, College of Charleston, Charleston, SC 29424.
E-mail: *serch@cofc.edu.* Phone: 843-953-5437.

Scientist(s):	Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 May 02	11 May 02	Museum of Science	Boston, MA	23	-	-

A162. "Extremophiles: Life on the Edge" Astrobiology Teacher Workshop

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: This 1-day workshop was focused on the biology of extremophiles and their relevance to astrobiology. Twenty-five middle and high school teachers attended. The workshop was structured in an inquiry cycle: Teachers made observations of the results of experiments on several experimental systems (halophiles, thermophiles, ultraviolet (UV) resistance, and pH extremes) and then were encouraged to ask questions and set up their own experiments to take home and observe. Lectures were presented by Virginia Edgcomb (Woods Hole Oceanographic Institute (WHOI)) on lifestyles of deep sea hydrothermal vent microbes and by Linda Amaral-Zettler (WHOI) on biodiversity at pH extremes. The provided materials included NASA Astrobiology Institute and microscope bookmarks, "Life on Earth and Elsewhere?" educator resource guides, and planet cards. Feedback was solicited by written evaluation and was positive, although teachers asked for more time to devote to the topic.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Lorraine Olendzenski, University of Connecticut, Storrs-Mansfield, CT 06269.
E-mail: *lco95001@uconnvm.uconn.edu.* Phone: 860-486-1887.

Scientist(s):	Linda Amaral-Zettler	Woods Hole Oceanographic Institute	Woods Hole, MA
	Dr. Virginia Edgcomb	Woods Hole Oceanographic Institute	Woods Hole, MA
Partner(s):	Woods Hole Oceanographic Institute		Woods Hole, MA

A163. Field Workshops for Scientist-Teacher Teams

Theme(s): SSE

Msn/Prgm(s): LPI B/F[B16], S2N2 B/F[B21]

Description: The Lunar and Planetary Institute's (LPI's) broker program develops, supports, and facilitates field/classroom workshops for scientist-teacher teams. These teams use terrestrial analogs to compare geologic and potential

biological environments on other Solar System bodies by doing real research in the field and relating this research to classroom activities. Scientists are involved through the entire weeklong experience, rather than giving a single presentation, which has been found to be immensely valuable to the teachers. Teachers become very much at ease with scientists, have a much better idea of what scientists actually do, and experience the revelation that scientists can and do disagree with one another about the same observations. Workshops using this model have been presented for several years, including one to the Scablands as a Mars analog and one through the Cascade chain and Oregon lava fields that compared and contrasted volcanism on other Solar System bodies. In 2002, the workshops focused on astrobiology and extreme environments as well as planetary volcanism.

Lead: Ms. Pamela Thompson, Lunar and Planetary Institute, Houston, TX 77058-1113.
E-mail: *thompson@lpi.usra.edu.* Phone: 281-486-2175.

Primary URL: *http://www.lpi.usra.edu/education/EPO/yellowstone/*

Scientist(s):	Dr. Tori Hoehler	NASA Ames Research Center	Moffett Field, CA
	Dr. Anthony Irving	University of Washington	Seattle, WA
	Dr. Walter Kiefer	Lunar and Planetary Institute	Houston, TX
	Ms. Sheri Klug	Arizona State University	Tempe, AZ
	Dr. Horton Newsom	University of New Mexico	Albuquerque, NM
	Ms. Pamela Thompson	Lunar and Planetary Institute	Houston, TX
	Dr. Allan Treiman	Lunar and Planetary Institute	Houston, TX
	Ms. Catherine Tsairides	NASA Ames Research Center	Moffett Field, CA
	Mr. Dave Ward	Montana State University	Bozeman, MT
Partner(s):	Arizona State University		Tempe, AZ
	Mississippi Space Grant Consortium		Oxford, MS
	Montana State University		Bozeman, MT
	NASA Ames Research Center		Moffett Field, CA
	University of New Mexico		Albuquerque, NM
	Washington Space Grant Consortium		Seattle, WA
	Wyoming Space Grant Consortium		Laramie, WY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Jul 02	02 Aug 02	Lunar and Planetary Institute	Houston, TX	25	-	-

A164. Formal and Informal Education Workshops with an Astrobiology Component

Theme(s): ASO

Msn/Prgm(s): NAI[B35], Astromaterials[B59]

Description: The education team of NASA Johnson Space Center's Institute for the Study of Biomarkers in Astromaterials often conducts workshops for formal educators. Astrobiology activities are often a component of a longer space-science-focused workshop. We share activities and resources from the NASA Astrobiology Institute's educator guide and from "Fingerprints of Life?"

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Jaclyn Allen, Lockheed Martin Engineering and Sciences, Houston, TX 77058.
E-mail: *jaclyn.allen1@jsc.nasa.gov.* Phone: 281-483-4622.

Scientist(s):	Dr. Carlton Allen	NASA Johnson Space Center	Houston, TX
	Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
	Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
	Ms. Teresa Longazo	Lockheed Martin Engineering and Sciences	Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	NASA Johnson Space Center	Houston, TX	410	-	-

A165. Frontiers in Astrophysics Talks

Theme(s): SEU

Msn/Prgm(s): HEASARC[B86]

Description: The workshop at Norfolk State University (a Historically Black College or University) was for high school teach-

ers in the immediate area. The talks were on gamma-ray, x-ray, and cosmic-ray astrophysics as well as on NASA materials that were available to teachers.

Lead: Ms. Beth Jacob, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *beth@gamma.gsfc.nasa.gov.* Phone: 301-286-7209.

Scientist(s):

Dr. Eric Christian	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Beth Jacob	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Dave Thompson	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Kim Weaver	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
10 Jul 02	11 Jul 02	Norfolk State University	Norfolk, VA	11	-	-

A166. GAVRT Educational Conference Workshops and Exhibits

Theme(s): SSE
Msn/Prgm(s): DSMS[B60]
Description: The GAVRT project provides opportunities to do real science in the classroom by enabling students to study Jupiter and other bodies using radio astronomy with a 34-meter radio telescope. Educational conferences provide an ideal venue for increasing educators' awareness of the opportunities offered by the GAVRT project. Presentations with titles such as "Surfs Up—Catching Radio Waves" and "A Bucket of Noise" describe various elements of GAVRT's science curriculum. These workshops are an important component of teacher recruitment for GAVRT. At regional conferences, the workshops are supported by a GAVRT exhibit.
Lead: Mr. David McLaren, Lewis Center for Educational Research, Apple Valley, CA 92307.
E-mail: *dmaclaren@avstc.org.* Phone: 760-946-5414.
Primary URL: *http://deepspace.jpl.nasa.gov/dsn/applevalley*
2nd URL: *http://www.lewiscenter.org/global*

Scientist(s):

Dr. Michael Klein	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Shirley Wolff	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Oct 01	27 Oct 01	California Science Teachers Association Meeting	Palm Springs, CA	17	350	-
15 Nov 01	17 Nov 01	National Alliance of Black School Educators (NABSE) Conference	Los Angeles, CA	50	300	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	1	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	8	-

A167. GAVRT Teacher Training

Theme(s): SSE
Msn/Prgm(s): DSMS[B60]
Description: Goldstone Apple Valley Radio Telescope (GAVRT) is a partnership involving NASA, the Jet Propulsion Laboratory (JPL), and the Lewis Center for Educational Research. GAVRT enables students, in their classrooms, to make observations of Jupiter, the Sun, and distant quasars by using radio astronomy. Linked via the Internet to Operations Control at the Lewis Center in Apple Valley, GAVRT students remotely control a 34-meter radio telescope, once part of NASA's Deep Space Network. They collect science data which they analyze and forward to JPL scientists. Teachers wishing to be involved in GAVRT are required to take a 5-day training course where they learn the basics of radio astronomy, learn how to control the 34-meter antenna, and are introduced to the classroom curriculum. Training sessions are held several times a year at the Lewis Center in Apple Valley, when a visit to the Deep Space Network's Goldstone Communications Complex is included. One training session is offered at Auburn University in Alabama and another is offered at Pennsylvania State University, usually in July. The local training includes a visit to the Goldstone Deep Space Communications Complex to see the GAVRT antenna.
Contact: Ms. Kim Bunnell, Lewis Center for Educational Research, Apple Valley, CA 92307.
E-mail: *kim@avstc.org.* Phone: 760-946-5414.

Primary URL: *http://deepspace.jpl.nasa.gov/dsn/applevalley*
2nd URL: *http://www.lewiscenter.org/global*
Scientist(s): Dr. Michael Klein — NASA Jet Propulsion Laboratory — Pasadena, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
14 Jan 02	18 Jan 02	Lewis Center for Educational Research	Apple Valley, CA	9	-	-
15 Jul 02	19 Jul 02	Auburn University	Auburn, AL	2	-	-
29 Jul 02	01 Aug 02	Pennsylvania State University	University Park, PA	9	-	-
12 Aug 02	16 Aug 02	Lewis Center for Educational Research	Apple Valley, CA	10	-	-

A168. Genesis Chautauqua Program

Theme(s): SSE
Msn/Prgm(s): Genesis[B44]
Description: Chautauqua Short Courses are an annual series of forums in which scholars at the frontiers of various sciences meet intensively for several days with undergraduate college teachers of science. The series is held at colleges and universities throughout the United States as well as at selected special sites. These forums provide an opportunity for invited scholars to communicate new knowledge, concepts, and techniques directly to college teachers in ways that are immediately beneficial to their teaching. The primary aim is to enable undergraduate teachers in the sciences to keep their teaching current with respect to both content and pedagogy. From year to year, there is an attempt to rotate courses among different regions of the country.
Lead: Dr. Gilbert Yanow, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *gilbert.yanow@jpl.nasa.gov.* Phone: 818-354-8060.
Primary URL: *http://www.engrng.pitt.edu/~chautauq*
2nd URL: *http://davinci.csun.edu/~scnet/chaut.html*

Scientist(s):	Dr. Bob Anderson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Stephen Edberg	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Rosaly Lopes	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Gene McDonald	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Gilbert Yanow	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Donald Yeomans	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	California Institute of Technology		Pasadena, CA
	Los Alamos National Laboratory		Los Alamos, NM
	NASA Kennedy Space Center		Kennedy Space Center, FL
	National Science Foundation		Arlington, VA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
18 Mar 02	20 Mar 02	University of Alaska Fairbanks	Fairbanks, AK	66	50,000	-
20 May 02	22 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	26	-	-
23 Jul 02	26 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	18	-	-
05 Aug 02	08 Aug 02	NASA Kennedy Space Center	Kennedy Space Center, FL	22	-	-

A169. Genesis Conference Workshops

Theme(s): SSE
Msn/Prgm(s): Genesis[B44]
Description: Genesis conference workshops are given to educators in order that they may gain information on the Genesis standards-based curriculum modules, information on science and the mission, and professional development.
Lead: Dr. Gilbert Yanow, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *gilbert.yanow@jpl.nasa.gov.* Phone: 818-354-8060.
Contact: Mr. Greg Rawls, Mid-continent Research for Education and Learning (McREL), Aurora, CO 80014.
E-mail: *grawls@mcrel.org.* Phone: 303-632-5583.
Primary URL: *http://genesismission.jpl.nasa.gov*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Nov 01	17 Nov 01	NASA Goddard Space Flight Center	Greenbelt, MD	-	35	-
14 Feb 02	16 Feb 02	Georgia Science Teachers Association Conference	Jekyll Island, GA	65	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	5	1	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	6	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	10	-	-
11 Apr 02	12 Apr 02	21st Century Community Learning Centers	Fort Collins, CO	-	35	-
26 Apr 02	28 Apr 02	KATS KAMP 2002: Kansas Association of Teachers of Science	Junction City, KS	2	-	-
29 Jul 02	31 Jul 02	Rural Technology Institute (RTI)	Lawrence, KS	40	-	-
05 Aug 02	05 Aug 02	Cybercamp 2002	Riverton, WY	40	-	-

A170. Genesis Education Events and Exhibits

Theme(s): SSE

Msn/Prgm(s): Genesis[B44]

Description: Genesis events and exhibits allow the Mid-continent Research for Education and Learning (McREL) education and public outreach (E/PO) team to reach and engage a large and varied education and public audience by talking with people about the mission, involving them in hands-on science activities, and disseminating a wide variety of educational materials.

Lead: Dr. Gilbert Yanow, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *gilbert.yanow@jpl.nasa.gov.* Phone: 818-354-8060.

Contact: Mr. Greg Rawls, Mid-continent Research for Education and Learning (McREL), Aurora, CO 80014.
E-mail: *grawls@mcrel.org.* Phone: 303-632-5583.

Primary URL: *http://genesismission.jpl.nasa.gov*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
09 Mar 02	11 Mar 02	Association for Supervision and Curriculum Development (ASCD) Conference	San Antonio, TX	-	500	-
14 Mar 02	16 Mar 02	International Technology Education Association (ITEA) Conference	Columbus, OH	-	500	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	800	-	-
26 Apr 02	28 Apr 02	KATS KAMP 2002: Kansas Association of Teachers of Science	Junction City, KS	175	-	-

A171. "Hidden Lives of Galaxies" Workshop

Theme(s): SEU

Msn/Prgm(s): HEASARC[B86]

Description: This workshop teaches participants the different components of galaxies and emphasizes aspects of galaxies that are not visible in optical light. We discuss the problem of hidden mass in galaxies and illustrate using it as a means for teaching Newton's gravitational law. We will also discuss x-ray observations of galaxies that were performed by NASA satellites, which also reveal evidence for hidden mass and illustrate how supernova remnants, black holes, and stars make up the x-ray emission from a galaxy. Activities and discussion are tied to the "Hidden Lives of Galaxies" poster that illustrates these concepts and an activity book that contains further explanations and in-class activities. Participants perform selected activities, such as applying the law of gravitation to the Solar System and a galaxy to determine the mass of the respective object. Participants receive a copy of the poster and activity book published by Imagine the Universe!.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

Primary URL: *http://imagine.gsfc.nasa.gov*

Scientist(s): Dr. James Lochner NASA Goddard Space Flight Center Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
09 Nov 01	09 Nov 01	National Science Teachers Association (NSTA) Midwestern Area Convention	Columbus, OH	45	-	-
19 Jan 02	23 Jan 02	American Association of Physics Teachers (AAPT) Meeting	Philadelphia, PA	45	-	-

A172. High-Energy Classroom Teacher Workshops

Theme(s): SEU

Msn/Prgm(s): CXO[B67], GLAST[B70], GP-B[B71], CHIPS[B75], Swift[B83], XMM-Newton[B94]

Description: The Gamma-Ray Large Area Space Telescope (GLAST) teacher workshops (with contributions from other Office of Space Science missions) provide teachers with access to NASA information and materials that promote science and mathematics in the classroom. Teacher workshops have been developed to promote inquiry into the origin and structure of the Universe and to explore the fundamental relationship between energy and matter. Topics that are covered in the workshops vary from event to event and may include emphasis in one or more of the following areas: the electromagnetic spectrum, the gamma-ray Universe, gamma-ray sources, active galactic nuclei, black holes, and supernovas. The workshops provide teachers with preparation and enhancement that translates into the classroom; these workshops emphasize concepts that are included in National Math and Physical Science Content Standards A, B, D, and F for grades 9-12. These workshops also provide teachers with opportunities to provide feedback about the activities, subject areas, and materials presented. Feedback includes oral and written responses that address the relevance, usefulness, and practicality of issues that were addressed in the workshop, as they may relate to the classroom.

Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.

Primary URL: *http://glast.sonoma.edu*

2nd URL: *http://glast.sonoma.edu/program.html*

Scientist(s):

Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
Dr. Nahide Craig	University of California	Berkeley, Berkeley, CA
Mr. Tim Graves	Sonoma State University	Rohnert Park, CA
Dr. Jennifer Mullins	Stanford University	Stanford, CA
Dr. Philip Plait	Sonoma State University	Rohnert Park, CA
Ms. Shannon Range	Stanford University	Stanford, CA
Dr. Christine Anne Royce	Shippensburg University	Shippensburg, PA
Dr. Hartmut Sadrozinski	University of California, Santa Cruz	Santa Cruz, CA
Ms. Sarah Silva	Sonoma State University	Rohnert Park, CA
Dr. Gordon Spear	Sonoma State University	Rohnert Park, CA
Ms. Lynda Williams	San Francisco State University	San Francisco, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
21 Mar 01	21 Mar 01	Williamstown High School	Williamstown, NJ	119	-	-
19 Jan 02	23 Jan 02	American Association of Physics Teachers (AAPT) Meeting	Philadelphia, PA	215	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	100	-	-
19 Apr 02	20 Apr 02	Winters High School	Winters, CA	-	18	-
20 Apr 02	20 Apr 02	University of California, Santa Cruz	Santa Cruz, CA	1	20	-
26 Jun 02	30 Jun 02	Tufts University	Medford, MA	17	-	-
08 Jul 02	19 Jul 02	University of California, Santa Cruz	Santa Cruz, CA	6	-	-
15 Jul 02	19 Jul 02	Sonoma State University	Rohnert Park, CA	10	-	-
31 Jul 02	31 Jul 02	Tufts University	Medford, MA	17	-	-
28 Aug 02	28 Aug 02	Williamstown High School	Williamstown, NJ	41	-	-

A173. IMAGE Teacher Workshops and Training

Theme(s): SSE

Msn/Prgm(s): IMAGE[B102]
Description: Teacher training is an integral part of getting new educational products into the classroom so that they can actually be used. Magnetopause-to-Auroral Global Exploration (IMAGE) conducts a number of teacher workshops and training activities throughout the year.
Lead: Dr. Sten Odenwald, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *odenwald@mail630.gsfc.nasa.gov.* Phone: 301-286-6953.
Primary URL: *http://image.gsfc.nasa.gov/poetry*
Scientist(s): Dr. Sten Odenwald — NASA Goddard Space Flight Center — Greenbelt, MD
Dr. Patricia Reiff — Rice University — Houston, TX
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	10 Jun 02	Rice University	Houston, TX	30	-	-
26 Jun 02	27 Jun 02	Pennsylvania State University	University Park, PA	29	-	-
27 Jun 02	28 Jun 02	NASA Goddard Space Flight Center	Greenbelt, MD	15	-	-

A174. Institute of Astronomy for Elementary Science Teachers
Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): IDEAS[B1]
Description: The Initiative to Develop Education through Astronomy and Space Science (IDEAS) project, Institute of Astronomy for Elementary Science Teachers, was a partnership of the University of Puerto Rico at Mayagüez, the Department of Education, and the NASA Regional Teacher Resource Center. By combining the resources of each institution (which included faculty from the university, telescope and planetarium facilities, and instruction materials), teachers participating in this professional development program broadened their background in astronomy, made observations, and received the latest educational resources available.
Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.
Scientist(s): Mr. Jose Alonso — University of Puerto Rico at Mayagüez — Mayagüez, PR
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Jan 97	31 Aug 98	University of Puerto Rico at Mayagüez	Mayagüez, PR	23	-	-

A175. "It's Out There—Extreme Life!" NSTA Short Course
Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The NASA Astrobiology Institute (NAI) conducted a 3-hour astrobiology short course at the National Science Teachers Association convention. Members of the NAI led by NASA Johnson Space Center collaborated on the presentation of hands-on activities and astrobiology content.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Ms. Jaclyn Allen, Lockheed Martin Engineering and Sciences, Houston, TX 77058.
E-mail: *jaclyn.allen1@jsc.nasa.gov.* Phone: 281-483-4622.
Partner(s): NASA Ames Research Center — Moffett Field, CA
NASA Jet Propulsion Laboratory — Pasadena, CA
Pennsylvania State University — University Park, PA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	60	-	-

A176. "Kinesthetic Astronomy" for Educators and Scientists
Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The "Kinesthetic Astronomy" workshop offers an enjoyable, experiential way to learn basic astronomical concepts through choreographed body movements and positions. This workshop deepens the understanding of

what is seen in the sky at various times of the day and year and empowers educators and scientists to use kinesthetic techniques to teach astronomy to others. Kinesthetic astronomy lessons are currently intended for sixth graders through adult learners in both formal and informal educational settings. The lessons emphasize astronomical concepts and phenomena that people can readily encounter in their everyday lives, such as time, seasons, and the sky motions of the Sun, stars, and planets. Field-testing with middle school students, non-science undergraduates, secondary science teachers, girl scouts, and outdoor educators suggests that kinesthetic astronomy techniques (e.g., rotating, revolving, tilting, bending, twisting) successfully confront common misconceptions and allow learners to achieve a good intuitive grasp of concepts that are much more difficult to learn in more conventional ways. The kinesthetic approach to Earth's seasons is readily applied to understanding seasons on other worlds like Mars. What is learned about the structure and motions in our own Solar System offers a ready perspective for appreciating the ongoing discoveries of planets that orbit other stars.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Dr. Cherilynn Morrow, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *camorrow@colorado.edu.* Phone: 303-492-7321.

Primary URL: *http://www.spacescience.org/Education/ResourcesForEducators*

A177. "Life and Living in Space" Teacher Workshop

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: This 3½-day workshop for teachers focused on various current topics in the planetary protection and space life sciences, including microbe detection on equipment destined for spaceflight, growing plants in space, the gravitropic response in plants, and the effects of spaceflight and microgravity on the human body. Norm Wainwright (Marine Biological Laboratory and Johnson Space Center) described his work on developing a rapid detection system for bacteria using the enzyme cascades found in the blood of the horseshoe crab, Limulus, and the rock crab. He also demonstrated extracting blood from Limulus and showed the clotting response of the blood when in the presence of bacterial lipopolysaccharide. Another lecturer was Robert Phillips (Colorado State University and NASA Life Sciences Outreach) who spoke on trends in food and nutrition in space and the effect of spaceflight on the physiology, anatomy, and life cycles of a variety of organisms. Mary Musgrave (University of Massachusetts-Amherst) presented an overview of her research into the problems of growing multiple generations of plants in space, in particular, the fertilization of plants and the production of viable seeds. Lab activities included testing the effectiveness of different cleaning methods on equipment surfaces and assessing the results, using enzyme cascade reactions. We also explored the induced gravitational effect on plant growth (the "Which Way to Grow?" activity) and observed the response of the human vestibular system to a spinning motion. The participants were 25 middle and high school teachers. The distributed materials included the "Life on Earth and Elsewhere?" educator resource guide, planet cards, and astrobiology bookmarks.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Lorraine Olendzenski, University of Connecticut, Storrs-Mansfield, CT 06269.
E-mail: *lco95001@uconnvm.uconn.edu.* Phone: 860-486-1887.

Partner(s): Marine Biological Laboratory — Woods Hole, MA

A178. "Life Cycles of Stars" Workshop

Theme(s): SEU

Msn/Prgm(s): HEASARC[B86]

Description: This workshop traces the life span of stars, from their birth in clouds of gas and dust to their final end in novas or supernovas. We describe the processes of nucleosynthesis as the energy generation mechanism in stars and discuss its balance against gravity. We describe the different ends for low-mass and high-mass stars, and show how some high-mass stars can "live again" in x-ray binary systems. Participants receive the "Life Cycle of Stars" poster and information/activity booklet published by Imagine the Universe!.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

Primary URL: *http://imagine.gsfc.nasa.gov*

Scientist(s): Dr. James Lochner — NASA Goddard Space Flight Center — Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Jun 02	26 Jun 02	NASA Goddard Space Flight Center	Greenbelt, MD	5	-	-
28 Jun 02	28 Jun 02	Tufts University	Medford, MA	25	-	-
12 Jul 02	12 Jul 02	NASA Goddard Space Flight Center	Greenbelt, MD	8	-	-

A179. "Living in the Microbial World" Teacher Workshop

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: "Living in the Microbial World" is a 1-week, intensive, hands-on workshop for teachers of grades 6-12. Our objective is to prepare teachers to teach students and other teachers about the importance of the microbial world by incorporating hands-on microbiology activities into existing curricula. During the workshop, scientists from within the Woods Hole community present teachers with background information and current research developments on topics that are related to the importance of the diversity of microbes in natural environments and microbial processes in the biosphere. Teachers also spend time in a teaching laboratory, engaging in easy and inexpensive hands-on activities that exemplify basic principles of microbiology. During the workshop, teachers hear lectures from research scientists who highlight the role of microbes in maintaining the biosphere, the origin of ecosystems, biomineralization and chemolithoautotrophy, extremophiles, protist diversity and fungal biology, and symbiosis. The teachers take field trips to the Marine Biological Laboratory's Marine Resources Center and the Great Sippiwissett Marsh to see microbial mats. There is one lecture per day, and the balance of the time is spent doing hands-on activities in the lab. Activities include a demonstration of capturing magnetotactic bacteria; an investigation of fungal biology using an inquiry approach; culturing basidiomycetes by using sawdust culture techniques; making simple agar media; soil sample dilutions; making Winogradsky columns; constructing plankton nets, Uhlig extractors, and coverslip traps for collecting microorganisms; observing termite hindgut microbes; and the demonstration of the effects of naturally produced antibiotics on microbial growth. Three lab options involving the culture and isolation of bacteria were offered simultaneously. Astrobiology teaching materials were highlighted in a 1-hour demonstration of the Web site microscope and in an exploration of other astrobiology links.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Lorraine Olendzenski, University of Connecticut, Storrs-Mansfield, CT 06269.
E-mail: *lco95001@uconnvm.uconn.edu.* Phone: 860-486-1887.

Primary URL: *http://www.mbl.edu/Astrobiology/Olendzenski/Olendzenski_poster.html*

2nd URL: *http://www.waksmanfoundation.org*

Scientist(s):			
	Dr. David Bermudes	Yale University	New Haven, CT
	Ms. Barbara Dorritie	Cambridge Rindge and Latin School	Cambridge, MA
	Dr. Betsey Dyer	Wheaton College	Norton, MA
	Dr. Virginia Edgcomb	Woods Hole Oceanographic Institute	Woods Hole, MA
	Dr. Ricardo Guerrero	University of Barcelona	Barcelona Spain
	Dr. Jessie Gunnard	University of Massachusetts	Amherst, MA
	Dr. Lynn Margulis	University of Massachusetts	Amherst, MA
	Dr. Erika Offerdahl	University of Arizona	Tucson, AZ
	Dr. Dan Rogers	Woods Hole Oceanographic Institute	Woods Hole, MA
	Dr. George Waksman	Massachusetts Institute of Technology	Cambridge, MA
Partner(s):	Marine Biological Laboratory		Woods Hole, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 Aug 02	17 Aug 02	NASA Astrobiology Institute (NAI)	Moffett Field, CA	33	-	-

A180. Living With a Star (LWS) Follow-Up Program and School Visits

Theme(s): SEC

Msn/Prgm(s): LWS[B119]

Description: During the LWS follow-up program, mentors and proteges get together to find strategies to increase the participation of the teachers in the online forum, to create inquiry-based interdisciplinary lesson plans and assess their implementation, and to find resources to improve immediate classroom issues. Mentors present an

annual report on the visits made to schools, their coaching of the protege, and on any workshops given during the year to colleagues as a means of improving weak areas. During the follow-up meeting, the discussion of ongoing challenges, experiences with the curriculum, classroom management, policy issues, and parents gives everyone involved in the program a better perspective of the strengths needed to promote science literacy. Initiatives are set out as guidelines to improve students' learning outcomes, and a requirement is established for extensive collaboration and communication with school administrators. One of the program guidelines is to continue refining the curriculum to promote the most effective teaching strategies in science literacy. The initiative also encourages participants to cultivate long-term relationships with scientists, engineers, and educators from the LWS program and to produce strong gains in student achievement. In this program, teachers create two e-portfolio work samples that indicate effective teaching and student achievement in 3- to 5-week units of instruction. The work samples also provide evidence of LWS science application and student learning. Collecting the information, analyzing, and sharing it with colleagues give teachers a forum for improvement.

Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.

Primary URL: *http://lws.gsfc.nasa.gov*

Scientist(s):	Ms. Evelina Felicite-Maurice	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Art Poland	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. DeLee Smith	NASA Goddard Space Flight Center	Greenbelt, MD
Partner(s):	University of Puerto Rico at Mayagüez		Mayagüez, PR

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
08 Jul 02	12 Jul 02	University of Puerto Rico	San Juan, PR	31	-	-

A181. Living With a Star (LWS) Information Technology Program

Theme(s): SEC

Msn/Prgm(s): LWS[B119]

Description: The Information Technology Program is an initiative to develop teacher-education online courses and workshops that are to be conducted by Goddard Space Flight Center (GSFC) scientists. The initiative calls for encouraging teachers to better their preparation and do a better job of assessing students capabilities, diagnosing learning styles, prescribing a curriculum, and adjusting their teaching practices to reflect the latest science research through their own experiences and dialogues with GSFC scientists, engineers, and education and public outreach leaders online. The online initiative will seek to encourage schools to transform traditional education to an online initiative as part of the 21st century new practice.

Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.

Primary URL: *http://lws.gsfc.nasa.gov*

Scientist(s):	Ms. Evelina Felicite-Maurice	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Fred Herrero	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. DeLee Smith	NASA Goddard Space Flight Center	Greenbelt, MD

A182. Living With a Star (LWS) Inservice Teacher Workshop

Theme(s): SEC

Msn/Prgm(s): LWS[B119]

Description: The LWS inservice teacher workshop is for K-12 teachers. The workshop has a weeklong duration, and participants work with strand maps from the Atlas for Science Literacy, a tool developed by Project 2061. Participants engage in discussions about the standards and learning goals specific to student learning. Using the Atlas, inservice teachers have the opportunity to understand benchmarks and standards and apply the mapping to their teaching. Teachers are guided to design the curriculum, plan the instruction, construct and analyze the assessment, and incorporate NASA educational materials in the classroom. The workshop activities help teachers to improve their own content knowledge by identifying the connection among levels and disciplines.

Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.

Primary URL: *http://lws.gsfc.nasa.gov*

Scientist(s):	Dr. Fred Herrero	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
08 Jan 02	12 Jan 02	Springfield College	Springfield, MA	66	-	-

A183. Living With a Star (LWS) Master Teacher Leadership and Mentor Program

Theme(s): SEC

Msn/Prgm(s): STP[B114], LWS[B119]

Description: The LWS Master Teacher Leadership and Mentor Program's fundamental purpose is to engender professionalism for all teachers with the intent to promote science literacy and improve students' outcomes. Master teachers are expected to serve as mentors and coaches to Our Star the Sun Summer Institute participants. The proteges receive guidance in two teaching methods, in science literacy, and through online discussions and workshops. The main goal of the program is to encourage more integration of theory and practice. The master teachers provide standards-based workshops across the Nation to 20-40 teacher-participants with at least an additional 20 hours of contact during the year. The mission of the program is to promote excellence in teaching and align school districts with the NASA scientific and engineering community. The program also promotes reform of science literacy for all. The Master Teacher Leadership and Mentor (MTLM) Program is divided into five areas: 1) instructional materials and development; 2) formal and informal education; 3) professional development; 4) community involvement; and 5) information technology and teacher education. Each month, regional team leads send a written report to the LWS education and public outreach lead. Each year, members of the MTLM Program meet for a week to take workshops and share ideas, teaching strategies, new NASA discoveries and research, LWS missions, and new issues and strategies to solve problems. Toward the end of the week, a strategic plan is organized and new tasks are given to each member.

Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.

Primary URL: *http://lws.gsfc.nasa.gov*

Scientist(s):

Ms. Evelina Felicite-Maurice	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Art Poland	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. DeLee Smith	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
09 Sep 02	06 Jun 03	American International College	Springfield, MA	40	-	-

A184. Living With a Star (LWS) Preservice Workshop

Theme(s): SEC

Msn/Prgm(s): STP[B114], LWS[B119]

Description: In these preservice workshops for K-6 teachers, participants learn to use strand maps that show how students understand ideas and the skills that lead to science literacy. The preservice workshop is a weeklong intensive discussion of standards, benchmarks, and learning outcomes and an assessment of how this information can be incorporated into NASA educational materials. Atlas of Science Literacy is a tool developed by Project 2061, and it is very beneficial for preservice teachers to have the opportunity to enhance their understanding of content, learning goals, lesson design, and instruction planning by eliminating misconceptions before entering the classroom.

Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.

Primary URL: *http://lws.gsfc.nasa.gov*

Scientist(s):

Ms. Evelina Felicite-Maurice	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Charles Mercer	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
08 Jan 02	12 Jan 02	Springfield College	Springfield, MA	62	-	-

A185. Living With a Star (LWS) Summer Teacher Internship

Theme(s): SEC

Msn/Prgm(s): LWS[B119]

Description: The LWS summer teacher internship in partnership with Students United with NASA Becoming Excited About Math and Science (SUNBEAMS), Prince George's County (MD) Public Schools, Puerto Rico Public Schools, and Springfield (MA) Public Schools creates a network of teacher-leaders that spends 6-8 weeks at Goddard Space Flight Center (GSFC) for a summer internship. Teachers work on educational materials, get familiar with the LWS mission science, and develop resources: lesson plans and assessment and interdisciplinary activities that are posted in the LWS Web site. Each teacher-intern is assigned a mentor (scientist, engineer, or educator). Teachers have the opportunity to exchange ideas with their assigned mentors, participate in group discussions, and acquire new information for their classes from scientists, engineers, or educators at GSFC.

Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.

Primary URL: *http://lws.gsfc.nasa.gov*

Scientist(s): Ms. Evelina Felicite-Maurice — NASA Goddard Space Flight Center — Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Jul 02	07 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	4	-	-

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A186. Mars: Formal Educator Field Trips

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: Mars formal educator field trips take K-12 educators to sites on Earth that are similar to Mars for intensive exploration and comparison, using data from past and current Mars missions. They typically last for a few days and cover more material than the formal educator workshops, so they are often follow-on, in-depth professional development opportunities for educators, reached through the workshops. Standards-aligned, hands-on, inquiry-based activities are presented interactively for use in the classroom to support science, technology, mathematics, and geology education. The complementary goals, science discoveries, and technological innovations of missions in the Mars Exploration Program are also presented in relation to what we hope to learn about Mars through the long-term exploration of the climate and geology of the Red Planet and its potential as a habitat for past, present, or future life. The educational knowledge and skills necessary to explore Mars are also presented to assist educators in inspiring Mars explorers of the future. Classroom activities and resources are also distributed to enhance the chance that they will be implemented in the classroom.

Contact: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.

Primary URL: *http://mars.jpl.nasa.gov/classroom*

2nd URL: *http://marsed.asu.edu*

Scientist(s):

Dr. Scott Anderson	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Phil Christensen	Arizona State University	Tempe, AZ
Dr. Ken Edgett	Malin Space Science Systems	San Diego, CA
Mr. Tim Glotch	Arizona State University	Tempe, AZ
Mr. Trevor Graff	Arizona State University	Tempe, AZ
Dr. Vicky Hamilton	Arizona State University	Tempe, AZ
Dr. Hugh Keiffer	U.S. Geological Survey	Flagstaff, AZ
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Mr. Greg Mehall	Arizona State University	Tempe, AZ
Mr. Scott Nowicki	Arizona State University	Tempe, AZ
Dr. Dave Roddy	U.S. Geological Survey	Flagstaff, AZ
Dr. Steve Ruff	Arizona State University	Tempe, AZ
Mr. Kevin Schindler	Lowell Observatory	Flagstaff, AZ
Mr. Steve Silverman	Santa Barbara Museum of Natural History	Santa Barbara, CA
Dr. Tim Titus	U.S. Geological Survey	Flagstaff, AZ
Ms. Paige Valderrama	Arizona State University	Tempe, AZ
Mr. Keith Watt	Arizona State University	Tempe, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
28 Feb 01	28 Feb 01	Arizona State University	Tempe, AZ	17	-	-

20 Oct 01	23 Oct 01	Lowell Observatory	Flagstaff, AZ	14	-	-

A187. Mars: Formal Educator Workshops

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: These formal educator workshops provide K-12 educators with interactive teaching experiences and resources for standards-aligned, hands-on, inquiry-based, low-cost classroom activities that support science, technology, mathematics, and geology concepts related to Mars exploration. They are conducted at locations around the country and at major education conferences. The complementary goals, science discoveries, and technological innovations of missions in the Mars Exploration Program are also presented in relation to what we hope to learn about Mars through the long-term exploration of the climate and geology of the Red Planet and its potential as a habitat for past, present, or future life. The educational knowledge and skills necessary to explore Mars are also presented to assist educators in inspiring Mars explorers of the future. Classroom activities and resources are distributed to enhance the chance that they will be implemented in the classroom.

Contact: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.

Primary URL: *http://mars.jpl.nasa.gov/classroom*

2nd URL: *http://marsed.asu.edu*

Scientist(s):

Dr. Carlton Allen	NASA Johnson Space Center	Houston, TX
Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
Dr. Phil Christensen	Arizona State University	Tempe, AZ
Dr. James Coffield	Wheeling Jesuit University	Wheeling, WV
Mr. Richard Cook	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Howard Eisen	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Bill Feldman	Los Alamos National Laboratory	Los Alamos, NM
Dr. Jim Garvin	NASA Office of Space Science	Washington, DC
Mr. Roger Gibbs	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Matthew Golumbek	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Gruel	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Vicky Hamilton	Arizona State University	Tempe, AZ
Dr. Tori Hoehler	NASA Ames Research Center	Moffett Field, CA
Dr. Anthony Irving	University of Washington	Seattle, WA
Ms. Sara Jenkins	Arizona State University	Tempe, AZ
Dr. Walter Kiefer	Lunar and Planetary Institute	Houston, TX
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Dr. Kim Kuhlman	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Steve Lee	University of Colorado at Boulder	Boulder, CO
Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
Ms. Teresa Longazo	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Shannon McConnell	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Gordon McKay	NASA Johnson Space Center	Houston, TX
Dr. Hap McSween	University of Tennessee	Knoxville, TN
Dr. Doug Ming	NASA Johnson Space Center	Houston, TX
Dr. David Mittlefehldt	NASA Johnson Space Center	Houston, TX
Mr. Jeff Morris	Project Universe	Minneapolis, MN
Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
Dr. Horton Newsom	University of New Mexico	Albuquerque, NM
Mr. Scott Nowicki	Arizona State University	Tempe, AZ
Dr. Laurence Nyquist	NASA Johnson Space Center	Houston, TX
Mr. Tommaso Rivellini	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Steve Ruff	Arizona State University	Tempe, AZ
Ms. Diane Sherman	Cornell University	Ithaca, NY
Dr. Will Stefanov	Arizona State University	Tempe, AZ
Dr. Robert Sullivan	Cornell University	Ithaca, NY
Ms. Pamela Thompson	Lunar and Planetary Institute	Houston, TX
Ms. Kay Tobola	Lockheed Martin Engineering and Sciences	Houston, TX

Dr. Allan Treiman	Lunar and Planetary Institute	Houston, TX
Ms. Paige Valderrama	Arizona State University	Tempe, AZ
Mr. Dave Ward	Montana State University	Bozeman, MT
Mr. Keith Watt	Arizona State University	Tempe, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Oct 01	02 Oct 01	Walnut Creek School	Erie, PA	40	-	-
14 Oct 01	14 Oct 01	Pasadena Independent School District	Pasadena, TX	30	-	-
15 Oct 01	15 Oct 01	Houston Museum of Natural Science	Houston, TX	30	-	-
19 Oct 01	19 Oct 01	Phoenix Civic Center	Phoenix, AZ	8	-	-
20 Oct 01	20 Oct 01	Arizona State University	Tempe, AZ	85	-	-
16 Nov 01	17 Nov 01	NASA Goddard Space Flight Center	Greenbelt, MD	30	-	-
18 Dec 01	18 Dec 01	Arizona State University	Tempe, AZ	40	-	-
03 Jan 02	03 Jan 02	Bayonne School District	Bayonne, NJ	9	-	-
05 Jan 02	30 Sep 02	NASA Johnson Space Center	Houston, TX	4	-	-
09 Jan 02	09 Jan 02	Arizona State University	Tempe, AZ	25	-	-
12 Jan 02	12 Jan 02	Arizona State University	Tempe, AZ	30	-	-
26 Jan 02	26 Jan 02	Central Arizona Community College	Coolidge, AZ	30	-	-
31 Jan 02	01 Feb 02	Golden State Museum	Sacramento, CA	60	-	-
02 Feb 02	02 Feb 02	Virginia Air and Space Museum	Hampton, VA	9	-	-
28 Feb 02	28 Feb 02	Arizona State University	Tempe, AZ	17	-	-
28 Feb 02	02 Mar 02	Texas Middle School Association Conference	Houston, TX	35	-	-
02 Mar 02	02 Mar 02	Arizona State University	Tempe, AZ	100	-	-
25 Mar 02	25 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	19	-	-
26 Mar 02	26 Mar 02	California State University, Los Angeles	Los Angeles, CA	6	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	45	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	35	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	10	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	24	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	26	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	75	-	-
13 Apr 02	13 Apr 02	Challenger Learning Center	Phoenix, AZ	25	-	-
13 Apr 02	13 Apr 02	Hill Aerospace Museum	Ogden, UT	30	-	-
26 Apr 02	27 Apr 02	West Jefferson School District	Mudlake, ID	17	-	-
10 May 02	10 May 02	Florence Unified School District Office	Florence, AZ	28	-	-
11 May 02	11 May 02	Kopernik Space Education Center	Vestal, NY	12	-	-
03 Jun 02	06 Jun 02	National Space Science and Technology Center	Huntsville, AL	30	-	-
18 Jul 02	18 Jul 02	NASA Jet Propulsion Laboratory Educator Resource Center	Pomona, CA	25	7,800	-
21 Jul 02	25 Jul 02	Boise State University	Boise, ID	31	1,580	-
26 Jul 02	02 Aug 02	Montana State University	Bozeman, MT	12	1,580	-
28 Jul 02	28 Jul 02	Hyatt Regency Wichita	Wichita, KS	65	-	-
05 Aug 02	05 Aug 02	California University	California, PA	38	3,325	-
08 Aug 02	09 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	60	-	-
09 Aug 02	09 Aug 02	California State Polytechnic University	Pomona, CA	63	-	-
16 Aug 02	17 Aug 02	University of California, Los Angeles	Los Angeles, CA	32	3,240	-
23 Aug 02	23 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	12	8,640	-
07 Sep 02	07 Sep 02	Cumberland Science Museum	Nashville, TN	47	4,285	-
12 Sep 02	12 Sep 02	Arizona State University	Tempe, AZ	32	1,690	-

14 Sep 02	14 Sep 02	Arizona State University	Tempe, AZ	88	-	-

A188. National Conference for the International Technology Education Association

Theme(s): ASO

Msn/Prgm(s): ASO Forum[B11], SSE Forum[B12], SEU Forum[B13], SECEF[B14], HST[B22], Mars E/PO[B48], TRACE[B106], SOHO[B112], ST-5[B120]

Description: The NASA Office of Space Science (OSS) education and public outreach (E/PO) goal is to "enhance the quality of education." To achieve that goal, the OSS participates in a number of E/PO activities at both the regional and national levels. The OSS supports a number of regional and national education conferences attended by thousands of educators in mathematics, science, and technology. The OSS supports professional conferences attended by thousands of scientists from all fields of space science. Such activities at these conferences usually entail showcasing an exhibit, distributing educational and outreach material (litho sets, posters, educator guides, strategic plans, and more), conducting educational workshops, giving keynote speeches, highlighting numerous space science Web pages, and having NASA employees and scientists answer questions about space science. Finally, OSS staff members participate in more localized events such as providing classroom lectures.

Contact: Ms. Ruth Netting, NASA Office of Space Science, Washington, DC 20546.
E-mail: *rnetting@hq.nasa.gov.* Phone: 202-358-0539.

Primary URL: *http://www.iteawww.org/*

Scientist(s):			
	Mr. Troy Cline	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Doris Daou	SIRTF Science Center/ California Institute of Technology	Pasadena, CA
	Ms. Diane Fisher	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Edward Gonzales	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Steele Hill	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Sheri Klug	Arizona State University	Tempe, AZ
	Ms. Ruth Netting	NASA Office of Space Science	Washington, DC
	Dr. Philip Plait	Sonoma State University	Rohnert Park, CA
	Dr. William Taylor	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Gilbert Yanow	NASA Jet Propulsion Laboratory	Pasadena, CA

Partner(s):		
	NASA Goddard Space Flight Center	Greenbelt, MD
	NASA Jet Propulsion Laboratory	Pasadena, CA
	Space Telescope Science Institute	Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
14 Mar 02	16 Mar 02	International Technology Education Association (ITEA) Conference	Columbus, OH	8,950	5	-

A189. Navigator: Educator Workshops

Theme(s): ASO

Msn/Prgm(s): Navigator[B27], MSC[B28], KECK[B29], SIM[B32], ST-3[B33], TPF[B34]

Description: Navigator representatives conducted workshops at several educator conferences. The "Taking the Measure of the Universe" workshop demonstrates an interactive, hands-on activity that teaches scale and distance. Navigator's "Taking the Measure of the Universe" hands-on activity was demonstrated at the National Council of Teachers of Mathematics (NCTM) conference. The activity incorporates simple household items to help students visualize scales from Earth to distant stars. The "PlanetQuest: The Search for Another Earth" workshop is an overview of the "PlanetQuest" Web site. The presentation provides site overview and demonstrates the various interactive activities available online. At the NASA educator workshops, Navigator teams also demonstrated various science concepts using a hands-on, experiential approach. Concepts included wave behavior, the Doppler effect, wave nulling, and interference. The workshops also illustrated a brief history of planet-finding, illustrated vast star distances, and highlighted the missions associated with the Navigator program.

Lead: Ms. Rhonda Jones, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *rhonda.r.jones@jpl.nasa.gov.* Phone: 818-354-1562.

Contact: Ms. Jenny Tieu, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *jenny.tieu@jpl.nasa.gov.* Phone: 818-393-4765.

Scientist(s):			
	Mr. Joseph Catanzarite	NASA Jet Propulsion Laboratory	Pasadena, CA

	Dr. Rudolf Danner	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Stuart Shaklan	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	50	-
23 Apr 02	28 Apr 02	National Council for the Teachers of Mathematics (NCTM) Conference	Las Vegas, NV	-	55	-
30 Apr 02	30 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	15	-	-
03 Jul 02	03 Jul 02	NASA Ames Research Center	Moffett Field, CA	33	-	-
11 Jul 02	11 Jul 02	NASA Dryden Flight Research Center	Edwards, CA	32	-	-
11 Jul 02	11 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	32	-	-
08 Aug 02	08 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	30	-	-
01 Oct 02	01 Oct 02	Georgia Council of Teachers of Mathematics	Eatonton, GA	345	-	-

A190. Near-Earth Asteroid Rendezvous (NEAR) Teacher Support

Theme(s): SEC

Msn/Prgm(s): NEAR[B46], TIMED[B118]

Description: The NEAR and Thermosphere Ionosphere Mesosphere Energetics and Dynamics (TIMED) missions helped scientists, engineers, and other team members become involved in the education and public outreach (E/PO) efforts by providing opportunities for teacher training. The missions coordinated the training events and provided the resources necessary for the team members to participate in these prearranged teacher training events. Team members led discussions and activities, provided demonstrations, and conducted classroom activities related to the Jophns Hopkins University Applied Physics Laboratory-supported NASA missions. These efforts supported State, local, and national efforts that have been directed toward the systemic reform of science, mathematics, and technology education. Also, these training activities were based on the criteria contained in the national mathematics, science, and technology standards. Teacher training was also conducted by some of our E/PO partners, such as The Maryland Science Center, during SpaceLink's Teacher Thursday events. These were high-leverage teacher training opportunities that were built on existing programs, institutions, and infrastructure.

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

Primary URL: *http://near.jhuapl.edu/*

2nd URL: *http://www.mdsci.org/exhibits/spacelink/index.cfm*

Scientist(s):	Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
06 Oct 02	06 Oct 02	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	23	-	-

A191. New England Space Science Initiative in Education (NESSIE) Outreach to Formal Educators

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): NESSIE B/F[B18]

Description: Outreach to formal educators in the six-state New England region is facilitated through targeted meetings, workshops, and conferences. These endeavors include consulting with administrators and educators in particular school districts, coordinating workshops for teachers and scientists under Project Astro Boston, facilitating space science symposia for science faculty at small colleges, collaborating with other NASA educators to make systemic changes, and cultivating better relations between science and education departments within the collegiate environment.

Lead: Ms. Cathleen Clemens, Museum of Science, Boston, MA 02114-1099.
E-mail: *cclemens@mos.org.* Phone: 617-589-0227.

Primary URL: *http://hea-www.harvard.edu*

2nd URL: *http://www.mos.org/nessie*

Scientist(s):	Dr. Kathryn Flanagan	Massachusetts Institute of Technology	Cambridge, MA

Dr. Michael Garcia	Chandra X-Ray Center	Cambridge, MA
Dr. F. Rick Harnden, Jr.	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Dr. Philip Kaaret	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Dr. Vinay Kashyap	Chandra X-Ray Center	Cambridge, MA
Dr. Herman Marshall	Massachusetts Institute of Technology	Cambridge, MA
Dr. William Waller	Tufts University	Medford, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Oct 01	13 Oct 01	Museum of Science	Boston, MA	41	-	-
26 Jan 02	26 Jan 02	Museum of Science	Boston, MA	36	-	-
09 Mar 02	09 Mar 02	Museum of Science	Boston, MA	27	-	-
15 May 02	15 May 02	Museum of Science	Boston, MA	13	-	-
28 Jun 02	29 Jun 02	Museum of Science	Boston, MA	24	-	-

A192. Origins Presentations and Workshops

Theme(s): ASO

Msn/Prgm(s): ASO Forum[B11]

Description: Origins staff members often attend events for professional organizations, community organizations, and schools to hold workshops and/or give presentations. Using the program's two defining science questions, "Where do we come from?" and "Are we alone?," Origins workshops and presentations have enticed and intrigued a wide variety of audiences and have shown educators how to incorporate Origins science and classroom activities into their teaching.

Lead: Dr. Ian Griffin, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *griffin@stsci.edu.* Phone: 410-338-4567.

Primary URL: *http://origins.stsci.edu*

Scientist(s):	Mr. Dan McCallister	Space Telescope Science Institute	Baltimore, MD
	Ms. Carole Rest	Space Telescope Science Institute	Baltimore, MD
	Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
	Dr. Terry Teays	Space Telescope Science Institute	Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Nov 01	15 Nov 01	NASA Goddard Space Flight Center	Greenbelt, MD	30	-	-
08 Mar 02	08 Mar 02	National Science Foundation	Arlington, VA	6	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	6	-
29 Jun 02	29 Jun 02	Tufts University	Medford, MA	30	-	-

A193. Our Star the Sun—Living With a Star (LWS) Summer Institute

Theme(s): SEC

Msn/Prgm(s): STP[B114], LWS[B119]

Description: The Our Star the Sun Institute develops a national NASA presence by partnering with the K-16 community of educators across the Nation and by engaging teachers in the advancement of science literacy. Activities for teachers include a weeklong summer inquiry institute, centered on space science, for up to 30 teachers. The Institute provides educators with valuable experience on the importance of different aspects of the Sun that affect life and society. Scientists' and engineers' lectures, as well as active participation in the program, give teachers the necessary tools to enrich their professional knowledge and science skills. Teachers exchange expertise with scientists and engineers and regain a renewed appreciation for science literacy. Daily demonstrations and hands-on activities and workshops facilitate an understanding of the interdisciplinary process, subjects' similarities and differences, misconceptions about the Sun-Earth connection, mathematics, and technology. Field work is developed from an interdisciplinary approach. Topics addressed at the Institute are the Sun-Earth connection, standards, learning outcomes, assessment, Solar Terrestrial Probes/Living With a Star missions, space weather, astronomy, mathematics, technology, oceanography, and ultraviolet radiation. During the year, participants maintain contact with each other, and a follow-up visit to their school by the education and public outreach lead is scheduled. This strategy leads to implementations that engage the attention of both student and teachers to the Sun-Earth Connection theme.

Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.
Contact: Dr. Juan Gonzalez, University of Puerto Rico at Mayagüez, Mayagüez, PR 00681.
E-mail: *director@shuttle.uprm.edu.* Phone: 787-832-6288.
Primary URL: *http://lws.gsfc.nasa.gov*

Scientist(s):		
Mr. Donald Carson	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Gilberto Colon	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Evelina Felicite-Maurice	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Fred Herrero	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Charles Mercer	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Art Poland	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. DeLee Smith	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Jul 02	28 Jul 02	University of Puerto Rico at Mayagüez	Mayagüez, PR	56	-	-

A194. Overview of the "Imagine the Universe!" CD-ROM

Theme(s): SEC
Msn/Prgm(s): HEASARC[B86]
Description: A workshop provides a demonstration of the "Imagine the Universe!" CD-ROM. Participants are introduced to the major features of the "Imagine the Universe!," "StarChild," and "Astronomy Picture of the Day" sites captured on the CD. The workshop also demonstrates various ways that the CD could be used in the classroom. Participants receive a copy of the CD.
Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.
Primary URL: *http://imagine.gsfc.nasa.gov*

Scientist(s):		
Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Gail Rohrbach	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Mar 02	08 Mar 02	National Teacher Training Institute	Harrisonburg, VA	80	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	5	-	-
27 Jun 02	27 Jun 02	NASA Goddard Space Flight Center	Greenbelt, MD	12	-	-
22 Jul 02	22 Jul 02	NASA Goddard Space Flight Center	Greenbelt, MD	25	-	-

A195. Project AstroBio

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: Project AstroBio is expanding on the success of Project ASTRO/Seattle, a science education and public outreach program, administered by the University of Washington (UW) Department of Astronomy since 1997. Project ASTRO has created over 100 partnerships (and has sustained 65 of those) among teachers of grades 3-12 and professional and amateur astronomers and Earth and space scientists in the Puget Sound region of Washington. Project AstroBio was inaugurated with a 2-day training workshop in July 2002. Nineteen new partnerships have been formed, six of which include UW astrobiology graduate students, postdocs, and faculty. Our partnerships will work together over the next school year (or longer) in the classroom, providing resource expertise and hands-on science activities as an adjunct to the regular teaching schedule. In each Project AstroBio partnership, students will be guided through inquiry-based, hands-on activities in topics relevant to astrobiology. Project ASTRO and AstroBio activities are rigorously designed to meet national and State education standards.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Dr. Woody Sullivan, University of Washington, Seattle, WA 98195-1310.
Primary URL: *http://www.astro.washington.edu/projastro*

A196. Project REACH for the Stars

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): IDEAS[B1]
Description: The Initiative to Develop Education through Astronomy and Space Science (IDEAS) project, Project REACH for the Stars, engaged K-5 teachers in a professional development workshop. Teachers were introduced to astronomy background information, given an extensive notebook of hands-on activities to use in the classroom, and were provided with additional NASA-related resources. Activity kits were also made available to teachers, including LEGO DUPLOS, Robotics, or LEGO Red Rover kits. The majority of the participants represented inner-city Phoenix schools with underserved/underrepresented populations.
Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.
Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.
Scientist(s): Ms. Sheri Klug — Arizona State University — Tempe, AZ
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 99	29 Jun 02	Arizona State University	Tempe, AZ	22	-	-

A197. Project SEARCH

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): IDEAS[B1]
Description: The goal of Project SEARCH (Space Exploration Activities for Raising Children's Horizons) was to bring activities relevant to past, current, and upcoming NASA deep space missions to elementary and middle school classrooms. Project SEARCH provided participating teachers with hands-on activities, information, resources, and training to assist them in offering a science curriculum with astronomy, space exploration, and computer/technology components that are united by realistic planetary exploration. The curriculum's scope included current space exploration, Red Rover participation, an introduction to astronomy, and the integration of technology and the Internet into the astronomy curriculum. (The project was funded through the Initiative to Develop Education through Astronomy and Space Science.)
Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.
Scientist(s): Mr. David Atkinson — NASA Jet Propulsion Laboratory — Pasadena, CA
Partner(s): University of Idaho — Moscow, ID
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 98	31 Jul 99	University of Idaho	Moscow, ID	1,616	-	-

A198. Regional Planetary Image Facility (RPIF) Teacher Workshops

Theme(s): SSE
Msn/Prgm(s): SRT[B3]
Description: The Regional Planetary Image Facilities (RPIFs) are semiarchival and reference libraries of planetary data that have been collected over the past 40 years and are supported by the Planetary Geology and Geophysics Program. These data include planetary photography, maps, digital data, and mission support information. There are 10 domestic and 8 foreign RPIFs at present. Although the principal mission of the RPIF system is to serve the data reference needs for the planetary geoscience community, the RPIFs have pioneered education and public outreach (E/PO) efforts since their establishment over 25 years ago. The RPIF system fully supports NASA's E/PO activities through a variety of means. The RPIFs conduct various educator workshops throughout the year.
Lead: Dr. Peter Schultz, Brown University, Providence, RI 02912.
E-mail: *Peter_Schultz@Brown.edu.* Phone: 401-863-2417.
Primary URL: *http://www.lpi.usra.edu/library/RPIF/RPIF.html*

A199. "Rocks from Space" Teacher Workshops

Theme(s): SSE

Msn/Prgm(s): SRT[B3], Astromaterials[B59]

Description: "Rocks from Space" teacher workshops are collaborations between scientists at Johnson Space Center (JSC) and Texas educators to train other educators in using extraterrestrial materials to teach not only Earth and space science, but also chemistry and physics. The workshops use the NASA "Exploring the Moon" and "Exploring Meteorite Mysteries" teacher guides and JSC's more advanced "Space Rocks Tell Their Secrets" module. The presentations include background information, hands-on activities, and inquiry-based research activities.

Lead: Dr. Marilyn Lindstrom, NASA Johnson Space Center, Houston, TX 77058.
E-mail: *marilyn.m.lindstrom1@jsc.nasa.gov.* Phone: 281-483-5135.

Primary URL: *http://ares.jsc.nasa.gov*

Scientist(s):

Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Mary Drake	NASA Johnson Space Center	Houston, TX
Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
Ms. Kay Tobola	Lockheed Martin Engineering and Sciences	Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Nov 01	03 Nov 01	Science Teachers Association of Texas Meeting	Austin, TX	80	-	-
21 Jan 02	21 Jan 02	Pasadena Independent School District	Pasadena, TX	25	-	-
04 Feb 02	04 Feb 02	NASA Johnson Space Center	Houston, TX	25	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	50	-	-
17 Jun 02	21 Jun 02	NASA Johnson Space Center	Houston, TX	25	-	-

A200. Science Education, Communication, and Math Experience (SECME)

Theme(s): ASO

Msn/Prgm(s): MARSSB[B17]

Description: Representing the Mid-Atlantic Region Space Science OSS Broker/Facilitator program, Tony Docal conducted a presentation on Project MASCOT at the annual SECME Teacher Institute. The SECME program was held at Howard University in Washington, DC. This presentation was part of a NASA showcase of space science and other science education resource materials. Project MASCOT kits were distributed to all 500 participants. SECME teachers (grades 6-12) come from all areas of the country because this is a national program. Units in the Project MASCOT kit deal with space science topics such as the Sun-Earth connection, the Solar System, planetary exploration, and the Hubble Space Telescope.

Lead: Dr. Laurie Ruberg, Wheeling Jesuit University, Wheeling, WV 26003.
E-mail: *lruberg@cet.edu.* Phone: 304-243-2480.

Contact: Dr. Tony Docal, Wheeling Jesuit University, Wheeling, WV 26003.
E-mail: *ossbroker@cet.edu.* Phone: 304-243-2480.

Primary URL: *http://teachspacescience.stsci.edu/cgi-bin/ssrtop.plex*

2nd URL: *http://www.cet.edu/ossbroker*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
16 Jul 02	16 Jul 02	Howard University	Washington, DC	500	-	-

A201. Scientist-Teacher Cooperation Projects

Theme(s): ASO

Msn/Prgm(s): LPI B/F[B16]

Description: Support is provided for scientist-teacher pairs to work together to develop curriculum modules, special events, classroom supplies, and the like on any topic in space science. Applications for up to $300 are reviewed by a scientist and an education staff member. Although the support is not large, teachers have reported that it fills a need, especially in a time when elective science courses are undersupported in many schools. The partnerships report briefly on their projects and future plans. Many collaborations have led to ongoing partnerships and many have been leveraged by other sources, including PTAs, school districts, and community programs.

Lead: Ms. Pamela Thompson, Lunar and Planetary Institute, Houston, TX 77058-1113.
E-mail: *thompson@lpi.usra.edu.* Phone: 281-486-2175.

Primary URL: *http://www.lpi.usra.edu/education*

Scientist(s):	Dr. Joy Crisp	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Don Jaffe	University of Texas at Austin	Austin, TX
	Ms. Kathy Kitts	Washington University	St. Louis, MO
	Dr. Dante Lauretta	University of Arizona	Tucson, AZ
	Dr. Allan Treiman	Lunar and Planetary Institute	Houston, TX
	Dr. Mary Urquhart	NASA Ames Research Center	Moffett Field, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Jan 02	15 May 02	Cedar Wood Elementary School	Bothell, WA	656	-	-
01 Jan 02	01 Jun 02	Maxwell Middle School	Tucson, AZ	201	-	-
25 Apr 02	31 Dec 02	Sam Rayburn High School	Pasadena, TX	1	-	-
23 May 02	31 Dec 02	Sidney Lanier High School	Austin, TX	71	-	-
08 Aug 02	31 Dec 03	Ames Child Care Center	Moffett Field, CA	43	-	-
16 Sep 02	31 Dec 03	Pattonville School District	St. Louis, MO	450	960	-

A202. SIRTF and SOFIA Online Course

Theme(s): ASO

Msn/Prgm(s): SIRTF[B24], SOFIA[B25]

Description: The Space Infrared Telescope Facility (SIRTF) and the Stratospheric Observatory for Infrared Astronomy (SOFIA) have sponsored an online course about the invisible Universe, given by a professor at the University of Arizona and accredited through Montana State University. This year saw the first test batch of teachers take the course, and a full evaluation is under way.

Lead: Dr. Michelle Thaller, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125. E-mail: *thaller@ipac.caltech.edu.* Phone: 626-395-8670.

Scientist(s):	Dr. Timothy Slater	University of Arizona	Tucson, AZ
Partner(s):	Montana State University		Bozeman, MT
	University of Arizona		Tucson, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Nov 01	30 Jun 02	Montana State University	Bozeman, MT	34	-	-

A203. SIRTF Conference Support

Theme(s): ASO

Msn/Prgm(s): SIRTF[B24], SOFIA[B25]

Description: The SIRTF Science Center, as a member of the Origins Forum, was present at these events. Some of the mission's education and public outreach products were distributed to teachers during these conferences. The products included the all-time favorite, "Herschel Experiment" brochure and "Infrared: More Than Your Eyes Can See!" video, the Orion lithograph, and both the "Infrared Universe" and the "Multiwavelength Universe" posters. The products received good comments from the teachers, who were especially excited about the classroom activities that were included in these products. During the distribution, we also demonstrated to teachers the possible classroom uses of the products and activities. These discussions have led to the development of additional classroom activities, a teacher guide, and a number of student exercises.

Lead: Ms. Doris Daou, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125. E-mail: *daou@ipac.caltech.edu.* Phone: 626-395-8668.

Primary URL: *http://sirtf.caltech.edu/SSC/*

Scientist(s):	Ms. Doris Daou	SIRTF Science Center/ California Institute of Technology	Pasadena, CA
	Ms. Linda Hermans	SIRTF Science Center/ California Institute of Technology	Pasadena, CA
	Dr. Michelle Thaller	SIRTF Science Center/ California Institute of Technology	Pasadena, CA
Partner(s):	American Astronomical Society (AAS)		Washington, DC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Oct 01	27 Oct 01	California Science Teachers Association Meeting	Palm Springs, CA		2,610	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA		21,000	-
23 Apr 02	28 Apr 02	National Council for the Teachers of Mathematics (NCTM) Conference	Las Vegas, NV		20,650	-

A204. SIRTF Teacher Workshops/Inservices

Theme(s): ASO

Msn/Prgm(s): SIRTF[B24], SOFIA[B25]

Description: The SIRTF Science Center (SSC) has developed a series of workshops and activities that directly target classroom teachers. These programs help participants utilize our educational activities in their lesson plans. We also introduce the educators to the educational Web pages at the SSC and provide advice on how to use these resources for student and curriculum enrichment. Most teacher events involve the distribution of our Herschel experiment brochure, our educational video, lithographs, and wallsheets. In all cases, teachers are given access to SIRTF astronomers for live and follow-up questions.

Lead: Dr. Michelle Thaller, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *thaller@ipac.caltech.edu.* Phone: 626-395-8670.

Scientist(s): Dr. Michelle Thaller — SIRTF Science Center/ California Institute of Technology — Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
28 Jan 02	28 Jan 02	NASA Jet Propulsion Laboratory Educator Resource Center	Pomona, CA	20	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	50	-	-
13 Jun 02	13 Jun 02	Maryland Science Center	Baltimore, MD	24	-	-
17 Jun 02	17 Jun 02	University of Wisconsin-Madison	Madison, WI	34	-	-

A205. Small-Grants Program for Midwestern Teachers

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): DePaul B/F[B15]

Description: This is a small-grants program for midwestern teachers, developed to promote space science education for K-12 students. The awards, of up to one thousand dollars each, were offered to teams of two or more teachers for projects that enhance students' understanding of space science. The intent behind these grants was to benefit teachers through a streamlined application process. In return, successful teams were asked to submit a final report, which was to include both a project evaluation component and a description or model that other teachers could use to replicate successful space science education projects.

Lead: Dr. Lynn Narasimhan, DePaul University, Chicago, IL 60604.
E-mail: *cnarasim@depaul.edu.* Phone: 773-325-1854.

Contact: Ms. Karen Cullen, DePaul University, Chicago, IL 60604.
E-mail: *kcullen@depaul.edu.* Phone: 773-325-4516.

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Sep 01	30 May 02	Daniel Wertz Elementary	Evansville, IN	257	-	-
15 Sep 01	28 Jun 02	Kellogg School	Chicago, IL	115	-	-
30 Sep 01	30 Jun 02	North Barrington School	Barrington, IL	213	-	-
01 Oct 01	15 Jun 02	A.N. Pritzker School	Chicago, IL	91	-	-
13 Feb 02	31 May 02	Scott Joplin School	Chicago, IL	106	-	-

A206. Smithsonian Teacher's Night

Theme(s): SEU

Msn/Prgm(s): SEU Forum[B13], CXO[B67]
Description: The Center for Astrophysics (CfA) was one of four sites for the Smithsonian Institution's Teacher Appreciation Night. Sponsored in part by TIAA-CREF, teachers from all over Massachusetts gathered at the CfA for presentations by Dr. Irwin Shapiro, Director of the CfA, and Dr. Phillip Sadler, head of the Science Education Department at the CfA. Dinner and observing followed. CfA staff, scientists, and teachers had a chance to come together and discuss all aspects of science education.
Lead: Mr. Scott Balderson, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *sbalderson@cfa.harvard.edu.* Phone: 617-496-4798.
Scientist(s): Dr. Phillip Sadler, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA
Dr. Irwin Shapiro, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA
Partner(s): TIAA-CREF Boston, MA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
17 May 02	17 May 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	100	-	-

A207. Solar System Educator Program (SSEP)

Theme(s): SSE
Msn/Prgm(s): Cassini/Huygens Probe[B37], Galileo[B38], JPL SSE Theme[B39], CONTOUR[B41], Deep Impact[B43], Stardust[B47], 2001 Mars Odyssey[B49], MGS[B51], OP E/PO[B57], Europa Orbiter[B58]
Description: The NASA Jet Propulsion Laboratory Solar System Educators Program (SSEP) is a professional development program for teachers with the goal of inspiring America's educators and students by engaging them in NASA's Solar System exploration efforts. NASA provides these educators with the knowledge, skills, materials, and support that they need to effectively lead educator workshops throughout their region. As a result, the SSEP is a growing community of educators that is passionate about Solar System exploration and its impact on science education. This community is motivated to share that passion with other educators.
Contact: Mr. Eric Brunsell, Space Education Initiatives, Inc., Green Bay, WI 54304.
E-mail: *eric@spaceed.org.* Phone: 920-405-0751.
Primary URL: *http://www.ssep.org/*
Partner(s): Space Explorers, Inc. De Pere, WI
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
03 Mar 01	03 Mar 01	Lincoln Jackson Elementary	Clovis, NM	12	-	-
24 Mar 01	24 Mar 01	Lincoln Jackson Elementary	Clovis, NM	12	-	-
01 Apr 01	15 Jun 02	Carnegie Science Center	Pittsburgh, PA	1,950	82	-
19 Apr 01	19 Apr 01	Kalamazoo Valley Museum	Kalamazoo, MI	42	-	-
15 May 01	15 May 01	Wichita Collegiate School	Wichita, KS	50	-	-
17 May 01	17 May 01	San Diego Marriott Mission Valley Resort	San Diego, CA	18	-	-
20 Jun 01	22 Jun 01	University of Wisconsin-Milwaukee	Milwaukee, WI	88	-	-
15 Jul 01	15 Jul 01	Iowa Academy of Science	Des Moines, IA	33	-	-
01 Aug 01	01 Aug 01	Brevard County Community College	Cocoa, FL	12	-	-
01 Aug 01	01 Aug 01	Olympic Resource Education Center	Forks, WA	16	-	-
02 Aug 01	03 Aug 01	Brownsville Independent School District	Brownsville, TX	60	50	-
09 Aug 01	11 Aug 01	NASA Jet Propulsion Laboratory	Pasadena, CA	33	-	-
18 Aug 01	18 Aug 01	Silva Magnet School	El Paso, TX	63	-	-
28 Aug 01	20 Dec 01	Kalamazoo Valley Community College	Kalamazoo, MI	58	-	-
01 Sep 01	24 Apr 02	Christa McAuliffe Planetarium	Concord, NH	213	3,609	-
01 Sep 01	15 Jun 02	Carnegie Science Center	Pittsburgh, PA	974	37	-
01 Sep 01	15 Jun 02	Carnegie Science Center	Pittsburgh, PA	841	42	-
10 Sep 01	11 Sep 01	Holton High School	Holton, KS	26	-	-
10 Sep 01	23 Sep 01	Sorrento Springs Elementary School	Manchester, MO	60	-	-
12 Sep 01	12 Sep 01	Grissom Memorial Library	Muncie, IN	15	-	-
12 Sep 01	11 May 02	Muncie Community Schools' Planetarium	Muncie, IN	29,696	240	-
13 Sep 01	13 Sep 01	Contemporary Art Center	Abilene, TX	16	4	-
13 Sep 01	13 Sep 01	University of Nevada, Las Vegas	Las Vegas, NV	43	-	-
16 Sep 01	24 May 02	Millcreek Elementary School	Erie, PA	3,014	-	-

18 Sep 01	20 Sep 01	Kalamazoo Valley Museum	Kalamazoo, MI	64	-	-
19 Sep 01	13 Apr 02	Maryland Science Center	Baltimore, MD	214	-	-
21 Sep 01	21 Sep 01	Science Central	Fort Wayne, IN	30	-	-
21 Sep 01	31 Jan 02	Grosse Pointe North High School	Grosse Pointe, MI	1,565	414	-
22 Sep 01	22 Sep 01	Science Museum of Virginia	Richmond, VA	9	-	-
27 Sep 01	27 Sep 01	Elmer Knopf Center	Flint Township, MI	16	-	-
29 Sep 01	29 Sep 01	Bridgeport University	Bridgeport, CT	43	22	-
29 Sep 01	29 Sep 01	Cernan Earth and Space Center	River Grove, IL	2	-	-
29 Sep 01	29 Sep 01	Cernan Earth and Space Center	River Grove, IL	3	-	-
29 Sep 01	29 Sep 01	Delta College	Saginaw, MI	19	-	-
29 Sep 01	29 Sep 01	Imaginarium Science Discovery Center	Anchorage, AK	28	-	-
01 Oct 01	02 Oct 02	John B. Hood Middle School	Dallas, TX	-	253	-
02 Oct 01	02 Oct 01	Minnesota University	Minneapolis, MN	26	-	-
02 Oct 01	02 Oct 01	Walnut Creek Middle School	Fairview, PA	59	-	-
02 Oct 01	02 Oct 01	Walnut Creek Middle School	Fairview, PA	19	-	-
03 Oct 01	05 Oct 01	Holiday Inn Convention Center	Omaha, NE	31	-	-
03 Oct 01	24 Oct 01	Sorrento Springs Elementary School	Manchester, MO	25	-	-
04 Oct 01	04 Oct 01	Carnegie Science Center	Pittsburgh, PA	-	180	-
06 Oct 01	16 Oct 01	Cernan Earth and Space Center	River Grove, IL	20	-	-
10 Oct 01	10 Oct 01	Highland Elementary School	Staffordsville, KY	64	95	-
10 Oct 01	10 Oct 01	Minnesota University	Morris, MN	21	-	-
12 Oct 01	17 Oct 01	Cortez School	West Covina, CA	34	-	-
13 Oct 01	13 Oct 01	Brookland Middle School	Richmond, VA	35	-	-
13 Oct 01	13 Oct 01	Independence School District	Independence, MO	5	-	-
13 Oct 01	13 Oct 01	Kalamazoo Valley Community College	Kalamazoo, MI	47	-	-
15 Oct 01	15 Oct 01	East Central Community College	Union, MO	27	-	-
15 Oct 01	20 Apr 02	Meadow Creek School	Andover, MN	122	-	-
16 Oct 01	16 Oct 01	Independence School District	Independence, MO	20	-	-
17 Oct 01	17 Oct 01	Challenger Center	Chattanooga, TN	32	-	-
17 Oct 01	17 Oct 01	East Central Community College	Union, MO	23	-	-
17 Oct 01	17 Oct 01	Iowa Academy of Science	Des Moines, IA	9	-	-
18 Oct 01	19 Oct 01	Rainwater Observatory and Planetarium	French Camp, MS	15	-	-
19 Oct 01	19 Oct 01	New England Association of Technology Teachers	Waterbury, CT	7	-	-
19 Oct 01	19 Oct 01	Outrigger Waikoloa Hotel	Kohala Coast, HI	300	-	-
19 Oct 01	19 Oct 01	Radisson Hotel	St. Paul, MN	20	-	-
19 Oct 01	19 Oct 01	Science Museum of Virginia	Richmond, VA	21	-	-
19 Oct 01	22 Oct 01	Independence School District	Independence, MO	20	-	-
20 Oct 01	20 Oct 01	Field Museum	Chicago, IL	60	-	-
20 Oct 01	20 Oct 01	Pontiac High School	Pontiac, IL	3	-	-
20 Oct 01	20 Oct 01	Punahou School	Honolulu, HI	-	12	-
20 Oct 01	20 Oct 01	Punahou School	Honolulu, HI	-	90	-
20 Oct 01	20 Oct 01	Sacred Heart University	Fairfield, CT	18	-	-
20 Oct 01	23 Oct 01	Cernan Earth and Space Center	River Grove, IL	4	-	-
23 Oct 01	23 Oct 01	Idaho State University	Pocatello, ID	19	-	-
24 Oct 01	24 Oct 01	Idaho State University	Pocatello, ID	18	-	-
25 Oct 01	25 Oct 01	Carnegie Science Center	Pittsburgh, PA	72	-	-
25 Oct 01	25 Oct 01	Elmer Knopf Center	Flint Township, MI	43	-	-
25 Oct 01	25 Oct 01	Idaho State University	Pocatello, ID	19	-	-
25 Oct 01	25 Oct 01	Morgan County Middle School	West Liberty, KY	130	-	-
25 Oct 01	25 Oct 01	National Science Teachers Association (NSTA) Western Area Convention	Salt Lake City, UT	-	10	-
25 Oct 01	25 Oct 01	National Science Teachers Association (NSTA) Western Area Convention	Salt Lake City, UT	95	-	-
25 Oct 01	25 Oct 01	National Science Teachers Association (NSTA) Western Area Convention	Salt Lake City, UT	36	2	-
26 Oct 01	26 Oct 01	Holton High School	Holton, KS	16	-	-

26 Oct 01	26 Oct 01	Idaho State University	Pocatello, ID	18	-	-
26 Oct 01	26 Oct 01	Idaho State University	Pocatello, ID	15	3	-
27 Oct 01	27 Oct 01	Lawrence Technological University	Southfield, MI	20	-	-
03 Nov 01	03 Nov 01	Eastland Park Hotel	Portland, ME	24	-	-
03 Nov 01	03 Nov 01	Knox County Board of Education	Barbourville, KY	12	-	-
03 Nov 01	03 Nov 01	Yakima Conference Center	Yakima, WA	28	-	-
07 Nov 01	07 Nov 01	Aneth Community School	Montezuma Creek, UT	20	-	-
07 Nov 01	07 Nov 01	North Hills Junior High School	Pittsburgh, PA	168	-	-
08 Nov 01	08 Nov 01	New Mexico Museum of Space History	Alamogordo, NM	27	-	-
09 Nov 01	09 Nov 01	National Science Teachers Association (NSTA) Midwestern Area Convention	Columbus, OH	137	-	-
09 Nov 01	09 Nov 01	National Science Teachers Association (NSTA) Midwestern Area Convention	Columbus, OH	38	-	-
09 Nov 01	10 Nov 01	Rainwater Observatory and Planetarium	French Camp, MS	-	23	-
10 Nov 01	10 Nov 01	Cernan Earth and Space Center	River Grove, IL	3	-	-
10 Nov 01	10 Nov 01	Cernan Earth and Space Center	River Grove, IL	4	-	-
10 Nov 01	10 Nov 01	Kennesaw State University	Kennesaw, GA	18	-	-
10 Nov 01	10 Nov 01	Minnesota University	Minneapolis, MN	26	-	-
10 Nov 01	10 Nov 01	Mountainlands Applied Technology College	Orem, UT	8	-	-
12 Nov 01	12 Nov 01	East Central Community College	Union, MO	24	-	-
12 Nov 01	12 Nov 01	Grace United Methodist Church	Lee's Summit, MO	49	12	-
12 Nov 01	12 Nov 01	Independence School District	Independence, MO	70	30	-
13 Nov 01	13 Nov 01	Christa McAuliffe Planetarium	Concord, NH	11	-	-
15 Nov 01	15 Nov 01	Hapuna Prince Hotel	Kohala Coast, HI	192	-	-
15 Nov 01	15 Nov 01	Hapuna Prince Hotel	Kohala Coast, HI	18	6	-
17 Nov 01	17 Nov 01	New Mexico Museum of Space History	Alamogordo, NM	120	-	-
17 Nov 01	17 Nov 01	West Boynton Beach Library	Boynton Beach, FL	9	15	-
19 Nov 01	19 Nov 01	Williams Science and Fine Arts Elementary School	Topeka, KS	3	33	
20 Nov 01	20 Nov 01	Aneth Community School	Montezuma Creek, UT	26	-	-
26 Nov 01	26 Nov 01	Idaho State University	Pocatello, ID	14	-	-
26 Nov 01	26 Nov 01	Southern Idaho University	Twin Falls, ID	30	-	-
26 Nov 01	26 Nov 01	Southern Idaho University	Twin Falls, ID	30	-	-
27 Nov 01	27 Nov 01	Illinois Math and Science Academy	Aurora, IL	6	-	-
27 Nov 01	27 Nov 01	Minnesota University	Morris, MN	31	-	-
30 Nov 01	30 Nov 01	Boynton Beach Community High School	Boynton Beach, FL	10	-	-
01 Dec 01	01 Dec 01	Bridgeport University	Bridgeport, CT	67	4	-
01 Dec 01	01 Dec 01	Danbury Public Schools	Danbury, CT	23	-	-
01 Dec 01	01 Dec 01	Westchester Science Association	Purchase, NY	12	-	-
04 Dec 01	20 May 02	Lincoln Jackson Elementary	Clovis, NM	23	-	-
06 Dec 01	06 Dec 01	Hershey Lodge and Convention Center	Hershey, PA	54	-	-
06 Dec 01	06 Dec 01	Hershey Lodge and Convention Center	Hershey, PA	54	-	-
06 Dec 01	07 Dec 01	Minnesota Association of Middle Level Educators	Bloomington, MN	42	-	-
07 Dec 01	07 Dec 01	Challenger Center	Chattanooga, TN	10	-	-
08 Dec 01	08 Dec 01	Institute for Astronomy	Hilo, HI	30	-	-
12 Dec 01	12 Dec 01	Burnett Center	Topeka, KS	17	-	-
14 Dec 01	14 Dec 01	Boynton Beach Community High School	Boynton Beach, FL	32	150	-
14 Dec 01	14 Dec 01	Holton High School	Holton, KS	22	-	-
17 Dec 01	17 Dec 01	Memphis Regional Convention	Memphis, TN	13	-	-
19 Dec 01	19 Dec 01	Elmer Knopf Center	Flint Township, MI	59	-	-
06 Jan 02	06 May 02	Columbus State University	Columbus, GA	48	-	-
07 Jan 02	07 Jan 02	Ackerman High School	Ackerman, MS	14	2	-
15 Jan 02	15 Jan 02	Christa McAuliffe Planetarium	Concord, NH	-	6	-
18 Jan 02	18 Jan 02	Bowie High School	El Paso, TX	2	60	-
23 Jan 02	23 Jan 02	Kamehameha Elementary School	Honolulu, HI	6	-	-
23 Jan 02	23 Jan 02	New Mexico Museum of Space History	Alamogordo, NM	2	26	-

23 Jan 02	23 Jan 02	New Mexico Museum of Space History	Alamogordo, NM	2	26	-
25 Jan 02	25 Jan 02	New Mexico Museum of Space History	Alamogordo, NM	3	48	-
25 Jan 02	26 Jan 02	University of Mississippi	Oxford, MS	21	-	-
26 Jan 02	26 Jan 02	DePaul University	Chicago, IL	43	-	-
26 Jan 02	26 Jan 02	University of Hawaii at Hilo	Hilo, HI	30	30	-
26 Jan 02	26 Jan 02	University of Hawaii at Hilo	Hilo, HI	200	500	-
31 Jan 02	31 Jan 02	Mason County Middle School	Maysville, KY	3	180	-
01 Feb 02	01 Feb 02	Sacramento Elementary School	Sacramento, CA	38	-	-
07 Feb 02	07 Feb 02	Indiana Convention Center	Indianapolis, IN	56	2	-
07 Feb 02	07 Feb 02	Pocatello Charter School	Pocatello, ID	3	20	-
07 Feb 02	07 Feb 02	Rowan County Christian Academy	Morehead, KY	78	-	-
07 Feb 02	08 Feb 02	Nizhoni Elementary School	Shiprock, NM	9	-	-
09 Feb 02	09 Feb 02	Bridgeport University	Bridgeport, CT	64	-	-
09 Feb 02	09 Feb 02	Kamehameha Schools	Hilo, HI	30	-	-
12 Feb 02	12 Feb 02	Christa McAuliffe Planetarium	Concord, NH	-	8	-
15 Feb 02	15 Feb 02	Holiday Inn	Green Bay, WI	22	-	-
15 Feb 02	15 Feb 02	Idaho State University	Pocatello, ID	19	-	-
15 Feb 02	16 Feb 02	Rainwater Observatory and Planetarium	French Camp, MS	36	-	-
19 Feb 02	19 Feb 02	Williams Science and Fine Arts Elementary School	Topeka, KS	3	25	-
20 Feb 02	20 Feb 02	Boynton Beach Community High School	Boynton Beach, FL	35	20	-
20 Feb 02	20 Feb 02	Kamehameha Schools	Hilo, HI	10	-	-
21 Feb 02	21 Feb 02	University of Texas at El Paso	El Paso, TX	40	3	-
22 Feb 02	22 Feb 02	Paintsville Independent Elementary School	Paintsville, KY	2	120	-
22 Feb 02	03 Jun 02	Iowa State University	Ames, IA	20	-	-
23 Feb 02	23 Feb 02	Mountainlands Applied Technology College	Orem, UT	8	-	-
23 Feb 02	23 Feb 02	Parkside Junior High School	Normal, IL	11	-	-
26 Feb 02	26 Feb 02	Idaho State University	Pocatello, ID	11	-	-
27 Feb 02	27 Feb 02	Idaho State University	Pocatello, ID	19	-	-
28 Feb 02	28 Feb 02	Idaho State University	Pocatello, ID	11	-	-
28 Feb 02	28 Feb 02	Sheraton Colorado Springs Hotel	Colorado Springs, CO	83	-	-
01 Mar 02	01 Mar 02	Los Angeles County Office of Education	Downey, CA	48	-	-
01 Mar 02	01 Mar 02	Regional Office of Education	Bensenville, IL	15	-	-
01 Mar 02	02 Mar 02	Michigan Science Teachers Association	Detroit, MI	87	-	-
02 Mar 02	02 Mar 02	Maine University	Orono, ME	-	63	-
04 Mar 02	04 Mar 02	Doyle/Ryder Community Elementary School	Flint, MI	14	-	-
04 Mar 02	04 Mar 02	Space Explorers, Inc.	Green Bay, WI	65	-	-
07 Mar 02	07 Mar 02	Kamehameha High School	Honolulu, HI	9	-	-
08 Mar 02	08 Mar 02	Brown County Arena	Green Bay, WI	24	-	-
09 Mar 02	09 Mar 02	Adler Planetarium and Astronomy Museum	Chicago, IL	10	-	-
09 Mar 02	09 Mar 02	Science Museum of Minnesota	St. Paul, MN	20	-	-
10 Mar 02	29 May 02	Morris Area Elementary School	Morris, MN	-	60	-
12 Mar 02	12 Mar 02	Christa McAuliffe Planetarium	Concord, NH	5	-	-
12 Mar 02	12 Mar 02	Shawano Church	Shawano, WI	22	-	-
13 Mar 02	13 Mar 02	Walnut Creek Middle School	Fairview, PA	21	-	-
13 Mar 02	16 Mar 02	Columbus Convention Center	Columbus, OH	450	-	-
13 Mar 02	16 Mar 02	Columbus Convention Center	Columbus, OH	300	150	-
14 Mar 02	14 Mar 02	International Technology Education Association	Columbus, OH	32	-	-
19 Mar 02	19 Mar 02	Ednovations	Grantham, NH	24	-	-
19 Mar 02	19 Mar 02	Phillips Exeter Academy	Exeter, NH	24	-	-
19 Mar 02	20 Mar 02	Snow Hill Elementary School	Ooltewah, TN	587	-	-
22 Mar 02	22 Mar 02	Muncie Community Schools' Planetarium	Muncie, IN	24	-	-
22 Mar 02	23 Mar 02	Crowsneck Environmental Center	Tishomingo, MS	19	3	-
23 Mar 02	23 Mar 02	Mountainlands Applied Technology College	Orem, UT	2	-	-
26 Mar 02	26 Mar 02	Saginaw Valley State University	Chesterfield Township, MI	46	1	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	50	-	-

26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	100	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	42	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	100	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	32	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	160	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	27	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	67	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	877	242	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	320	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	160	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	43	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	15	-	-
08 Apr 02	08 Apr 02	Independence School District	Independence, MO	-	25	-
09 Apr 02	09 Apr 02	Christa McAuliffe Planetarium	Concord, NH	8	1	-
09 Apr 02	09 Apr 02	NASA Ames Research Center	Moffett Field, CA	4	6	-
09 Apr 02	16 Apr 02	Grosse Pointe North High School	Grosse Pointe, MI	292	37	-
11 Apr 02	11 Apr 02	Eglewood Tech Prep Academy	Chicago, IL	7	-	-
11 Apr 02	11 Apr 02	Moreland Ridge Middle School	Blue Springs, MO	5	100	-
11 Apr 02	11 Apr 02	Taft High School	Chicago, IL	14	-	-
12 Apr 02	13 Apr 02	Rainwater Observatory and Planetarium	French Camp, MS	-	24	-
13 Apr 02	13 Apr 02	Carnegie Science Center	Pittsburgh, PA	17	500	-
13 Apr 02	13 Apr 02	Independence School District	Independence, MO	15	125	-
17 Apr 02	17 Apr 02	East Central Community College	Union, MO	26	-	-
17 Apr 02	17 Apr 02	Meadow Lane School	Marionette, IL	15	-	-
18 Apr 02	18 Apr 02	Saginaw Valley State University	Chesterfield Township, MI	68	4	-
18 Apr 02	18 Apr 02	University of Nevada, Las Vegas	Las Vegas, NV	39	-	-
20 Apr 02	20 Apr 02	Carnegie Science Center	Pittsburgh, PA	-	90	-
20 Apr 02	20 Apr 02	Hilo Shopping Mall	Hilo, HI	85	3,000	-
21 Apr 02	21 Apr 02	Scott Township Library	Carnegie, PA	18	32	-
21 Apr 02	23 Apr 02	Independence School District	Independence, MO	80	-	-
22 Apr 02	22 Apr 02	Grosse Pointe North High School	Grosse Pointe, MI	14	-	-
22 Apr 02	22 Apr 02	Pauline Glenn Springs Elementary School	Pauline, SC	4	62	-
22 Apr 02	24 Apr 02	Lamping Elementary School	Henderson, NV	32	-	-
23 Apr 02	23 Apr 02	Saginaw Valley State University	Chesterfield Township, MI	19	2	-
24 Apr 02	24 Mar 02	Milwaukee Public Schools	Milwaukee, WI	22	-	-
24 Apr 02	24 Apr 02	Flint Cultural Center-Longway Planetarium	Flint, MI	62	-	-
24 Apr 02	24 Apr 02	Morehead State University	Morehead, KY	15	175	-
29 Apr 02	29 Apr 02	Eastern Washington University	Cheney, WA	18	-	-
29 Apr 02	29 Apr 02	New Mexico Museum of Space History	Alamogordo, NM	4	65	-
30 Apr 02	30 Apr 02	New Mexico Museum of Space History	Alamogordo, NM	5	90	-
01 May 02	01 May 02	Eastern Washington University	Cheney, WA	-	22	-
01 May 02	13 Jun 02	Christa McAuliffe Planetarium	Concord, NH	223	3,835	-
02 May 02	02 May 02	Onizuka Space Center	Kailua-Kona, HI	12	205	-
04 May 02	04 May 02	Eastern Washington University	Cheney, WA	18	-	-
04 May 02	04 May 02	University of Washington	Seattle, WA	14	-	-

05 May 02	05 May 02	National Congress on Aviation and Space Education	Arlington, VA	30	-	-
07 May 02	07 May 02	University of Texas at El Paso	El Paso, TX	22	1	-
08 May 02	08 May 02	New Frontier's Charter School	San Antonio, TX	20	-	-
08 May 02	08 May 02	University of Texas at El Paso	El Paso, TX	20	-	-
11 May 02	11 May 02	Burnett Center	Topeka, KS	4	-	-
14 May 02	14 May 02	Christa McAuliffe Planetarium	Concord, NH	13	-	-
15 May 02	15 May 02	West Boynton Beach Library	Boynton Beach, FL	-	150	-
17 May 02	17 May 02	San Diego Marriott Mission Valley Resort	San Diego, CA	18	-	-
18 May 02	18 May 02	Lansing City Airport	Lansing, MI	103	-	-
20 May 02	20 May 02	Curlington Elementary School	Boerne, TX	11	-	-
20 May 02	20 May 02	Curlington Elementary School	Boerne, TX	11	-	-
21 May 02	21 May 02	Space Education Initiatives, Inc.	Green Bay, WI	57	-	-
22 May 02	22 May 02	Connecticut Technology Education Association	Waterbury, CT	17	-	-
23 May 02	23 May 02	Temple Judea	Los Angeles, CA	-	53	-
27 May 02	28 May 02	Rock Springs Ranch	Junction City, KS	16	-	-
30 May 02	30 May 02	DuPage County Fairgrounds	Wheaton, IL	-	12	-
30 May 02	30 May 02	Jefferson High School	San Antonio, TX	32	-	-
04 Jun 02	04 Jun 02	Christa McAuliffe Planetarium	Concord, NH	6	-	-
04 Jun 02	04 Jun 02	Teshima Restaurant	Hanalo, HI	-	26	-
06 Jun 02	06 Jun 02	Woodford County Agricultural Extension Offices	Versailles, KY	18	-	-
08 Jun 02	08 Jun 02	Los Angeles County Office of Education	Downey, CA	57	-	-
11 Jun 02	11 Jun 02	Gheens Science Center and Rauch Planetarium	Louisville, KY	6	-	-
11 Jun 02	11 Jun 02	Gheens Science Center and Rauch Planetarium	Louisville, KY	6	-	-
11 Jun 02	11 Jun 02	University of Texas at El Paso	El Paso, TX	18		-
11 Jun 02	11 Jun 02	Wehr Nature Center	Franklin, WI	-	30	-
11 Jun 02	11 Jun 02	Wehr Nature Center	Franklin, WI	-	30	-
11 Jun 02	12 Jun 02	Berta Cabaza Middle School	San Benito, TX	8	-	-
12 Jun 02	12 Jun 02	Camp Shawnee	Prestonsburg, KY	-	90	-
13 Jun 02	13 Jun 02	Institution of Astronomy	Honolulu, HI	30	-	-
13 Jun 02	13 Jun 02	Lombardi Middle School	Green Bay, WI	10	-	-
13 Jun 02	13 Jun 02	Lombardi Middle School	Green Bay, WI	11	-	-
13 Jun 02	13 Jun 02	Planetary Data Center	Honolulu, HI	5	5	-
13 Jun 02	20 Jun 02	Millcreek Education Center	Erie, PA	70		-
13 Jun 02	20 Jun 02	Millcreek Elementary School	Erie, PA	35	35	-
15 Jun 02	15 Jun 02	Cernan Earth and Space Center	River Grove, IL	-	40	-
17 Jun 02	17 Jun 02	Institute for Astronomy	Hilo, HI	28	-	-
17 Jun 02	21 Jun 02	West Milwaukee Middle School	Milwaukee, WI	7	-	-
18 Jun 02	18 Jun 02	Prestonsburg Community College	Prestonsburg, KY	2	1	-
18 Jun 02	18 Jun 02	Prestonsburg Community College	Prestonsburg, KY	2	1	-
19 Jun 02	19 Jun 02	Weaver High School	Hartford, CT	42	2	-
24 Jun 02	28 Jun 02	Amery High School	Amery, WI	18	-	-
26 Jun 02	26 Jun 02	Milwaukee Public Schools	Milwaukee, WI	12	-	-
27 Jun 02	27 Jun 02	Milwaukee Public Schools	Milwaukee, WI	12	-	-
28 Jun 02	28 Jun 02	Boynton Beach Community High School	Boynton Beach, FL	-	1,500	-
28 Jun 02	28 Jun 02	Cernan Earth and Space Center	River Grove, IL	3	-	-
07 Jul 02	07 Jul 02	Tan-Tar-A Resort	Osage Beach, MO	41	-	-
07 Jul 02	12 Jul 02	Rainwater Observatory and Planetarium	French Camp, MS	9	3	-
08 Jul 02	12 Jul 02	Bay Port High School	Howard, WI	32	-	-
08 Jul 02	12 Jul 02	Bay Port High School	Howard, WI	32	-	-
10 Jul 02	10 Jul 02	University of Texas at El Paso	El Paso, TX	20	-	-
15 Jul 02	19 Jul 02	Minnesota University	Minneapolis, MN	15	-	-
22 Jul 02	26 Jul 02	Northwestern High School	Detroit, MI	21	-	-
22 Jul 02	29 Jul 02	Oregon High School	Oregon, WI	22	2	-
24 Jul 02	24 Jul 02	Northeastern State University	Broken Arrow, OK	9	-	-
25 Jul 02	25 Jul 02	Hardin Planetarium	Bowling Green, KY	19	4	-
25 Jul 02	25 Jul 02	Hardin Planetarium	Bowling Green, KY	19	5	-

29 Jul 02	02 Aug 02	Onalaska High School	La Crosse, WI	14	28	-
05 Aug 02	06 Aug 02	Wisconsin Parkside University	Racine, WI	45	-	-
12 Aug 02	12 Aug 02	Mid-Continent Public Library	Liberty, MO	25	15	-
15 Aug 02	15 Aug 02	Annie S. Putegnat Elementary	Brownsville, TX	15	-	-
20 Aug 02	20 Aug 02	Milwaukee Public Schools	Milwaukee, WI	22	-	-
22 Aug 02	22 Aug 02	Milwaukee Public Schools	Milwaukee, WI	23	-	-
28 Aug 02	28 Aug 02	Danbury Public Schools	Danbury, CT	15	-	-
07 Sep 02	07 Sep 02	Independence School District	Independence, MO	15	300	-
11 Sep 02	11 Sep 02	Challenger Center	Chattanooga, TN	35	-	-
26 Sep 02	26 Sep 02	Boynton Beach Community High School	Boynton Beach, FL	75	-	-
19 Oct 02	19 Oct 02	Eastern Washington University	Cheney, WA	30	-	-
20 Oct 02	10 Oct 02	New Mexico Museum of Space History	Alamogordo, NM	7	-	-
21 Oct 02	21 Oct 02	Eastern Washington University	Cheney, WA	40	-	-
23 Oct 02	23 Oct 02	Eastern Washington University	Cheney, WA	40	-	-
26 Oct 02	27 Oct 02	National Solar Observatory	Sunspot, NM	22	-	-
11 Nov 02	11 Nov 02	Boynton Beach Community High School	Boynton Beach, FL	10	-	-
15 Nov 02	15 Nov 02	Myrtle Beach Convention Center	Myrtle Beach, SC	69	-	-
07 Dec 02	07 Dec 02	New Mexico Museum of Space History	Alamogordo, NM	7	-	-

A208. Solar Terrestrial Probes (STP) Educational Programs and Workshops

Theme(s): SEC

Msn/Prgm(s): STP[B114]

Description: As a critical part of the overall STP Program Office education and public outreach (E/PO) effort, educational program development incorporates national standards and provides educators with the resources necessary for curriculum enhancement for grades K-16. Such programs include partnerships with STP scientists, scientists from colleges and universities, and E/PO personnel from museums and science centers. They develop and demonstrate hands-on, inquiry-based activities and lessons with a cross-disciplinary approach to education.

Lead: Ms. Barbara Lambert, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *Barbara.J.Lambert.1@gsfc.nasa.gov.* Phone: 301-286-1275.

Primary URL: *http://stp.gsfc.nasa.gov*

2nd URL: *http://lws.gsfc.nasa.gov*

Scientist(s):

Dr. Yasmine Detres	University of Puerto Rico at Mayagüez	Mayagüez, PR
Dr. Juan Gonzalez	University of Puerto Rico at Mayagüez	Mayagüez, PR
Ms. Barbara Lambert	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Elaine Lewis	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Art Poland	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Maria Schwarz	University of Puerto Rico at Mayagüez	Mayagüez, PR

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
04 Mar 02	09 Mar 02	University of Puerto Rico at Mayagüez	Mayagüez, PR	50	-	-
09 Mar 02	09 Mar 02	University of Puerto Rico at Mayagüez	Mayagüez, PR	100	-	-
20 Apr 02	20 Apr 02	Prince George's Community College	Largo, MD	148	-	-
24 Apr 02	24 Apr 02	NASA Goddard Space Flight Center	Greenbelt, MD	25	-	-
24 Jun 02	28 Jun 02	University of Puerto Rico at Mayagüez	Mayagüez, PR	25	-	-
08 Jul 02	12 Jul 02	NASA Goddard Space Flight Center	Greenbelt, MD	8	-	-

A209. Space Science for Illinois/Indiana Teachers

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): DePaul B/F[B15]

Description: The major goal of Space Science for Illinois Teachers, a 2-week professional development program, is to bring together local space scientists and teachers so that each will benefit from the experiences of the others. One objective is to strengthen teachers' abilities in science instruction and curriculum design. Another is to continue the development of a cadre of teacher-leaders who can connect space science resources to their school systems and partner with space scientists and educators in the development of space science educational

products. The group of scientists, teachers, and educators spent 1 week at Yerkes Observatory and 1 week at DePaul University, engaging in science presentations, small group follow-up discussions, hands-on activities, and archival research. Teachers will incorporate results from the program into their 2002-2003 classrooms and will plan a space science fair for their students that will take place at DePaul University in the spring of 2003.

Lead: Dr. Lynn Narasimhan, DePaul University, Chicago, IL 60604.
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Contact: Ms. Karen Cullen, DePaul University, Chicago, IL 60604.
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Scientist(s):	Dr. Bernhard Beck-Winchatz	DePaul University	Chicago, IL
	Dr. Kyle Cudworth	University of Chicago	Chicago, IL
	Dr. Doyal Harper	University of Chicago	Chicago, IL
	Dr. Richard Kron	University of Chicago	Chicago, IL
Partner(s):	Yerkes Observatory		Williams Bay, WI

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
22 Oct 01	22 Oct 01	Bosse High School	Evansville, IN	65	-	-
25 Feb 02	25 Feb 02	Floyd Central High School	Floyds Knobs, IN	44	-	-
22 Jun 02	22 Jun 02	DePaul University	Chicago, IL	22	-	-
08 Jul 02	19 Jul 02	DePaul University	Chicago, IL	23	-	-

A210. Space Science Workshops for Educators

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SSE Forum[B12], SECEF[B14], SSI B/F[B20], NAI[B35], Cassini/Huygens Probe[B37], JPL SSE Theme[B39], Mars E/PO[B48], 2001 Mars Odyssey[B49]

Description: The Space Science Institute (SSI) delivers workshops (1 hour to 1 week in duration) for classroom, outdoor, and museum educators who wish to use Sun-Earth connections (e.g. eclipses, space weather), planetary science (e.g., Mars and Saturn), astrobiology, and basic astronomy as engaging contexts for learning age-appropriate, standards-based concepts in science and mathematics. SSI workshops generally include background science content, inquiry-based pedagogy, and hands-on practice with exemplary lesson plans. Workshops often combine science education with an artistic dimension, such as music, movement, poetry, or visual art, and in this way, they endeavor to address diverse ways of knowing and learning. SSI educator workshops have been offered at a variety of venues for both formal and informal educators, including professional society meetings, science education conferences, conferences for outdoor educators, community events, and host sites of SSI's traveling science exhibits ("MarsQuest" and the "Space Weather Center"). SSI also provides space science education training for troop leaders of the Girl Scouts Mile - Hi Council and for the Astronomical Society of the Pacific's Project ASTRO site leaders. SSI is currently working through its Broker/Facilitator program to help identify and create standards-based professional development opportunities for Native American and Chicano educators.

Lead: Dr. Cherilynn Morrow, Space Science Institute, Boulder, CO 80303-1058.
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Scientist(s):	Dr. Steele Hill	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Sheri Klug	Arizona State University	Tempe, AZ
	Dr. Ramon Lopez	University of Texas at El Paso	El Paso, TX
	Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
	Dr. Stephen Pompea	Pompea & Associates	Tucson, AZ
	Dr. Steve Ruff	Arizona State University	Tempe, AZ
	Dr. Seth Shostak	SETI Institute	Mountain View, CA
	Dr. Timothy Slater	University of Arizona	Tucson, AZ
	Ms. Anita Sohus	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Paul Tartabini	NASA Langley Research Center	Hampton, VA
	Dr. Niescja Turner	University of Texas at El Paso	El Paso, TX
Partner(s):	Arizona State University		Tempe, AZ
	Astronomical Society of the Pacific (ASP)		San Francisco, CA
	Colorado Outward Bound School		Golden, CO
	NASA Goddard Space Flight Center		Greenbelt, MD
	University of Arizona		Tucson, AZ

	University of Colorado at Boulder	Boulder, CO
	University of Texas at El Paso	El Paso, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
04 Oct 01	07 Oct 01	Western Alliance Conference of Planetarium Associations	Eugene, OR	20	-	-
06 Oct 01	09 Oct 01	Association of Science-Technology Centers (ASTC) Conference	Phoenix, AZ	-	150	-
11 Oct 01	11 Oct 01	Denver Museum of Nature and Science	Denver, CO	20	-	-
25 Oct 01	25 Oct 01	National Science Teachers Association (NSTA) Western Area Convention	Salt Lake City, UT	32	-	-
10 Nov 01	10 Nov 01	Girl Scouts - Mile Hi Council	Denver, CO	13	-	-
01 Feb 02	02 Feb 02	Virginia Air and Space Museum	Hampton, VA	20	-	-
01 Mar 02	03 Mar 02	Insights El Paso Science Museum	El Paso, TX	48	174	-
11 Mar 02	11 Mar 02	Wyoming State Science Fair	Laramie, WY	20	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	10	-
12 Apr 02	14 Apr 02	Association for Experiential Education Rocky Mountain Regional Conference	Prescott, AZ	30	-	-
26 Apr 02	28 Apr 02	Astronomical Society of the Pacific (ASP)	San Francisco, CA	20	-	-
04 May 02	04 May 02	Colorado Alliance for Environmental Education	Aurora, CO	12	-	-
11 May 02	11 May 02	Girl Scouts - Mile Hi Council	Denver, CO	12	-	-
14 May 02	14 May 02	Peggy Notebaert Nature Museum	Chicago, IL	40	-	-
22 Jul 02	22 Jul 02	United States Space Foundation	Colorado Springs, CO	30	10	-
28 Jul 02	01 Aug 02	International Planetarium Society Conference	Wichita, KS	35	-	-

A211. Stardust Formal Education

Theme(s): SSE

Msn/Prgm(s): Stardust[B47]

Description: The Stardust education plan is based on "Goals 2000" from the Department of the Education, the "Partners in Education: A Strategy for Integrating Education and Public Outreach into NASA's Space Science." This document explains Stardust's innovative operating principles and goals for integrating all NASA programs into the education and outreach program. It is important for NASA as a whole to develop educational opportunities for students at all levels. However, smaller missions, such as the Discovery missions, must limit the extent of their focus. In this way, a mission can shrewdly apply limited resources while reaching one age group expertly. Stardust has narrowed its scope of opportunity and has prepared a concise, focused outreach plan. In agreement with this philosophy and in conjunction with leaders in national education, the Stardust program will concentrate on students in grades 3-8. As the mission develops, curricula maybe developed to extend Stardust into high school education. The aims of the Stardust education activities are 1) to reach students before career choices are made and perceptions of capabilities are cemented (to do this, the Stardust education program will focus primarily on grades 3-8), 2) to excite students in the space sciences, engineering, and technology by way of interactive learning via the numerous education and industry partnerships, and 3) to produce a long-term learning process (that lasts beyond the duration of the Stardust mission) in which the students hand down information to other students throughout the years.

Lead: Ms. Aimee Whalen, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *aimee.l.whalen@jpl.nasa.gov.* Phone: 818-354-3245.

Primary URL: *http://stardust*

2nd URL: *http://stardust.jpl.nasa.gov/classroom*

Scientist(s):	Dr. Allan Cheuvront	Lockheed Martin Space Systems	Littleton, CO
	Mr. Steven Jones	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Kristina Pomeroy	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Aimee Whalen	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
24 Aug 01	24 Aug 01	Western Colorado Math and Science Center	Grand Junction, CO	92	-	-

01 Oct 01	01 Oct 02	Pennsylvania Department of Conservation and Natural Resources	Lehighton, PA	6,000	-	-
23 Oct 01	23 Oct 02	Alabama Aerospace Teachers Association	Jacksonville, AL	1,340	-	-
10 Mar 02	10 Mar 02	Talbot Elementary School	Gainesville, FL	51	-	-
15 Mar 02	21 Mar 02	Western Colorado Museum	Grand Junction, CO	222	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	250	-	-
01 Apr 02	07 Apr 02	United States Space Foundation	Colorado Springs, CO	68	-	-
07 May 02	07 May 02	Burlington High School	Burlington, MA	21	-	-
01 Jun 02	01 Jun 03	Franklin Institute Science Museum	Philadelphia, PA	50	-	-
12 Jun 02	15 Jun 02	Institute for Astronomy	Hilo, HI	65	-	-
01 Aug 02	01 Aug 02	Western Colorado Museum	Grand Junction, CO	53	-	-
11 Aug 02	12 Aug 02	Western Colorado Math and Science Center	Grand Junction, CO	182	-	-
11 Aug 02	08 Sep 02	Western Colorado Museum	Grand Junction, CO	384	-	-
01 Sep 02	01 Sep 02	Lakeland School District	Rathdrum, ID	193	-	-
15 Sep 02	15 Sep 02	Alice V. Hedden Elementary School	Edgewood, WA	469	-	-
20 Sep 22	20 Sep 02	Discovery Primary School	Milton, WA	320	-	-

A212. STARLAB Portable Planetarium Training

Theme(s): SSE

Msn/Prgm(s): SERCH B/F[B19]

Description: Bring the night sky into your classroom with the STARLAB Portable Planetarium System! Science teachers for grades 4-8 who take this 1-day workshop can reserve the inflatable planetarium for use at their schools. Training will include instruction and practice in the set-up, simple maintenance, operation, and breakdown of the planeatarium. The training will be aligned with South Carolina's science standards. The content and activities for grade 4 will be based on GEMS Earth, Moon and Stars materials. The content and activities for grade 8 will be based on FOSS Planetary Science Kit. Tips on managing students as they enter and leave the planetarium will be given. There will also be discussions with and advice given from teachers who have already used STARLAB in their classes.

Lead: Ms. Kathryn Guimond, College of Charleston, Charleston, SC 29424.
E-mail: *serch@cofc.edu.* Phone: 843-953-5437.

Partner(s): Lowcountry Hall of Science and Math Charleston, SC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Feb 02	02 Feb 02	Lowcountry Hall of Science and Math	Charleston, SC	21	-	-

A213. STEREO/IMPACT Formal Education Teacher Inservice Preparation

Theme(s): SEC

Msn/Prgm(s): SECEF[B14], RHESSI[B101], STEREO[B117]

Description: STEREO/IMPACT education and public outreach (E/PO) participates in the Sun-Earth Connection Education Forum-sponsored workshops that are designed to meet the needs of educators for all grade levels. We present these workshops to inservice educators to teach them the most recent and relevant discoveries about the Sun and STEREO/IMPACT science, which they will then teach in their classrooms. Mission scientists participate in the workshops to share the science content. Education specialists provide integrated hands-on activities to demonstrate science application in the classroom.

Lead: Dr. Nahide Craig, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

Contact: Dr. Bryan Mendez, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *bmendez@ssl.berkeley.edu.* Phone: 510-643-2178.

A214. STEREO/PLASTIC Interactive Workshops

Theme(s): SEC

Msn/Prgm(s): STEREO[B117]

Description: The University of New Hampshire (UNH) in conjunction with the New Hampshire Space Grant Consortium (NHSGC) conducts teacher workshops to promote professional development for both inservice and preservice educators through engaging, hands-on experiences. Education professionals, scientists, and engineers provide

the format and educational tools necessary to create the perfect learning environment that can be emulated in classrooms across the State. NASA materials are utilized to promote Sun-Earth connection (SEC) science.

Lead: Dr. Antoinette Galvin, University of New Hampshire, Durham, NH 03824.
E-mail: *Toni.Galvin@unh.edu.* Phone: 603-929-9920.

Primary URL: *http://stp.gsfc.nasa.gov*

Scientist(s): Ms. Eleanor Abrams — University of New Hampshire — Durham, NH
Dr. Antoinette (Toni) Galvin — University of New Hampshire — Durham, NH

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
24 Jun 02	28 Jun 02	University of New Hampshire	Durham, NH	18	-	-

A215. Stratospheric Observatory for Infrared Astronomy (SOFIA) Exhibit at Conferences

Theme(s): ASO

Msn/Prgm(s): SOFIA[B25]

Description: The SOFIA Education and Outreach program coexhibits with complementary education programs of the SETI Institute at regional and national conferences for science teachers and at planetarium and science center organizations. The SOFIA exhibit consists of an infrared camera demonstration that is staffed throughout the meeting, literature on the education and science programs of SOFIA, and knowledgeable staff who answer questions and interact with visitors.

Lead: Ms. Edna DeVore, SETI Institute, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.

Contact: Ms. Pamela Harman, SETI Institute, Mountain View, CA 94043.
E-mail: *pharman@seti.org.* Phone: 650-960-4523.

Primary URL: *http://sofia.arc.nasa.gov/Edu/calendar/edu_calendar.html*

Scientist(s): Dr. Michael Bennett — Astronomical Society of the Pacific (ASP) — San Francisco, CA
Ms. Edna DeVore — SETI Institute — Mountain View, CA

Partner(s): Astronomical Society of the Pacific (ASP) — San Francisco, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
06 Oct 01	09 Oct 01	Association of Science-Technology Centers (ASTC) Conference	Phoenix, AZ	300	-	-
25 Oct 01	27 Oct 01	California Science Teachers Association Meeting	Palm Springs, CA	1,500	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	2,000	-	-

A216. Structure and Evolution of the Universe (SEU) Educator Workshops

Theme(s): SEU

Msn/Prgm(s): SEU Forum[B13], CXO[B67], GLAST[B70], GP-B[B71], CHIPS[B75], HETE-2[B78], MAP[B79], RXTE[B80], Swift[B83], HEASARC[B86], XMM-Newton[B94]

Description: The SEU Forum supports and participates in educator workshops that introduce formal and informal educators to NASA space science, relative to the SEU theme. Topics include size and scale, multiwavelength astronomy, and detecting change over time.

Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

Scientist(s): Ms. Mary Dussault — Harvard-Smithsonian Center for Astrophysics — Cambridge, MA
Dr. Irene Porro — Massachusetts Institute of Technology — Cambridge, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
06 Oct 01	09 Oct 01	Association of Science-Technology Centers (ASTC) Conference	Phoenix, AZ	50	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	40	-

A217. Structure and Evolution of the Universe (SEU) in the Classroom

Theme(s): SEU
Msn/Prgm(s): SEU Forum[B13]
Description: The SEU Forum developed several units to use in the classroom for the teaching of astronomy concepts.
Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

Scientist(s):			
	Ms. Judith Peritz	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Ms. Erika Reinfeld	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Simon Steel	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
17 Jun 02	17 Jun 02	Agassiz Elementary School	Cambridge, MA	27	-	-
25 Jul 02	25 Jul 02	Baldwin School of Cambridge	Cambridge, MA	146	-	-
27 Aug 02	27 Aug 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	54	-	-

A218. Students United with NASA Becoming Enthusiastic About Math and Science (SUNBEAMS)

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): RHESSI[B101]
Description: SUNBEAMS is an exciting and successful education partnership between NASA Goddard Space Flight Center (GSFC) and the District of Columbia Public Schools (DCPS) system. It continues to evolve. As a model urban-intervention program for sixth grade teachers and students, it empowers teachers and inspires students with the process and excitement of science and technology. Local teachers of sixth grade math and science are invited to come to GSFC for a 5-week paid internship during the summer. They are paired with a mentor from the GSFC scientific or technical staff. The teachers work with mentors in their professional research, much in the same way that summer students do. In addition, the teachers are responsible for developing lesson plans that they pilot at their schools and post on the SUNBEAMS Web site. These lesson plans are standards-based and are designed to give students an understanding of the methods used by GSFC scientists, engineers, and technicians to develop and operate scientific missions and space hardware. During the following school year, each SUNBEAMS teacher brings a class of up to 30 students to GSFC for a full week of immersion in math and science. The students also develop Web pages, describing experiences that can be shared with parents and other students in their schools. After their week at GSFC, the students plan a family night at their schools. The program for the evening is to share what they have learned and done with their families and other members of their school community. GSFC mentors are major participants. For more information, see the SUNBEAMS Web site.
Lead: Dr. Carol Jo Crannell, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *crannell@gsfc.nasa.gov.* Phone: 301-286-5007.
Primary URL: *http://space.gsfc.nasa.gov/sunbeams*

A219. Sun-Earth Connection Education Forum (SECEF) Conference Programs

Theme(s): SEC
Msn/Prgm(s): SECEF[B14], Ulysses[B96], Voyager[B97], ACE[B98], RHESSI[B101], IMAGE[B102], Polar[B111], SOHO[B112], Wind[B113], STP[B114], Solar-B[B116], STEREO[B117], TIMED[B118], LWS[B119]
Description: SECEF presents education and public outreach workshops and presentations at conferences. The workshops provide an opportunity to learn about the science and the opportunities available within the Forum. The content is presented by SEC scientists.
Lead: Ms. Carolyn Ng, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *cang@pop630.nasa.gsfc.gov.* Phone: 301-286-1359.
Primary URL: *http://sunearth.gsfc.nasa.gov/*

Scientist(s):			
	Ms. Meredith Bene	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Troy Cline	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Richard Crowe	University of Hawaii at Hilo	Hilo, HI
	Dr. Isabel Hawkins	University of California, Berkeley	Berkeley, CA
	Dr. Steele Hill	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Elaine Lewis	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD

Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
Dr. Paul Mortfield	Stanford University	Stanford, CA
Ms. Carolyn Ng	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Ruth Paglierani	University of California, Berkeley	Berkeley, CA
Ms. Gail Rohrbach	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Richard Shope	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. James Thieman	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
04 Nov 01	06 Nov 01	Science Teachers Association of New York State (STANYS) Conference	Ellenville, NY	-	950	-
15 Nov 01	18 Nov 01	American Indian Science and Engineering Society (AISES) Meeting	Albuquerque, NM	-	80	-
19 Jan 02	23 Jan 02	American Association of Physics Teachers (AAPT) Meeting	Philadelphia, PA	15	800	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	1,300	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	67	-	-
28 Jul 02	01 Aug 02	International Planetarium Society Conference	Wichita, KS	97	-	-

A220. Sun-Earth Connection Education Forum (SECEF) Preservice Teacher Education

Theme(s): SEC

Msn/Prgm(s): SECEF[B14]

Description: SECEF, a partnership between the University of California, Berkeley, and NASA Goddard Space Flight Center, has developed teacher education efforts to meet the needs of preservice educators for all grade levels. Scientists and education specialists present inquiry-oriented, age-appropriate activities and the most recent and relevant Sun-Earth connection science to a broad audience of future teachers—including undergraduate students and teaching credential candidates. These preservice teachers become active learners and improve both their content knowledge and pedagogy in Sun-Earth connection science. Preservice teacher education provides a unique opportunity to affect a significant number of teachers at the outset of their careers, when there is great potential for lasting results.

Lead: Dr. Greg Schultz, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *schultz@ssl.berkeley.edu.* Phone: 510-643-0012.

Primary URL: *http://sunearth.ssl.berkeley.edu*

2nd URL: *http://sunearth.gsfc.nasa.gov*

Scientist(s):	Dr. Adrienne Cool	San Francisco State University	San Francisco, CA
	Dr. Ellen Metzger	San Jose State University	San Jose, CA
	Dr. Kathleen O'Sullivan	San Francisco State University	San Francisco, CA
	Ms. Ruth Paglierani	University of California, Berkeley	Berkeley, CA
	Dr. Isabel Quita	San Francisco State University	San Francisco, CA
	Dr. Greg Schultz	University of California, Berkeley	Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	San Francisco State University	San Francisco, CA	60	-	-
01 Oct 01	30 Sep 02	San Jose State University	San Jose, CA	30	-	-
26 Nov 01	26 Nov 01	San Francisco State University	San Francisco, CA	25	-	-
28 Nov 01	28 Nov 01	San Francisco State University	San Francisco, CA	25	-	-
14 Mar 02	14 Mar 02	San Francisco State University	San Francisco, CA	20	-	-
02 Apr 02	02 Apr 02	San Francisco State University	San Francisco, CA	25	-	-
04 Apr 02	04 Apr 02	San Francisco State University	San Francisco, CA	25	-	-
10 Apr 02	10 Apr 02	San Francisco State University	San Francisco, CA	25	-	-
03 Jul 02	03 Jul 02	San Francisco State University	San Francisco, CA	25	-	-

A221. Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers

Theme(s): SEC

Msn/Prgm(s): SECEF[B14], Ulysses[B96], Voyager[B97], IMAGE[B102], SOHO[B112], STP[B114], TIMED[B118], LWS[B119]

Description: SECEF, a partnership between the Univeristy of California, Berkeley, and NASA Goddard Space Flight Center, has created professional development workshops to meet the needs of educators for all grade levels. We present these inquiry-oriented workshops to inservice educators to teach them about the most recent and relevant Sun-Earth connection discoveries, missions, and research, which they will then be able to integrate into their classroom curriculum and instruction. Mission scientists participate in the workshops to share the most current science content. Education specialists provide age-appropriate lessons, as well as integrated hands-on activities to demonstrate science application in the classroom. Workshop participants become active teacher-learners and improve both their content knowledge and pedagogy in Sun-Earth connection science.

Lead: Ms. Elaine Lewis, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lewis@mail630.gsfc.nasa.gov.* Phone: 301-286-3337.

Contact: Dr. Greg Schultz, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *schultz@ssl.berkeley.edu.* Phone: 510-643-0012.

Primary URL: *http://sunearth.gsfc.nasa.gov*

2nd URL: *http://sunearth.ssl.berkeley.edu*

Scientist(s):

Dr. John Beck	Stanford University	Stanford, CA
Dr. Ben Burress	Chabot Space and Science Center	Oakland, CA
Mr. Tom Clausen	NASA Ames Research Center	Moffett Field, CA
Mr. Troy Cline	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Nahide Craig	University of California, Berkeley	Berkeley, CA
Dr. Nicola Fox	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Isabel Hawkins	University of California, Berkeley	Berkeley, CA
Ms. Barbara Lambert	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Elaine Lewis	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Louis Mayo	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Bryan Mendez	University of California, Berkeley	Berkeley, CA
Dr. Ellen Metzger	San Jose State University	San Jose, CA
Dr. Paul Mortfield	Stanford University	Stanford, CA
Dr. Kathleen O'Sullivan	San Francisco State University	San Francisco, CA
Ms. Ruth Paglierani	University of California, Berkeley	Berkeley, CA
Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Greg Schultz	University of California, Berkeley	Berkeley, CA
Dr. Richard Sedlock	San Jose State University	San Jose, CA
Dr. James Thieman	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Oct 01	27 Oct 01	Pima County Community College	Tucson, AZ	40	-	-
24 Apr 02	24 Apr 02	NASA Goddard Space Flight Center	Greenbelt, MD	25	-	-
11 May 02	11 May 02	San Francisco State University	San Francisco, CA	4	-	-
18 Jun 02	18 Jun 02	Maryland Science Center	Baltimore, MD	22	-	-
24 Jun 02	24 Jun 02	NASA Ames Research Center	Moffett Field, CA	50	-	-
25 Jun 02	25 Jun 02	San Mateo County Office of Education	Redwood City, CA	25	-	-
26 Jun 02	26 Jun 02	Chabot Space and Science Center	Oakland, CA	25	-	-
27 Jun 02	27 Jun 02	San Mateo County Office of Education	Redwood City, CA	25	-	-
28 Jun 02	28 Jun 02	University of California, Berkeley	Berkeley, CA	25	-	-
08 Jul 02	12 Jul 02	Arizona State University	Tempe, AZ	125	-	-
25 Jul 02	25 Jul 02	NASA Goddard Space Flight Center	Greenbelt, MD	20	-	-
26 Jul 02	26 Jul 02	NASA Goddard Space Flight Center	Greenbelt, MD	25	-	-
29 Jul 02	30 Jul 02	San Jose State University	San Jose, CA	24	-	-
16 Aug 02	16 Aug 02	San Mateo County Office of Education	Redwood City, CA	20	-	-
21 Sep 02	21 Sep 02	San Jose State University	San Jose, CA	24	-	-
28 Sep 02	28 Sep 02	San Jose State University	San Jose, CA	24	-	-

A222. Teacher Interns Explore Solar Terrestrial Probes (STP)

Theme(s): SEC

Msn/Prgm(s): STP[B114]

Description: Teacher internships, sponsored by the STP Program Office, are conducted at the NASA Goddard Space Flight Center (GSFC) and encourage the collaboration of teachers with varied backgrounds and experiences to develop educational products for curriculum enhancement. These internships also promote professional growth in a specific content area. The STP program utilizes the existing infrastructure of the GSFC Education Office for the selection of some teacher interns.

Lead: Ms. Barbara Lambert, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *Barbara.J.Lambert.1@gsfc.nasa.gov.* Phone: 301-286-1275.

Primary URL: *http://stp.gsfc.nasa.gov*

Scientist(s):		
Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Ms. Barbara Lambert	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Elaine Lewis	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Donald Michels	Naval Research Laboratory	Washington, DC
Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Elsayed Talaat	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
24 Jun 02	10 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	4	-	-

A223. "The Elements" Educator Workshop

Theme(s): SEC

Msn/Prgm(s): HEASARC[B86], INTEGRAL[B89]

Description: "The Elements" educator workshop brought together 11 teachers from the East Coast, Canada, and Italy to learn about the cosmic origin of the elements. Scientists from the NASA Goddard Space Flight Center Laboratory for High-Energy Astrophysics described how the Big Bang, small stars, large stars, supernovas, cosmic rays, and radioactivity build the elements through a variety of processes. Participants engaged in activities that are designed to emphasize the scientific process. They also initiated the development of classroom activities for upper middle school and high school students that utilized the material covered. Participants also provided feedback on a new poster, currently under development, which encapsulates the material. Participants continued to work on their activities with plans to reconvene in November 2002.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

Primary URL: *http://imagine.gsfc.nasa.gov*

Scientist(s):		
Mr. Michael Arida	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Patricia Boyd	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Eric Christian	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Georgia DeNolfo	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Koji Mukai	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Gail Rohrbach	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Chris Shrader	NASA Goddard Space Flight Center	Greenbelt, MD

Partner(s): New Curiosity Shop — Bethesda, MD

Event(s):

Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Aug 02	09 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	11	-	-

A224. "The Extremities: Geology and Life in Yellowstone and Implications for Other Worlds"

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: In the summer of 2002, a team of teachers, geologists, planetary scientists, and astrobiologists was in Yellowstone National Park to investigate microbial communities that are thought to be modern analogs of

some of the earliest life on Earth. "The Extremities: Geology and Life in Yellowstone and Implications for Other Worlds" is a fieldtrip and workshop for teachers sponsored by the Lunar and Planetary Institute, the NASA Office of Space Science Broker/Facilitators, the NASA Ames Research Center Astrobiology Team, and the NASA Space Grant Consortia. The program focused on field experiences with the researchers and was complemented by classroom and laboratory activities at Montana State University.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Catherine Tsairides, NASA Ames Research Center, Moffett Field, CA 94035-1000.
E-mail: *ctsairides@mail.arc.nasa.gov.* Phone: 650-604-0808.

Partner(s): Lunar and Planetary Institute — Houston, TX

A225. The Invisible Universe Online: The Search for Astronomical Origins for Teachers

Theme(s): ASO

Msn/Prgm(s): SIRTF[B24], SOFIA[B25]

Description: The Stratospheric Observatory for Infrared Astronomy (SOFIA) and the Space Infrared Telescope Facility (SIRTF) education and public outreach programs cosponsored the development and the first-semester pilot test of this graduate-level, professional-development course for teachers. The purpose of the course is to provide standards-based professional development for inservice classroom science teachers. As SOFIA moves toward training teachers to participate in the Airborne Astronomy Ambassadors program and SIRTF moves toward launch and further education outreach to teachers, this course is seen as content-based preparation for classroom science teachers to improve their overall understanding of the current astronomical research to be conducted by SOFIA, SIRTF, and other infrared missions. After 28 teachers successfully completed the online course (of the 29 originally enrolled), they provided a thorough, formal evaluation and conducted complementary classroom activities in their schools as a part of the course. Credit was provided via Montana State University at Bozeman; the instructors of record are Dr. Timothy Slater and John Keller, a Ph.D. candidate at the University of Arizona, Tucson.

Lead: Ms. Edna DeVore, SETI Institute, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.

Contact: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.

Primary URL: *http://btc.montana.edu/nten/spring02_cours/phys580_text.shtml*

Scientist(s):		
Dr. Michael Bennett	Astronomical Society of the Pacific (ASP)	San Francisco, CA
Ms. Edna DeVore	SETI Institute	Mountain View, CA
Mr. John Keller	University of Arizona	Tucson, AZ
Mr. Edward Prather	University of Arizona	Tucson, AZ
Dr. Timothy Slater	University of Arizona	Tucson, AZ
Dr. Michelle Thaller	SIRTF Science Center/ California Institute of Technology	Pasadena, CA

Partner(s): Montana State University — Bozeman, MT

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
22 Jan 02	03 May 02	Montana State University	Bozeman, MT	27	-	-

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A226. TIMED Teacher Support

Theme(s): SEC

Msn/Prgm(s): TIMED[B118]

Description: The Thermosphere Ionosphere Mesosphere Energetics and Dynamics (TIMED) education and public outreach (E/PO) office helped scientists, engineers, and other team members become involved in the E/PO efforts by providing opportunities for teacher training. The E/PO office coordinated the training events and provided the resources necessary for the team members to participate in these prearranged teacher training events. Team members led discussions and activities, provided demonstrations, and conducted classroom activities related to the TIMED mission. These efforts supported State, local, and national efforts directed toward the systemic reform of science, mathematics, and technology education. Also, these training activities were based on the criteria contained in national mathematics, science, and technology standards. Teacher training was also conducted by some of our E/PO partners, such as the Maryland Science Center, during SpaceLink's Teacher Thursday events. These were high-leverage teacher training opportunities that were built upon existing pro-

grams, institutions, and infrastructure.

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.

Primary URL: *http://www.timed.jhuapl.edu/*

2nd URL: *http://www.mdsci.org/exhibits/spacelink/index.cfm*

Scientist(s):

Mr. Glen Baer	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Bill Knopf	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Elsayed Talaat	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Sam Yee	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
21 Feb 02	21 Feb 02	Maryland Science Center	Baltimore, MD	10	-	-
15 Mar 02	15 Mar 02	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	20	-	-

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A227. "Touch the Sun" Teacher Workshop

Theme(s): SEC

Msn/Prgm(s): Solar-B[B116]

Description: "Touch the Sun" explores an experiment-based curriculum designed to excite students' interest in science with hands-on activities in designing, building, and collecting/analyzing data with six different Sun- and light-observing instruments. The activities emphasize the impact of design and material choices on the accuracy and repeatability of measurements, as well as a lessons-learned approach to improving students' instrument design and/or measurement technique. The activities culminate in a meaningful and interesting scientific result from the students' direct measurements of the Sun and light. The six observational activities include the use of 1) a sundial for tracking the Sun's motion, determining the time of true local noon, and for pinpointing the observer's geographic location, 2) a pinhole camera for measuring the physical diameter of the Sun (given the distance from Earth to the Sun), 3) an activity for tracking the motion of sunspots and determining their physical speed and the Sun's rate of rotation, 4) a spectroscope for recording and comparing spectra of different light sources, 5) a polarimeter for detecting and making quantitative measurements of the polarization of light from different sources, and 6) a color filter and bandpass activity for characterizing color filters and constructing a custom filter with the desired bandpass characteristics. A seventh activity was developed around the theme of satellite/spacecraft engineering, using the Solar-B spacecraft mission as an example. This activity, called the Shoebox Satellite, provides students with the challenge of designing and constructing a structure that will 1) protect a cube of ice from melting under the hot Sun (thermal engineering) and 2) protect an egg from damage when dropped from a height of at least 25 feet over a hard surface (mechanical engineering). The workshop activities are aligned with national and California State educational science content standards.

Lead: Mr. Benjamin Burress, Chabot Space and Science Center, Oakland, CA 94619.
E-mail: *bburress@chabotspace.org.* Phone: 510-336-7308.

Primary URL: *http://www.chabotspace.org/vsc/exhibits/solarb/default.asp*

Scientist(s):

Dr. Gibor Basri	University of California, Berkeley	Berkeley, CA
Dr. Michelle Larson	University of California, Berkeley	Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
17 Jul 02	19 Jul 02	Chabot Space and Science Center	Oakland, CA	7	-	-

A228. Two Wide-angle Imaging Neutral Atom Spectrometers (TWINS) Teacher Training Program

Theme(s): SEC

Msn/Prgm(s): IMAGE[B102], TWINS[B107]

Description: The TWINS teacher training program is based on teacher workshops, in which K-14 teachers spend several weeks at Los Alamos National laboratory, learning space science from lab scientists and developing methods and materials for teaching this science to their students. This program is run through the Los Alamos Space Science Outreach (LASSO) project. The program is designed to provide hands-on space science training to teachers as well as assistance in developing lesson plans for their use in the classroom. The program supports an instructional model based on education research and cognitive theory. Students and teachers engage in activities that encourage critical thinking and a constructivist approach to learning. LASSO is run through the Los Alamos Science Education Team, ensuring that the teacher workshop program is grounded in sound pedagogical methods and meets current educational standards.

Lead: Dr. Ruth Skoug, Los Alamos National Laboratory, Los Alamos, NM 87545.
E-mail: *rskoug@lanl.gov.* Phone: 505-667-6594.

Primary URL: *http://nis-www.lanl.gov/nis-projects/twins/*

2nd URL: *http://set.lanl.gov/programs/lasso/lassomain.htm*

Scientist(s):

Dr. Frank Ameduri	Los Alamos National Laboratory	Los Alamos, NM
Mr. Philip Barker	Los Alamos National Laboratory	Los Alamos, NM
Mr. Joseph Borovsky	Los Alamos National Laboratory	Los Alamos, NM
Dr. Dot Delapp	Los Alamos National Laboratory	Los Alamos, NM
Dr. Eric Dors	Los Alamos National Laboratory	Los Alamos, NM
Dr. Peter Gary	Los Alamos National Laboratory	Los Alamos, NM
Dr. Stefanie Lawson	Los Alamos National Laboratory	Los Alamos, NM
Dr. Dan Reisenfeld	Los Alamos National Laboratory	Los Alamos, NM
Dr. Ruth Skoug	Los Alamos National Laboratory	Los Alamos, NM
Dr. John Steinberg	Los Alamos National Laboratory	Los Alamos, NM
Dr. Michelle Thomsen	Los Alamos National Laboratory	Los Alamos, NM
Dr. Roger Wiens	Los Alamos National Laboratory	Los Alamos, NM

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
08 Jul 02	08 Aug 02	Los Alamos National Laboratory	Los Alamos, NM	7	-	-

A229. "Waves Light Up The Universe!" Teacher Workshops

Theme(s): SEU

Msn/Prgm(s): CXO[B67], GLAST[B70], Swift[B83]

Description: The Swift teacher workshops (with contributions from other structure and evoloution of the Universe missions) provide teachers with access to NASA information and materials that promote science and mathematics in the classroom. Teacher workshops have been developed to promote inquiry into the origin and structure of the Universe and to explore the fundamental relationship between energy and matter. Topics covered in the workshops vary from event to event and may include an emphasis in one or more of the following areas: the electromagnetic spectrum, the gamma-ray Universe, gamma-ray sources, gamma-ray bursts, and black holes. The workshops provide teachers with preparation and enhancement that translates into the classroom, emphasizing concepts that are included in National Math and Physical Science Content Standards A, B, and D for grades 7-12. Swift education and public outreach team members interact with and disseminate Swift curricular materials via workshops and conferences at the national, State, and local levels. These workshops also provide teachers with opportunities to provide feedback about activities, subject areas, and the materials presented. Feedback includes oral and written responses that address the relevance, usefulness, and practicality of the issues addressed in the workshop, as they may relate to the classroom.

Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.

Contact: Dr. Phil Plait, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *phil@universe.sonoma.edu.* Phone: 707-664-2190.

Primary URL: *http://swift.sonoma.edu*

2nd URL: *http://swift.sonoma.edu/program.html*

Scientist(s): Dr. Neil Brandt — Pennsylvania State University — University Park, PA

Dr. Eric Feigelson	Pennsylvania State University	University Park, PA
Ms. Carolyn Ng	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Sten Odenwald	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Laura Whitlock	Sonoma State University	Rohnert Park, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Oct 01	27 Oct 01	California Science Teachers Association Meeting	Palm Springs, CA	135	-	-
29 Nov 01	01 Dec 01	California Mathematics Council	Asilomar, CA	32	-	-
04 Dec 01	06 Dec 01	National Science Teachers Association (NSTA) Southern Area Convention	Memphis, TN	20	-	-
25 Jan 02	26 Jan 02	Stanislaus County Office of Education	Modesto, CA	67	-	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	185	-	-
23 Apr 02	28 Apr 02	National Council for the Teachers of Mathematics (NCTM) Conference	Las Vegas, NV	55	-	-
03 May 02	03 May 02	California Mathematics Council	Asilomar, CA	35	-	-
24 Jun 02	28 Jun 02	Pennsylvania State University	University Park, PA	20	-	-
15 Jul 02	19 Jul 02	Pennsylvania State University	University Park, PA	18	-	-
31 Jul 02	31 Jul 02	Tufts University	Medford, MA	15	-	-

Curriculum Development/Dissemination

A230. Astrobiology High School Curriculum Review Panel

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: This is a coordinated, interdisciplinary review panel for the astrobiology curriculum. TERC and NASA have developed an interdisciplinary, yearlong high school course using the science of astrobiology as its unifying and underlying structure. The panel directed the national review process for the high school astrobiology curricular product and collaborated with the research team to provide final content reviews for "Astrobiology: The Search for Life." The Ames astrobiology researchers were initially on the advisory panel for this product to develop the outline. Prior to its publication, the science team reviewed its content for accuracy and relevance to the cutting-edge research occurring in the community. The team also became involved with the Office of Space Science (OSS) evaluation team in the final review process. The integrated team followed the OSS panel's review process in order to provide a professional review that met the objectives set forth by the Office of Space Science. Each team member became responsible for chapters that were directly related to his or her research area, providing expert content review. The team members were Dr. Dave Des Marais, Dr. Lou Allamandolla, Dr. Rich Young, Dr. Tori Hoehler, Dr. Rocco Mancinelli, Dr. Lynn Rothschild, and Dr. Michael New. The national publisher will provide extensive marketing, dissemination, and professional development opportunities for prospective users of the curriculum, reaching an estimated 8,000 classrooms.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Catherine Tsairides, NASA Ames Research Center, Moffett Field, CA 94035-1000.
E-mail: *ctsairides@mail.arc.nasa.gov.* Phone: 650-604-0808.

A231. "Astrobiology Micro*Scope" Web Site

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: The "Astrobiology Micro*Scope" Web site, developed through the NASA Astrobiology Institute (NAI) at the Marine Biological Laboratory (MBL) in Woods Hole, is an innovative biodiversity bioinformatics Web site that greatly improves access to information about microbes; it is the single best resource for high-quality, downloadable, digital-light micrographs of microbes. Presently, the site contains software to manage the names and classification; a classification of protists and bacteria; Internet search functions; original data about microbes; a comprehensive classification of all protist genera and prokaryotes, including 3,000 images of microbes with explanatory text; and a variety of educational resources, including Lucid taxonomic guides. Information in the site can be accessed by habitat, cell shape, alphabetic list of genus name, and by formal classification. We are

continuing to expand and improve the site for larger public promotion by ensuring that all aspects work properly. We are creating a gallery of images relevant to astrobiology. The site will be made more easily accessible to K-12 educators through the design of a portal into the site that will be useful to teachers and students. We will also be adding educational material, including hands-on classroom activities already developed by NAI at MBL, glossary terms, and a tutorial on how to use Lucid guides. We will be adding a database of available, K-12, hands-on activities in microbiology that details which aspects of the national science standards are met by each activity.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Lorraine Olendzenski, University of Connecticut, Storrs-Mansfield, CT 06269.
E-mail: *lco95001@uconnvm.uconn.edu.* Phone: 860-486-1887.

Primary URL: *http://www.mbl.edu/microscope*

Partner(s): Marine Biological Laboratory Woods Hole, MA

A232. "Fingerprints of Life?"—Development of Classroom Activities, Web Site, and CD-ROM

Theme(s): ASO

Msn/Prgm(s): NAI[B35], Astromaterials[B59]

Description: Scientists from NASA Johnson Space Center's Institute for the Study of Biomarkers in Astromaterials partnered with educators to develop classroom activities that reflect the biomarker research that is being conducted in our laboratories. "Fingerprints of Life?"—NASA Johnson Space Center Astrobiology Education is the product of the partnership. This multiyear project produced a series of classroom activities that includes inquiry-style, standards-based lessons, annotated PowerPoint presentations with many images, links to national mathematics and science standards, and a comprehensive resource guide. The classroom activities are currently in beta-testing and will be updated over the next year (2003). The developed materials are available on the NASA Johnson Space Center Web site at the link below. Interactive CD-ROMs, containing the education materials, are distributed at educator workshops. We have learned that when a Web site contains a large number of images, educators prefer to use a CD-ROM to access the images and large files.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Jaclyn Allen, Lockheed Martin Engineering and Sciences, Houston, TX 77058.
E-mail: *jaclyn.allen1@jsc.nasa.gov.* Phone: 281-483-4622.

Primary URL: *http://ares.jsc.nasa.gov/Education/websites/astrobiologyeducation/index.html*

A233. Kinesthetic Astronomy Curricular Materials Development

Theme(s): SEU

Msn/Prgm(s): SSI B/F[B20]

Description: Astronomy educators at the Space Science Institute in Boulder, CO, are developing an innovative, experiential approach to learning basic astronomical concepts. The approach is called kinesthetic astronomy, and it is currently intended for both formal and informal educational settings. We are developing a sequence of inquiry-based lesson plans that address astronomical phenomena people can readily see in the sky. The lessons are science-rich and fun, and they are also fully aligned with national science education standards. In our first lesson, called Sky Time, students experience a series of simple body movements (e.g., rotating, revolving, tilting, bending, and twisting) that gives them insight into the relationship between time and the astronomical motions of Earth (rotation about its axis and orbit around the Sun), and it also illustrates how these motions influence what we see in the sky at various times of the day and year. This lesson is published on the Web and can be found by clicking on "K-12 Curriculum" at the Internet address listed below. Other lessons in development are devoted to lunar motion, meteor showers, and the sky motions of the planets.
Field-testing with grades 6 and up suggests that kinesthetic astronomy techniques allow students to achieve a good intuitive grasp of concepts that are much more difficult to learn in more conventional ways. Field-testing has been conducted in a variety of settings, including Sunset Middle School (200 students in grade 7) in Longmont, CO; and in adult education programs such as those at the Aspen Center for Environmental Studies, Western State College in Gunnison, CO, and the Colorado Outward Bound School. Versions of these lessons for earlier grades, family programs, and science-center floor demonstrations are also in the planning and development stage.

Lead: Dr. Cherilynn Morrow, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *camorrow@colorado.edu.* Phone: 303-492-7321.

Primary URL: *http://www.spacescience.org*

Scientist(s): Dr. Cherilynn Morrow Space Science Institute Boulder, CO
Partner(s): Colorado Outward Bound School Golden, CO
Sunset Middle School Longmont, CO
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
19 Nov 01	20 Nov 01	Aspen Center for Environmental Studies	Aspen, CO	12	-	-
11 Feb 02	12 Feb 02	Sunset Middle School	Longmont, CO	52	-	-
21 Feb 02	22 Feb 02	Sunset Middle School	Longmont, CO	51	-	-
27 Apr 02	28 Apr 02	Western State College	Gunnison, CO	14	-	-
21 Sep 02	22 Sep 02	Western State College	Gunnison, CO	17	-	-

A234. Lesson Plan Development: Convection, Spectroscopy, and Velocity and Acceleration

Theme(s): SEC
Msn/Prgm(s): SRT[B3], SOHO[B112]
Description: This project works to develop lesson plans in stated target areas for use at or near the sixth grade level. The lesson plan concerning spectroscopy that was developed in previous summers by educator Sallie Smith is almost done and should be available on a Web site soon. This summer, educator Sarah Wendel (from and partially funded by the Prince George's County school system) worked at Goddard Space Flight Center to develop a draft of a set of activities and instructional materials that are related to convection, radiation, and conduction. She plans to have these activities tested in a classroom setting during this school year.
Lead: Dr. Therese Kucera, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *terry.kucera@gsfc.nasa.gov.* Phone: 301-286-0829.
Partner(s): Prince George's County Public Schools Upper Marlboro, MD

A235. Mysteries of Microbes: Fascinating Fieldwork

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The NASA Astrobiology Institute (NAI) Central Education and Public Outreach Team and the Quest Educational Group at Ames developed a series of classroom activities and Webcasts about the exciting fieldwork involved in studying microbes. Teachers were provided with background material about microbes and given curricular and hands-on science activities to perform in their classrooms. A series of Webcasts, featuring the NAI Ames Research Center Lead Team, were produced to enhance the curriculum. In the fall of 2001, a three-part series on preparing for fieldwork, featuring Dr. Tori Hochler, offered students the opportunity to see the day-to-day work of our researchers and to understand the scientific method. Dr. Hochler conducted fieldwork with Dr. David Des Marais and processed data with Dr. Brad Bebout and Mary Hogan. During the Webcasts, footage from Dr. Des Marais' fieldwork was used, and students were able to interact live with the research team via an Internet chat room. In addition, students were able to read biographies of the researchers and to study career fact sheets about them to gain a better understanding of the lives of astrobiologists. A video piece explaining how to build a Winogradsky column was also produced for the project. An archive of the project is available at the Internet address below.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Ms. Karen Dodson, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kdodson@mail.arc.nasa.gov.* Phone: 650-604-4145.
Primary URL: *http://quest.nasa.gov/projects/astrobiology/fieldwork/*

A236. Passport to the Solar System

Theme(s): ASO
Msn/Prgm(s): P2K[B9], Cassini/Huygens Probe[B37], Galileo[B38], JPL SSE Theme[B39], MESSENGER[B45], NEAR[B46], Stardust[B47], Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], Viking[B56], Europa Orbiter[B58], DS-1[B61], Ulysses[B96], Voyager[B97], ACE[B98], IMAGE[B102], ISTP[B108], Polar[B111], SOHO[B112], Wind[B113], TIMED[B118], LWS[B119], Yohkoh[B121]
Description: Passport to the Solar System is a series of eight 15-minute video programs and two 30-minute teacher inservice programs, with hands-on activities and online resources, connecting the ongoing exploration of the Solar System to key concepts in the core science curriculum. Using NASA researchers as on-camera presenters (and as role models for careers in science), it presents results from recent missions to enliven the national

science education standards and AAAS Project 2061 benchmarks with current imagery and discoveries. The video programs—broadcast by participating PBS stations and State networks—are accompanied by teacher guides that offer nearly 80 hands-on activities, an implementation guide, and a companion Web site. For the 2001-2002 school year, Passport to Knowledge (P2K) added a new 30-minute program, "P2K Update—Solar System," that provides teachable moments from late-breaking research such as the NEAR spacecraft landing on Eros, recent discoveries about water on Mars, the African eclipse, and more.

Lead: Ms. Erna Akuginow, Geoff Haines-Stiles Productions, Morristown, NJ 07960.
E-mail: *ea@passporttoknowledge.com.* Phone: 973-656-9403.

Primary URL: *http://passporttoknowledge.com/solarsystem*

2nd URL: *http://passporttoknowledge.com*

Scientist(s):	Dr. Claudia Alexander	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. David Alexander	Lockheed Martin Solar and Astrophysics Laboratory	Palo Alto, CA
	Dr. Raymond Arvidson	Washington University	St. Louis, MO
	Dr. John Beck	Stanford University	Stanford, CA
	Dr. Alberto Behar	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Mr. Michael Carlowicz	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Andrew Cheng	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Dr. Chris Chyba	SETI Institute	Mountain View, CA
	Dr. Joy Crisp	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Craig De Forest	Southwest Research Institute	Boulder, CO
	Dr. Eric De Jong	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Thomas Duxbury	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Nicola Fox	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Matthew Golumbek	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Steele Hill	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Beth Jacob	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Torrence Johnson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Therese Kucera	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Wayne Lee	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Rob Manning	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Geoff Marcy	San Francisco State University	San Francisco, CA
	Dr. Kenneth Nealson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Art Poland	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Stephen Pompea	Pompea & Associates	Tucson, AZ
	Ms. Anita Sohus	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Tony Spear	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Carolyn Sumners	Houston Museum of Natural Science	Houston, TX
	Ms. Marguerite Syvertson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Kathie Thomas-Keprta	Lockheed Martin Engineering and Sciences	Houston, TX
	Dr. Barbara Thompson	NASA Goddard Space Flight Center	Greenbelt, MD
Partner(s):	Carnegie Institute of Washington		Washington, DC
	Carnegie Observatories		Pasadena, CA
	Chandra X-Ray Center		Cambridge, MA
	European Southern Observatory		Santiago, Chile
	European Space Agency		Paris, France
	Fermilab		Batavia, IL
	Gemini Observatory		Hilo, HI
	Goldstone Deep Space Communications Complex		Fort Irwin, CA
	Harvard-Smithsonian Center for Astrophysics		Cambridge, MA
	Institute for Astronomy		Hilo, HI
	Johns Hopkins University Applied Physics Laboratory		Laurel, MD
	Lawrence Berkeley National Laboratory		Berkeley, CA
	Lockheed Martin Solar and Astrophysics Laboratory		Palo Alto, CA

Lockheed Martin Space Systems	Littleton, CO
Los Alamos National Laboratory	Los Alamos, NM
Marine Biological Laboratory	Woods Hole, MA
McDonald Observatory	Austin, TX
NASA Ames Research Center	Moffett Field, CA
NASA Astrobiology Institute (NAI)	Moffett Field, CA
NASA Goddard Institute for Space Studies	New York, NY
NASA Goddard Space Flight Center	Greenbelt, MD
NASA Infrared Telescope Facility (IRTF)	Honolulu, HI
NASA Jet Propulsion Laboratory	Pasadena, CA
NASA Johnson Space Center	Houston, TX
NASA Kennedy Space Center	Kennedy Space Center, FL
NASA Langley Research Center	Hampton, VA
NASA Marshall Space Flight Center	Marshall Space Flight Center, AL
NASA Office of Earth Science	Washington, DC
NASA Office of Human Resources and Education	Washington, DC
NASA Office of Public Affairs	Washington, DC
NASA Office of Space Flight	Washington, DC
National Center for Atmospheric Research (NCAR)	Boulder, CO
National Oceanic and Atmospheric Administration (NOAA)	Boulder, CO
National Optical Astronomy Observatory (NOAO)	Tucson, AZ
National Radio Astronomy Observatory	Socorro, NM
National Science Foundation	Arlington, VA
National Severe Storms Laboratory	Norman, OK
National Solar Observatory	Sunspot, NM
Planetary Data System	Pasadena, CA
SETI Institute	Mountain View, CA
Southwest Research Institute	San Antonio, TX
Southwest Research Institute	Boulder, CO
Space Explorers, Inc.	Green Bay, WI
Space Telescope Science Institute	Baltimore, MD
Subaru Telescope	Hilo, HI
U.S. Geological Survey	Flagstaff, AZ
University Corporation for Atmospheric Research (UCAR)	Boulder, CO
W.M. Keck Observatory	Kamuela, HI

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Sep 01	30 Aug 02	KEDT-TV, Channel 16/Corpus Christi	Corpus Christi, TX	-	89,331	4,055
01 Sep 01	30 Aug 02	KERA-TV, Channel 13/Dallas, Fort Worth, Denton	Dallas, TX	-	325,000	3,000
01 Sep 01	30 Aug 02	Louisiana Educational Television Authority	Baton Rouge, LA	-	193,413	1,500
01 Sep 01	30 Aug 02	New Hampshire Public Television	Durham, NH	-	257,690	2,500
01 Sep 01	30 Aug 02	Richardson Independent School District	Richardson, TX	-	61,166	2,500
01 Sep 01	30 Aug 02	San Diego County Office of Education	San Diego, CA	-	475,000	12,551
01 Sep 01	30 Aug 02	Tennessee Public Television Council	Martin, TN	-	134,719	1,300
01 Sep 01	30 Aug 02	Virginia Educational Satellite Network	Richmond, VA	-	1,230,698	12,000
01 Sep 01	30 Aug 02	West Virginia Educational Broadcasting Authority	Huntington, WV	-	535,785	14,293
01 Sep 01	30 Aug 02	Wisconsin Educational Telecommunications Board	Madison, WI	-	913,535	9,000
01 Sep 01	30 Aug 02	WNED, Western New York Public Broadcasting Association	Buffalo, NY	-	3,074,335	15,000
01 Sep 01	30 Aug 02	WPBA-TV, Channel 30/Atlanta	Atlanta, GA	-	61,596	5,000

A237. Practical Uses of Math and Science (PUMAS)

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SSE Forum[B12]

Description: PUMAS (poo' • mas) is a collection of one-page examples of how math and science topics taught in K-12 classes can be used in interesting settings, including everyday life. The examples are written primarily by scientists and engineers and are available to teachers, students, and other interested parties via the PUMAS Web site. Our goal is to capture, for the benefit of precollege education, the flavor of the vast experience that working scientists have with interesting and practical uses of math and science.

Lead: Dr. Ralph Kahn, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Ralph.A.Kahn@jpl.nasa.gov.* Phone: 818-354-9024.

Primary URL: *http://pumas.jpl.nasa.gov/*

Scientist(s):

Ms. Kim Aaron	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Kevin Baines	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Richard Berk	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Kristina Beuning	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Angela Boehne	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. James Boyer	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Frank Carsey	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Kevin Chase	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Roberta Dilocker	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Lee Elson	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Kye Ewing	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Eric Fetzer	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. William Fish	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Craig Fox	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Larry Fullerton	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Bernard Gilroy	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. John Hardie	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. John Hopeck	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Sharon Jeffrey	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Roger Johnson	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Jim Kaler	University of Illinois at Urbana-Champaign	Urbana, IL
Mr. John Kendall	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Allen Klinger	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Kopaska-Merkel	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Diane Kozub	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Jon Kriegel	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Alice Krueger	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Gareth Kucinkas	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Farzad Mahootian	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Paul Maley	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Evan Manning	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Linda Martel	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Victoria Meadows	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. John Moore	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Marsha Neace	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. George Nelson	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Karla Orosco	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Toula Papadimitropoulos	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Claire Parkinson	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. B. Pearson, Jr.	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Roger Pelland	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Michael Powell	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Phyllis Pugh	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Paul Robinson, Jr.	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Joy Runyon	NASA Jet Propulsion Laboratory	Pasadena, CA

Mr. Greg Scharfen	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Seidel	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Marguerite Syvertson	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Kenneth Voss	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Watt	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Kathy Welch-Martin	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Williams	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Robert Zafran	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Ed Zaron	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Victor Zlotnicki	NASA Jet Propulsion Laboratory	Pasadena, CA

A238. Rocks from Space in the Classroom

Theme(s): SSE

Msn/Prgm(s): SRT[B3], Astromaterials[B59]

Description: This curriculum development project is a collaboration between planetary scientists at Johnson Space Center (JSC) and Texas school teachers to create new classroom materials that are standards-based and use JSC research to teach basic science concepts and applications. The teachers came to JSC for several weeks in the summer, worked with scientists, and then helped translate what they learned into appropriate educational materials. During FY 2002, we prepared and tested a package, entitled "Space Rocks Tell Their Secrets," that shows how scientists use chemistry and physics to answer the question "How do we know these meteorites are from Mars?" The lessons are Describing Rocks, Analyzing Minerals (x-ray spectroscopy), and Using Isotopes. Each lesson has a concept activity that links student experience to science concepts and a research activity in which students use real science data to draw conclusions. The activities are accompanied by an electronic slide show that includes a tour of JSC labs and instruments.

Lead: Dr. Marilyn Lindstrom, NASA Johnson Space Center, Houston, TX 77058.
E-mail: *marilyn.m.lindstrom1@jsc.nasa.gov.* Phone: 281-483-5135.

Primary URL: *http://ares.jsc.nasa.gov/AstroResearch/intro.html*

Scientist(s):		
Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
Dr. Donald Bogard	NASA Johnson Space Center	Houston, TX
Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
Dr. Gordon McKay	NASA Johnson Space Center	Houston, TX
Dr. David Mittlefehldt	NASA Johnson Space Center	Houston, TX
Dr. Laurence Nyquist	NASA Johnson Space Center	Houston, TX
Dr. Craig Schwandt	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Kay Tobola	Lockheed Martin Engineering and Sciences	Houston, TX

Partner(s): Pasadena Independent School District — Pasadena, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 May 02	NASA Johnson Space Center	Houston, TX	31	-	-

A239. Science Concepts in Context

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): P2K[B9], HST[B22], KECK[B29], NAI[B35], 2MASS[B36], Cassini/Huygens Probe[B37], Galileo[B38], JPL SSE Theme[B39], CONTOUR[B41], MESSENGER[B45], NEAR[B46], Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], Viking[B56], OP E/PO[B57], Europa Orbiter[B58], DS-1[B61], Rosetta[B65], CXO[B67], CGRO[B68], COBE[B74], HEASARC[B86], Ulysses[B96], Voyager[B97], ACE[B98], IMAGE[B102], ISTP[B108], Polar[B111], SOHO[B112], Wind[B113], TIMED[B118], LWS[B119], Yohkoh[B121]

Description: Passport to Knowledge's (P2K's) new Science Concepts in Context (SCiC) series prominently features contemporary space science and several current NASA missions in order to relate exciting content to key concepts in the science curriculum for grades 5-9. Debuting in the 2002-2003 school year, the series is being carried by several major public television stations (including all 11 in New York State), statewide education networks (such as Wisconsin and Ohio), and many big-city school districts (such as Los Angeles, San Diego, and Dallas), reaching a potential K-12 student population of some 7 million students. Six of the sixteen 15-minute videos cover the terrestrial planets (principally Earth and Mars), the NEAR mission to Eros, comets, the Galileo mission to Jupiter, life in extreme environments, the 2002 Hubble Space Telescope servicing mission and the latest images, and animation from several NASA spacecraft and Centers. Science concepts illuminated by the

four space science videos include gravity, force and motion, the electromagnetic spectrum, atoms and elements, fission and fusion, adaptation and natural selection (in the life science unit), and science as a human enterprise. A new Web site (see below) provides hands-on activities and links to NASA resources. It correlates with the science frameworks and guidelines of all 50 States, as well as the national science standards and Project 2061 benchmarks. Each video also features one or more NASA or NASA-supported researchers, such as Wayne Lee, Claudia Alexander, Lloyd French, Andrew Cheng, James Farquhar, Kathryn Flanagan, Ken Nealson, and Andrea Ghez. Through engaging direct-to-camera presentations, the researchers explain the concepts and their application to real-world research. Balanced in gender and background, the researchers also serve as inspirational mentors for students of diverse cultures and origins.

Lead: Ms. Erna Akuginow, Geoff Haines-Stiles Productions, Morristown, NJ 07960.
E-mail: *ea@passporttoknowledge.com.* Phone: 973-656-9403.

Primary URL: *http://passporttoknowledge.com/scic*

2nd URL: *http://passporttoknowledge.com*

Scientist(s):	Dr. Claudia Alexander	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Richard Alley	Pennsylvania State University	University Park, PA
	Dr. Andrew Cheng	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Dr. Chris Chyba	SETI Institute	Mountain View, CA
	Dr. Craig De Forest	Southwest Research Institute	Boulder, CO
	Dr. James Farquhar	University of Maryland	College Park, MD
	Dr. Kathryn Flanagan	Massachusetts Institute of Technology	Cambridge, MA
	Mr. Lloyd French	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Andrea Ghez	University of California, San Diego	La Jolla, CA
	Dr. Wayne Lee	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Kenneth Nealson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Cynthia Rosensweig	NASA Goddard Institute for Space Studies	New York, NY
	Dr. Michael Turner	University of Chicago	Chicago, IL
Partner(s):	Carnegie Institute of Washington		Washington, DC
	Carnegie Observatories		Pasadena, CA
	Chandra X-Ray Center		Cambridge, MA
	European Southern Observatory		Santiago, Chile
	European Space Agency		Paris, France
	Fermilab		Batavia, IL
	Gemini Observatory		Hilo, HI
	Harvard-Smithsonian Center for Astrophysics		Cambridge, MA
	Institute for Astronomy		Hilo, HI
	Johns Hopkins University		Baltimore, MD
	Johns Hopkins University Applied Physics Laboratory		Laurel, MD
	Lawrence Berkeley National Laboratory		Berkeley, CA
	Lockheed Martin Advanced Technology Center		Palo Alto, CA
	Lockheed Martin Space Systems		Littleton, CO
	Los Alamos National Laboratory		Los Alamos, NM
	Marine Biological Laboratory		Woods Hole, MA
	NASA Ames Research Center		Moffett Field, CA
	NASA Astrobiology Institute (NAI)		Moffett Field, CA
	NASA Goddard Institute for Space Studies		New York, NY
	NASA Goddard Space Flight Center		Greenbelt, MD
	NASA Jet Propulsion Laboratory		Pasadena, CA
	NASA Johnson Space Center		Houston, TX
	NASA Langley Research Center		Hampton, VA
	NASA Marshall Space Flight Center		Marshall Space Flight Center, AL
	NASA Office of Earth Science		Washington, DC
	NASA Office of Public Affairs		Washington, DC
	NASA Office of Space Flight		Washington, DC
	National Center for Atmospheric Research (NCAR)		Boulder, CO
	National Oceanic and Atmospheric Administration (NOAA)		Boulder, CO

National Radio Astronomy Observatory	Socorro, NM
National Science Foundation	Arlington, VA
National Severe Storms Laboratory	Norman, OK
National Solar Observatory	Sunspot, NM
Planetary Science Institute	Tucson, AZ
SETI Institute	Mountain View, CA
Smithsonian Institution	Washington, DC
Southwest Research Institute	San Antonio, TX
Southwest Research Institute	Boulder, CO
Space Telescope Science Institute	Baltimore, MD
U.S. Geological Survey	Flagstaff, AZ
W.M. Keck Observatory	Kamuela, HI

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Sep 01	30 Aug 03	Wisconsin Department of Public Instruction	Madison, WI	-	904,535	2,500
01 Sep 02	30 Aug 03	Charlotte-Mecklenburg Schools	Charlotte, NC	-	200,000	500
01 Sep 02	30 Aug 03	KERA-TV, Channel 13/Dallas, Fort Worth, Denton	Dallas, TX	-	300,000	2,500
01 Sep 02	30 Aug 03	Los Angeles County Office of Education	Downey, CA	-	511,000	5,000
01 Sep 02	30 Aug 03	New Jersey Network (NJN)	Trenton, NJ	-	1,519,921	2,000
01 Sep 02	30 Aug 03	Ohio Educational Telecommunications Association	Cincinnati, OH	-	148,027	500
01 Sep 02	30 Aug 03	WGVU-TV, Channel 35/Grand Rapids	Grand Rapids, MI	-	188,918	2,000
01 Sep 02	30 Aug 03	WNED, Western New York Public Broadcasting Association	Buffalo, NY	-	3,044,335	25,000
01 Sep 02	30 Aug 03	WSBE-TV, Channel 36/Providence	Providence, RI	-	185,665	3,000

A240. Science Education Standards Matrix (Quilt) Outreach

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SSE Forum[B12]

Description: The Standards "Quilt" is a matrix that allows educators to search for NASA curricular products by the national content and thematic standards with which they align. The Quilt is available online, on CD-ROM, and in hard copy. Hundreds of educators have also been involved in various evaluations of the Math and Science Standards Quilts.

Lead: Mr. Art Hammon, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Virgil.A.Hammon@jpl.nasa.gov.* Phone: 818-393-4702.

Contact: Ms. Rebecca Knudsen, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Rebecca.Knudsen@jpl.nasa.gov.* Phone: 818-354-0739.

Primary URL: *http://www.quilt.jpl.nasa.gov*

NASA Goddard Space Flight Center	Greenbelt, MD
NASA Office of Equal Opportunity Programs	Washington, DC

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
24 Jun 02	25 Jun 02	California State University, Long Beach	Long Beach, CA	75	-	-
29 Jul 02	16 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	30	300	-
08 Aug 02	08 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	20	-	-
21 Aug 02	21 Aug 02	Hilton Hotel - Los Angeles Airport	Los Angeles, CA	15	-	-

A241. Sun-Earth Connection Education Forum (SECEF) Formal Education Curriculum Development

Theme(s): SEC

Msn/Prgm(s): SECEF[B14]

Description: SECEF collaborates with educators, curriculum developers, and scientists in the creation of standards-based curricular materials for grades K-12. The materials include inquiry-based activities, print, and multimedia resources that meet the needs of target audiences and provide appropriate access to NASA mission discoveries and results.

Lead: Dr. Isabel Hawkins, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *isabelh@ssl.berkeley.edu.* Phone: 510-643-5662.
Partner(s): Lawrence Hall of Science Berkeley, CA

A242. Teacher Training to Enhance Space Science Curriculum

Theme(s): SEC, SSE
Msn/Prgm(s): IDEAS[B1]
Description: The Teacher Training to Enhance Space Science Curriculum was an Initiative to Develop Education through Astronomy and Space Science (IDEAS) project that targeted sixth grade teachers and their use of comets in the sixth grade curriculum. Dr. Jennifer Goetz (Co-Investigator) worked with teachers to create an instruction manual for the classroom that included activities for exploring the relative sizes of and distances between Solar System objects and a complete lesson plan for discussing comets. The lesson plan can be found at the Internet site below. In addition to the sixth grade lesson plan, Dr. Goetz presented at a teacher inservice day for third grade teachers. This presentation included hands-on activities to explore the Earth-Moon-Sun distance through scale models and to achieve a deeper understanding of the cause of lunar phases. Teachers received kits that enabled them to carry out these activities in their own classrooms.
Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.
Primary URL: *http://astro.pas.rochester.edu/~jagoetz/comet/idea.html*
Scientist(s): Dr. Jennifer Goetz University of Rochester Rochester, NY
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 98	31 Jul 99	University of Rochester	Rochester, NY	43	-	-

A243. Video and Laboratory Curriculum in NASA OSS Themes for DC Public Schools

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): SERCH B/F[B19]
Description: The goal of these materials is to facilitate DC public school education in the science and technology areas that are related to the four NASA Office of Space Science themes. This will be done by creating a set of four videos (one on each of the four NASA themes) and complementary hands-on activities (some of which will be demonstrated in the videos) that are intended for precollege students. These can be used in classrooms and in afterschool/Saturday supplementary education programs. The programs will involve the active participation of educators and students in the DC Public Schools. Teachers and students will participate in the design and production of these videos and will beta-test the hands-on activities. Once created, these educational materials can also be used in other schools, potentially nationwide. The proposed activities will also be designed to support the schools in meeting the new standards and benchmarks of science education, specifically in the areas of Earth and space science and physical science.
Lead: Dr. George Carruthers, Naval Research Laboratory, Washington, DC 20375.
E-mail: *george.carruthers@nrl.navy.mil.* Phone: 202-767-2764.
Partner(s): College of Charleston Charleston, SC
District of Columbia Space Grant Washington, DC

A244. Voyages Through Time (VTT) Curriculum

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The Search for Extraterrestrial Intelligence (SETI) Institute, with support from the National Science Foundation, the California Academy of Sciences, the NASA Astrobiology Institute (NAI), and San Francisco State University, is developing standards-based curricular materials for a 1-year high school integrated science course that is centered on the unifying theme of evolution and is delivered on CD-ROM. Scientists, teachers, curriculum writers, and media specialists have created six modules that integrate the astronomical, geological, and biological sciences. The sequence of lessons in each module is designed to promote students' understanding and skills as defined by the National Science Education Standards and Benchmarks for Science Literacy. The six modules, Cosmic Evolution, Planetary Evolution, Origin of Life, Evolution of Life, Hominid Evolution, and Evolution of Technology, use the constructivist approach of "engage, explore, explain, elaborate, and evaluate" (Biological Sciences Curriculum Study, 1996) as an instructional framework. NAI Central Education and Public Outreach has funded the VTT National Field Test and a CD-ROM sampler of the curriculum. The national field test took

place from September 2001 through July 2002 in over 80 classrooms in 28 States. Teacher feedback has been very positive, and the curriculum is currently being revised for final publication in 2003. Over 1,500 CD-ROM samplers were distributed at science teacher conferences this year and more will be distributed next year.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Jane Fisher, SETI Institute, Mountain View, CA 94043.
E-mail: *jfisher@seti.org.* Phone: 650-961-6633.

Primary URL: *http://www.seti.org/education/vtt-bg.html*

Scientist(s):		
Dr. David Morrison	NASA Ames Research Center	Moffett Field, CA
Dr. Jill Tarter	SETI Institute	Mountain View, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	495	1,500	-

A245. Windows to the Universe

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SRT[B3], HST[B22], Cassini/Huygens Probe[B37], Galileo[B38], CONTOUR[B41], Deep Impact[B43], MESSENGER[B45], NEAR[B46], Stardust[B47], Mars E/PO[B48], MGS[B51], Mars Pathfinder[B52], DS-1[B61], Rosetta[B65], Ulysses[B96], Voyager[B97], ACE[B98], FAST[B100]

Description: The Windows to the Universe project brings together scientific content on Earth and space sciences with interdisciplinary content on the arts and humanities. This integration provides a rich educational tool that satisfies the curiosity of a wide spectrum of learners as they seek to understand our world and space around us. Through our three levels of content, our resources for students (K-12 through undergraduate), teachers, and browsing adults, we have become a major educational resource for millions of learners from around the world. The Web site is used in classrooms, the home environment, the work environment, hands-on science museums, libraries, and community centers. The site was accessed by 4.3 million users in 2001 who visited a total of 38 million pages on the site over the year. Users of the Windows to the Universe project range from age 5 to 85 and include a large number of students and teachers on a daily basis. A survey of our users (based on responses from 1,284 users from January 2001 through September 2002) indicates that 76.6 percent of survey respondents were elementary (14.7 percent), middle (30.5 percent), or high school (31.4 percent) students. Survey results also show that 47 percent of respondents use the site once per week, or more frequently. The National Science Teachers Association SciLinks project has reviewed numerous pages on our site, and links to many of our pages through SciLinks enrich hard-copy publications with greater depth and timeliness available through quality Web resources. The site has received over 70 awards and citations and is linked to many educational resource Web sites created by educators and education institutions around the world. We offer workshops, short courses (3-4 hours), and presentations at National Science Teachers Association national and regional conferences. We distribute materials in exhibit areas and at other meeting venues (reaching approximately 840 teachers over the past year in workshops and at presentations and thousands more at other meeting venues).

Lead: Dr. Roberta Johnson, University Corporation for Atmospheric Research (UCAR), Boulder, CO 80305.
E-mail: *rmjohnsn@ucar.edu.* Phone: 303-497-2591.

Primary URL: *http://www.windows.ucar.edu*

Scientist(s):		
Dr. Claudia Alexander	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Lisa Gardiner	University Corporation for Atmospheric Research (UCAR)	Boulder, CO
Dr. Roberta Johnson	University Corporation for Atmospheric Research (UCAR)	Boulder, CO
Dr. Janet Kozyra	University of Michigan	Ann Arbor, MI
Dr. Jon Linker	Science Applications International Corporation	San Diego, CA

Partner(s):	
American Geophysical Union (AGU)	Washington, DC
NASA Ames Research Center	Moffett Field, CA
NASA Goddard Space Flight Center	Greenbelt, MD
National Center for Atmospheric Research (NCAR)	Boulder, CO
National Science Foundation	Arlington, VA
Old Dominion University	Norfolk, VA

University of Michigan Ann Arbor, MI

A246. "X-ray Spectroscopy and Chemistry of Supernova Remnants" Field Test

Theme(s): SEC
Msn/Prgm(s): HEASARC[B86]
Description: "X-ray Spectroscopy and the Chemistry of Supernova Remnants" is a 4-part lesson unit, with 7 background articles and 10 classroom activities, developed for the "Imagine the Universe!" Web site. This unit was reviewed and field-tested by middle school teachers in the Chicago area. These teachers had previously been trained in space science, with an emphasis on Sun-Earth connection science. This project offered them training on topics in x-ray astronomy and spectroscopy. The teachers reviewed and edited the background material in the lesson unit and performed the activities in their classrooms. Their feedback was incorporated into the published lesson.
Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.
Primary URL: *http://imagine.gsfc.nasa.gov/docs/teachers/lessons/xray_spectra/spectra_cover.html*
Scientist(s): Dr. James Lochner NASA Goddard Space Flight Center Greenbelt, MD
Partner(s): DePaul University Chicago, IL
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 May 01	01 Mar 02	DePaul University	Chicago, IL	147	-	-

Student Support

A247. A Multi-Wavelength International Exploration of the Universe

Theme(s): ASO, SEU
Msn/Prgm(s): IDEAS[B1]
Description: A Multi-Wavelength International Exploration of the Universe is an Initiative to Develop Education through Astronomy and Space Science (IDEAS) project that allowed students from the United States and Russia to communicate with each other about astronomy topics. The program also developed a unit on stellar evolution and conducted observations for science classes at Ottoson Middle School in Arlington, MA. In addition, students participated in an observing program which is ongoing.
Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.
Scientist(s): Dr. William Forman Harvard-Smithsonian Center for Astrophysics Cambridge, MA

A248. Acknowledging Under-Resourced Outer Reaches of Alaska (AURORA)

Theme(s): SEC
Msn/Prgm(s): IDEAS[B1]
Description: AURORA is an Initiative to Develop Education through Astronomy and Space Science (IDEAS) project that sets up collaborations with rural Alaskan schools to study the northern lights from ground-based and satellite observations. Teachers were trained on a variety of nationally distributed classroom activities, developed by the Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) satellite program, and used this training to enhance students' knowledge of the aurora borealis. Satellite observations were tied in with students' ground-based observations to foster an understanding of this very common phenomenon in Alaska. Students were also encouraged to write essays about the aurora, based on information that was provided by various oral history and folklore traditions among the native student population.
Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.
Primary URL: *http://image.gsfc.nasa.gov/poetry/alaska/alaska.html*
Scientist(s): Dr. Sten Odenwald NASA Goddard Space Flight Center Greenbelt, MD
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 99	31 Jul 00	Raytheon Company	Lanham, MD	262	-	-

A249. Aeronautical Exposition for Students

Theme(s): ASO
Msn/Prgm(s): SOFIA[B25]
Description: NASA Ames Research Center conducts 2-day events as onsite field trips for visiting schools that emphasize aeronautics, space exploration, science, and technology careers for elementary and middle school students. The emphasis is on reaching out to schools that are predominantly made up of minority students.
Lead: Ms. Edna DeVore, SETI Institute, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.
Contact: Ms. Leslie Wolber-Proudfit, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *lwolber@mail.arc.nasa.gov.* Phone: 650-604-2134.
Scientist(s): Dr. Michael Bennett — Astronomical Society of the Pacific (ASP) — San Francisco, CA
Ms. Edna DeVore — SETI Institute — Mountain View, CA
Partner(s): NASA Ames Research Center — Moffett Field, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 Dec 01	12 Dec 01	NASA Ames Research Center	Moffett Field, CA	1,290	1,240	-

A250. Arizona State University (ASU) Space Photography Laboratory Tours

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: Students, ranging from kindergarten through grade 12, took tours of the Space Photography Laboratory at Arizona State University (ASU). The tours vary, depending on the level of education, but generally include an overview of the research being conducted by the ASU Planetary Geology Group and of the resources available in the Space Photography Laboratory.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

A251. "Ask an Astrobiologist"

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: "Ask An Astrobiologist" is a Web-based product for students of all ages in which the user is presented with a treasure trove of keyword searchable, categorized, previously submitted questions and answers. The user is invited to browse this archive to see if his or her question has already been asked and answered, and if it has not, a space is provided in which to submit it. The questions are answered by a team of experts—each quarter, one of the NAI Lead Teams takes on the responsibility of researching and answering.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Primary URL: *http://nai.arc.nasa.gov*

A252. Astro-E2: Operating in the Cold

Theme(s): SEU
Msn/Prgm(s): Astro-E2[B87]
Description: This project is responsible for presentations about the science and technology of the Astro-E2 mission.
Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.
Primary URL: *http://astroe.gsfc.nasa.gov*
Scientist(s): Dr. James Lochner — NASA Goddard Space Flight Center — Greenbelt, MD
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
28 Aug 02	28 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	20	-	-
20 Sep 02	20 Sep 02	NASA Goddard Space Flight Center	Greenbelt, MD	27	-	-

A253. "Astro-Venture"

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: "Astro-Venture" is an educational, interactive, multimedia Web environment that focuses on astrobiology and was developed by the Education Division at Ames. This is an educational site designed for students in grades 5-8. The students role-play NASA occupations to learn about what characteristics make our planet habitable to humans. "Astro-Venture" is divided into five sections: Astronomy, Biology, Geology, Atmospheric Sciences, and Build A Planet. Each of the first four sections includes online multimedia modules and lessons. Training (four modules): Students observe cause and effect relationships in each scientific area to learn which characteristics of Earth and our Solar System make them habitable to humans. Mission (two modules): Students use the scientific inquiry process and analyze data to simulate the steps scientists would take to search for a planet and star system that have these characteristics. The Build a Planet module is the final activity in which students combine what they've learned from all of the modules to build a planet with all of the necessary characteristics for human habitation. "Astro-Venture" also hosts workshops and presentations to train teachers and students on how to use "Astro-Venture" in their classrooms.

Lead: Ms. Karen Dodson, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kdodson@mail.arc.nasa.gov.* Phone: 650-604-4145.

Primary URL: *http://astroventure.arc.nasa.gov*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	50	-	-

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A254. Astrobiology Academy

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: The NASA Ames Astrobiology research team participates in the Astrobiology Academy, a summer academic program, by presenting lectures to the students, offering lab tours, and hosting student interns from the Academy. The students have a research mentor from Ames who works with them as they develop their projects and who meets with them to oversee the research developments.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Primary URL: *http://academy.arc.nasa.gov/*

A255. Astrobiology on the School Front: Interning and Mentoring

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: Many University of Washington (UW) astrobiologists dedicate time and resources to assisting interested students of all ages. Undergraduate UW students interned with astrobiology faculty members Tom Quinn (astronomy), Richard Gammon (chemistry), Peter Ward (paleontology), Roger Buick (geology), and Jim Staley (microbiology). Astrobiology faculty and graduate students worked with five high school teachers on the Research and Education: Volcanos, Exploration and Life (REVEL) cruise, sharing data, research results, and resource materials that were directed toward the students of those teachers. Graduate student Randy Perry and postdoc Jesse Dillon supervised a senior high school project, the Search for Simple Life on Mars and Europa, at University Prep School.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Linda Khandro, University of Washington, Seattle, WA 98195-1310.
E-mail: *lindak@astro.washington.edu.* Phone: 206-543-9541.

Primary URL: *http://depts.washington.edu/astrobio*

A256. Astrobiology Pathfinder

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: The NASA Astrobiology Institute (NAI) has received many letters and e-mails requesting advice on how to become an astrobiologist. In order to provide useful and personally relevant responses to these questions, the NAI Education and Public Outreach (E/PO) program designed the Astrobiology Pathfinder feature. The Astrobiology Pathfinder is an online, searchable database that provides information on astrobiology-related

courses and programs that are available in each State and profiles people who work in the field of astrobiology. Students can find specific courses, programs, and internships in their local area that fit their scientific interests. They can also read profiles and see video clips of astrobiologists and their research.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Primary URL: *http://nai.arc.nasa.gov/students/index.cfm*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Jan 02	15 Sep 02	University of California, Los Angeles	Los Angeles, CA	-	-	100

A257. Astromaterials-Astrobiology Student Presentations

Theme(s): SSE

Msn/Prgm(s): SRT[B3], NAI[B35], Astromaterials[B59]

Description: NASA Johnson Space Center (JSC) space scientists actively support JSC Education Office programs with numerous talks and tours. Major examples are the Mars geology and meteorite talks on the lunar and research lab tours for Aerospace Scholars and the Rocks from Space talks for the Distance Learning Outpost. In addition, we participate actively in school visits, science fairs, and in outreach that is targeted to girls and underrepresented minorities.

Lead: Dr. Marilyn Lindstrom, NASA Johnson Space Center, Houston, TX 77058.
E-mail: *marilyn.m.lindstrom1@jsc.nasa.gov.* Phone: 281-483-5135.

Contact: Ms. Jaclyn Allen, Lockheed Martin Engineering and Sciences, Houston, TX 77058.
E-mail: *jaclyn.allen1@jsc.nasa.gov.* Phone: 281-483-4622.

Primary URL: *http://learningoutpost.jsc.nasa.gov/*

2nd URL: *http://aerospacescholars.jsc.nasa.gov/index.cfm*

Scientist(s):

Dr. Carlton Allen	NASA Johnson Space Center	Houston, TX
Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Mary Sue Bell	Lockheed Martin Engineering and Sciences	Houston, TX
Dr. Simon Clemett	Lockheed Martin Engineering and Sciences	Houston, TX
Dr. Eleanor Dixon	NASA Johnson Space Center	Houston, TX
Mr. John Gruener	Lockheed Martin Engineering and Sciences	Houston, TX
Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
Ms. Teresa Longazo	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Kathleen McBride	Lockheed Martin Engineering and Sciences	Houston, TX
Dr. Gordon McKay	NASA Johnson Space Center	Houston, TX
Dr. David Mittlefehldt	NASA Johnson Space Center	Houston, TX
Ms. Andrea Mosie	NASA Johnson Space Center	Houston, TX
Dr. Craig Schwandt	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Carol Schwarz	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Kay Tobola	Lockheed Martin Engineering and Sciences	Houston, TX
Ms. Linda Watts	Lockheed Martin Engineering and Sciences	Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
29 Oct 01	29 Oct 01	NASA Johnson Space Center	Houston, TX	93	-	-
26 Nov 01	26 Nov 01	NASA Johnson Space Center	Houston, TX	41	-	-
08 Jan 02	08 Jan 02	NASA Johnson Space Center	Houston, TX	53	-	-
04 Mar 02	04 Mar 02	NASA Johnson Space Center	Houston, TX	93	-	-
08 Mar 02	08 Mar 02	NASA Johnson Space Center	Houston, TX	52	-	-
14 Mar 02	14 Mar 02	NASA Johnson Space Center	Houston, TX	6	-	-
13 Apr 02	13 Apr 02	Redd School	Houston, TX	21	-	-
02 May 02	02 May 02	C. W. Cline Elementary School	Friendswood, TX	51	-	-
08 May 02	08 May 02	NASA Johnson Space Center	Houston, TX	46	-	-
24 May 02	24 May 02	NASA Johnson Space Center	Houston, TX	46	-	-
10 Jun 02	11 Jun 02	NASA Johnson Space Center	Houston, TX	52	-	-
17 Jun 02	18 Jun 02	NASA Johnson Space Center	Houston, TX	52	-	-
19 Jun 02	19 Jun 02	NASA Johnson Space Center	Houston, TX	22	-	-

24 Jun 02	25 Jun 02	NASA Johnson Space Center	Houston, TX	52	-	-
25 Jun 02	26 Jun 02	Texas Tech University	Lubbock, TX	32	-	-
08 Jul 02	09 Jul 02	NASA Johnson Space Center	Houston, TX	52	-	-
15 Jul 02	16 Jul 02	NASA Johnson Space Center	Houston, TX	52	-	-
22 Jul 02	23 Jul 02	NASA Johnson Space Center	Houston, TX	52	-	-
29 Jul 02	30 Jul 02	NASA Johnson Space Center	Houston, TX	52	-	-

A258. Cassini Classroom Visits

Theme(s): SSE
Msn/Prgm(s): Cassini/Huygens Probe[B37]
Description: This project provides mission content and hands-on activities for classroom visits.
Lead: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.
Contact: Ms. Laurita Borst, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *laurita.m.borst@jpl.nasa.gov.* Phone: 818-354-7855.

Scientist(s):			
	Mr. Ron Draper	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Kevin Grazier	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Trina Ray	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Linda Spilker	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
10 Jan 02	10 Jan 02	Fullerton College	Fullerton, CA	-	131	-
02 Feb 02	02 Feb 02	Royal Oak Intermediate School	Covina, CA	-	153	-
05 Feb 02	05 Feb 02	Whittier College	Whittier, CA	-	153	-
28 Feb 02	28 Feb 02	Royal Oak Intermediate School	Covina, CA	-	142	-
28 Feb 02	28 Feb 02	Royal Oak Intermediate School	Covina, CA	-	154	-
03 Mar 02	03 Mar 02	Royal Oak Intermediate School	Covina, CA	-	130	-
10 Apr 02	13 Apr 02	McDonald Observatory	Austin, TX	-	8,740	-
31 May 02	31 May 02	Trabuco Hills High School	Mission Viejo, CA	31	-	-

A259. Chandra X-Ray Center Presentations

Theme(s): SEU
Msn/Prgm(s): CXO[B67]
Description: Members of the Chandra X-Ray Center staff and scientists working with Chandra observations visit classrooms and other education-related settings to talk about the Chandra mission and other NASA space science initiatives. They also participate in the development of materials for museum/planetarium exhibits and educational programs for broadcast. In classroom settings, the participants inform students about the Chandra mission and share the latest exciting science results and their own research interests. In connection with the Universe! Forum and the Annenberg/CPB channel, scientists and other staff have contributed to the development of informal educational materials that incorporate aspects of the Chandra science and mission.
Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.
Primary URL: *http://chandra.harvard.edu*

Scientist(s):			
	Dr. Laurence David	Chandra X-Ray Center	Cambridge, MA
	Dr. Michael Garcia	Chandra X-Ray Center	Cambridge, MA
	Ms. Holly Jessop	Chandra X-Ray Center	Cambridge, MA
	Dr. Margarita Karovska	Chandra X-Ray Center	Cambridge, MA
	Dr. Vinay Kashyap	Chandra X-Ray Center	Cambridge, MA
	Ms. Kimberly Kowal	Chandra X-Ray Center	Cambridge, MA
	Dr. Cornelia Lang	University of Iowa	Iowa City, IA
	Ms. Jennifer Lauer	Chandra X-Ray Center	Cambridge, MA
	Ms. Kathleen Lestition	Chandra X-Ray Center	Cambridge, MA
	Dr. Stephen Murray	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Frederick Seward	Chandra X-Ray Center	Cambridge, MA
	Dr. Patrick Slane	Chandra X-Ray Center	Cambridge, MA
	Dr. Wallace Tucker	Chandra X-Ray Center	Cambridge, MA

	Dr. Jan Vrtilek	Harvard University	Cambridge, MA
	Dr. Belinda Wilkes	Chandra X-Ray Center	Cambridge, MA
	Ms. Diana Worrall	University of Bristol	Bristol, United Kingdom

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	27 Sep 02	St. Herman of Alaska Parochial School	Allston, MA	33	-	-
17 Oct 01	17 Oct 01	River Valley Charter School	Newburyport, MA	26	-	-
18 Oct 01	18 Oct 01	Varum Brook Middle School	Pepperell, MA	48	-	-
12 Dec 01	12 Dec 01	Perley Elementary School	Georgetown, MA	147	-	-
07 Jan 02	11 Jan 02	American Astronomical Society (AAS) Meeting	Washington, DC	-	500	-
06 Feb 02	06 Feb 02	Mary E. Curley Middle School	Jamaica Plain, MA	26	-	-
26 Feb 02	26 Feb 02	Somerville Charter School	Somerville, MA	79	-	-
14 Mar 02	14 Mar 02	Penn Brook Elementary School	Georgetown, MA	26	-	-
18 Apr 02	18 Apr 02	Floral Street School	Shrewsbury, MA	79	-	-
19 Apr 02	19 Apr 02	Penn Brook Elementary School	Georgetown, MA	26	-	-
20 Apr 02	20 Apr 02	Museum of Science	Boston, MA	20	-	-
23 Apr 02	23 Apr 02	Newbury Elementary School	Newbury, MA	124	-	-
24 Apr 02	24 Apr 02	St. Pius High School	Albuquerque, NM	26	-	-
25 Apr 02	25 Apr 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	3	-	-
30 Apr 02	30 Apr 02	St. Peter's School	Cambridge, MA	26	-	-
02 May 02	02 May 02	St. Peter's School	Cambridge, MA	26	-	-
04 Jun 02	08 Jun 02	American Astronomical Society (AAS) Meeting	Albuquerque, NM	3	-	-
02 Jul 02	02 Jul 02	University of Bristol	Bristol, United Kingdom	30	-	-
09 Aug 02	09 Aug 02	Harvard University	Cambridge, MA	26	-	-

A260. Comet Nucleus Tour (CONTOUR) Student Involvement

Theme(s): SSE

Msn/Prgm(s): CONTOUR[B41]

Description: The COUNTOUR Team has made a series of classroom visits and presentations and has had other interactions with students throughout the year. In each instance, the science of the CONTOUR mission was presented and discussed.

Lead: Ms. Kathy May, Cornell University, Ithaca, NY 14853.
E-mail: *kathym@astrosun.astro.cornell.edu.* Phone: 607-255-8542.

Primary URL: *http://www.contour2002.org/*

Scientist(s):	Ms. Laura Lautz	Cornell University	Ithaca, NY
	Dr. Carolyn Shoemaker	Cornell University	Ithaca, NY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
04 Nov 01	04 Nov 01	Pyramid Mall	Ithaca, NY	-	300	-
07 Feb 02	07 Feb 02	Dryden Elementary School	Dryden, NY	-	200	-
26 Feb 02	26 Feb 02	Varna Community Center	Varna, NY	-	30	-
21 Apr 02	21 Apr 02	Cornell University	Ithaca, NY	-	150	-
01 May 02	01 May 02	Cornell University	Ithaca, NY	-	12	-
02 May 02	02 May 02	Oakdale Mall	Johnson City, NY	-	200	-
28 Jun 02	28 Jun 02	Cornell University	Ithaca, NY	3	-	-

A261. Deep Impact Education: Student Support

Theme(s): SSE

Msn/Prgm(s): Deep Impact[B43]

Description: Members of the Deep Impact science, engineering, and outreach team visit classrooms and provide other student outreach activities on a continuous basis throughout the year. Seven members of the science team and 18 members of the engineering team went out to workshops or classrooms, some more than once. Presentations are made to give background on the mission, astronomy, and comet science and are usually accompanied by images, videos, and educational activities that are aligned with national standards. Several activities for those students have been modeled after real challenges that the team is currently facing or has

previously faced. The Deep Impact mission also hosts students at the NASA Jet Propulsion Laboratory site as well as at the University of Maryland. The Deep Impact mission has sent team members rather than just materials into the classroom and is, in some cases, developing education-institution relationships for future involvement during the encounter with Comet Tempel 1. We were particularly pleased to partner, for the first time this year, with Young Astronauts and to participate in two of their programs.

Contact: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.

Primary URL: *http://www.ss.astro.umd.edu/deepimpact/*

Scientist(s):

Ms. Felipita Aragon	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Thomas Bank	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. William Bittman	Ball Aerospace Technologies Corporation	Boulder, CO
Ms. Denise Cook-Clampert	Ball Aerospace Technologies Corporation	Boulder, CO
Ms. Dina Demara	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Tim Flora	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Bill Frazier	Ball Aerospace Technologies Corporation	Boulder, CO
Ms. Suzy Fujita	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Art Hammon	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Lorna Hess-Frey	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Loren Jones	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. John King	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Ken Klaasen	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Meredith Larson	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Casey Lisse	University of Maryland	College Park, MD
Ms. Diana Mann	Ball Aerospace Technologies Corporation	Boulder, CO
Dr. Lucy McFadden	University of Maryland	College Park, MD
Dr. Karen Meech	University of Hawaii at Manoa	Honolulu, HI
Mr. Brian Muirhead	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Kristina Pomeroy	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Richard Reinert	Ball Aerospace Technologies Corporation	Boulder, CO
Ms. Maura Rountree-Brown	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Ed Ruskus	Ball Aerospace Technologies Corporation	Boulder, CO
Dr. Peter Schultz	Brown University	Providence, RI
Mr. Mark Underwood	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Gretchen Walker	University of Maryland	College Park, MD
Ms. Elizabeth Warner	University of Maryland	College Park, MD
Mr. Steve Wissler	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
12 Oct 01	12 Oct 01	University of Maryland	College Park, MD	-	200	-
18 Oct 01	18 Oct 01	Punahou School	Honolulu, HI	60	-	-
14 Nov 01	14 Nov 01	Mountain View High School	Loveland, CO	62	-	-
20 Dec 01	20 Dec 01	Luxmanor Elementary School	Rockville, MD	25	-	-
08 Jan 02	08 Jan 02	Brown Barge Middle School	Pensacola, FL	36	-	-
08 Jan 02	08 Jan 02	Joplin High School	Joplin, MO	32	-	-
07 Feb 02	07 Feb 02	University of Maryland	College Park, MD	38	-	-
08 Feb 02	08 Feb 02	Williams Elementary School	Glendora, CA	52	-	-
27 Feb 02	27 Feb 02	Horizons School	Boulder, CO	17	-	-
04 Mar 02	08 Mar 02	Western Colorado Math and Science Center	Grand Junction, CO	175	6	-
16 Mar 02	16 Mar 02	University of Colorado at Boulder	Boulder, CO	52	-	-
19 Mar 02	19 Mar 02	Village Christian School	Sun Valley, CA	42	-	-
20 Mar 02	20 Mar 02	Regis University	Denver, CO	13	-	-
21 Mar 02	21 Mar 02	Trinity Christian Elementary School	Tujunga, CA	29	-	-
22 Mar 02	22 Mar 02	Loma Linda Elementary School	Longmont, CO	65	-	-
28 Mar 02	28 Mar 02	Ball Aerospace Technologies Corporation	Boulder, CO	33	-	-
01 Apr 02	01 Apr 02	Burbank Middle School	Boulder, CO	63	-	-
01 Apr 02	01 Apr 02	Charles Hay Elementary School	Englewood, CO	40	-	-

01 Apr 02	01 Apr 02	Niwot Elementary	Niwot, CO	31	-	-
01 Apr 02	01 Apr 02	Sunset Middle School	Longmont, CO	36	-	-
25 Apr 02	25 Apr 02	Ball Aerospace Technologies Corporation	Boulder, CO	129	96	-
25 Apr 02	25 Apr 02	Sol del Valle Christian School	Sun Valley, CA	31	-	-
25 Apr 02	25 Apr 02	Sol del Valle Christian School	Sun Valley, CA	30	-	-
26 Apr 02	26 Apr 02	Brown University	Providence, RI	-	100	-
26 Apr 02	26 Apr 02	Monarch School	Louisville, CO	132	-	-
29 Apr 02	29 Apr 02	Young Astronauts	Washington, DC	46,501	-	-
01 May 02	01 May 02	West High School	Denver, CO	69	-	-
08 May 02	08 May 02	Arroyo Vista Elementary School	Van Nuys, CA	34	-	-
10 May 02	10 May 02	Rolling Hills Elementary	Aurora, CO	23	-	-
15 May 02	15 May 02	Ball Aerospace Technologies Corporation	Boulder, CO	55	-	-
15 May 02	15 May 02	High Peaks Elementary School	Boulder, CO	53	-	-
21 May 02	21 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	22	-	-
23 May 02	23 May 02	Berkley Gardens Elementary School	Westminster, CO	66	-	-
29 May 02	29 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	72	-	-
31 May 02	31 May 02	University of Colorado at Boulder	Boulder, CO	37	-	-
05 Jun 02	05 Jun 02	Arcadia Christian School	Arcadia, CA	3	-	-
18 Sep 02	18 Sep 02	Endeavor Intermediate School	Milton, WA	26	-	-
18 Sep 02	18 Sep 02	University of Colorado at Boulder	Boulder, CO	47	-	-
24 Sep 02	24 Sep 02	NASA Jet Propulsion Laboratory	Pasadena, CA	32	-	-
25 Sep 02	25 Sep 02	Endeavor Intermediate School	Milton, WA	95	-	-
05 Dec 02	05 Dec 02	Hazeltine Elementary School	Van Nuys, CA	22	-	-
21 Dec 02	21 Dec 02	Luxmanor Elementary School	Rockville, MD	52	-	-

A262. "Exploring the Extreme Universe!" Student Presentations

Theme(s): SEU

Msn/Prgm(s): GLAST[B70], Swift[B83]

Description: The "Exploring the Extreme Universe!" classroom presentations use Gamma-ray Large Area Space Telescope (GLAST) science to engage middle and high school students. Lecture demonstrations often feature a Tesla coil, particle acceleration, and black holes.

Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.

Primary URL: *http://glast.sonoma.edu*

2nd URL: *http://scipp.ucsc.edu/outreach/teslacoil/teslacoil.html*

Scientist(s):			
	Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
	Dr. Greg Madejski	Stanford University	Stanford, CA
	Dr. Hartmut Sadrozinski	University of California, Santa Cruz	Santa Cruz, CA
	Dr. Rex Saffer	Villanova University	Villanova, PA
	Dr. Terry Schalk	University of California, Santa Cruz	Santa Cruz, CA
	Ms. Sarah Silva	Sonoma State University	Rohnert Park, CA
	Mr. Jason Smith	Challenger Center for Space Science Education	Alexandria, VA
	Dr. Dave Thompson	NASA Goddard Space Flight Center	Greenbelt, MD
Partner(s):	University of California, Santa Cruz		Santa Cruz, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Oct 01	05 Oct 01	Ferguson Observatory	Kenwood, CA	40	-	-
19 Oct 01	20 Oct 01	Natomas High School	Sacramento, CA	850	-	-
24 Oct 01	24 Oct 01	Jordan Middle School	Palo Alto, CA	10	-	-
16 Nov 01	16 Nov 01	Aptos High School	Aptos, CA	150	-	-
26 Feb 02	26 Feb 02	Nogales High School	Nogales, AZ	250	-	-
02 Mar 02	02 Mar 02	University of California, Santa Cruz	Santa Cruz, CA	85	-	-
09 Mar 02	09 Mar 02	Cabrillo College	Aptos, CA	120	-	-
17 Mar 02	21 Mar 02	Marquette-Alger School District	Marquette, MI	143	-	-
23 Mar 02	23 Mar 02	Expanding Your Horizons	Rohnert Park, CA	10	500	-
25 Mar 02	25 Mar 02	Woodside Elementary School	Woodside, CA	250	-	-

11 Apr 02	11 Apr 02	Yavneh Day School	San Jose, CA	130	-	-
19 Apr 02	19 Apr 02	Vanden High School	Fairfield, CA	80	-	-
25 Apr 02	25 Apr 02	University of California, Santa Cruz	Santa Cruz, CA	-	90	-
26 Apr 02	26 Apr 02	Monte Vista High School	Cupertino, CA	100	-	-
02 May 02	08 May 02	Holton High School	Holton, KS	22	-	-
07 May 02	07 May 02	Pacific Collegiate School	Santa Cruz, CA	120	-	-
21 May 02	21 May 02	Watsonville High School	Watsonville, CA	70	-	-
30 May 02	30 May 02	University of California, Santa Cruz	Santa Cruz, CA	20	-	-
27 Jun 02	22 Jul 02	National Youth Science Foundation	Charleston, WV	100	-	-
03 Jul 02	03 Jul 02	University of California, Santa Cruz	Santa Cruz, CA	50	-	-
09 Jul 02	09 Jul 02	NASA Goddard Space Flight Center	Greenbelt, MD	30	-	-
17 Jul 02	17 Jul 02	James Logan High School	Union City, CA	70	-	-
14 Sep 02	14 Sep 02	Stanford University	Stanford, CA	-	150	-

A263. Galileo Classroom Visits

Theme(s): SSE
Msn/Prgm(s): Galileo[B38]
Description: This project consisted of classroom presentations on the science and engineering of Galileo and education materials in support of the Galileo mission to Jupiter.
Lead: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.
Scientist(s): Ms. Nagin Cox — NASA Jet Propulsion Laboratory — Pasadena, CA
Ms. Shannon McConnell — NASA Jet Propulsion Laboratory — Pasadena, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Apr 02	13 Apr 02	Los Angeles Valley College	Valley Glen, CA	85	-	-
17 Apr 02	18 Apr 02	Los Angeles County Office of Education	Downey, CA	100	-	-
27 Apr 02	27 Apr 02	University of California, Irvine	Irvine, CA	-	150	-

A264. GAVRT Classroom Implementation

Theme(s): SSE
Msn/Prgm(s): DSMS[B60]
Description: Goldstone Apple Valley Radio Telescope (GAVRT) is a curriculum-based program, using radio astronomy, where students control a 34-meter radio telescope. GAVRT allows students and teachers to reach beyond science education as the mere learning of facts and concepts by giving them the real and exciting experience of solving unexpected problems, of collecting data on heretofore unknown or poorly understood phenomena, and of interpreting the results. Their results are added to an ongoing database maintained by NASA Jet Propulsion Laboratory scientists and have been published in professional scientific journals. Two opportunities were available to teachers during the 2001-2002 school year. The first, Jupiter Quest, required students to measure the variations in Jupiter's radiation belts through synchrotron emissions; and in a new project, the Quasar Variability Study, students measured variations in the radio brightness of multiple quasars.
Contact: Ms. Shirley Wolff, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *shirley.e.wolff@jpl.nasa.gov.* Phone: 818-354-4069.
Primary URL: *http://lewiscenter.org/global/*
2nd URL: *http://deepspace.jpl.nasa.gov/dsn/applevalley*
Scientist(s): Dr. Michael Klein — NASA Jet Propulsion Laboratory — Pasadena, CA
Partner(s): Lewis Center for Educational Research — Apple Valley, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Jan 02	03 May 02	Ballard West Elementary School	Slater, IA	101	-	-
18 Jan 02	03 May 02	Ballard Junior High School	Huxley, IA	86	-	-
04 Feb 02	26 Feb 02	Ramona Middle School	La Verne, CA	479	-	-
08 Feb 02	22 Feb 02	Meadowdale Middle School	Lynnwood, WA	121	-	-
12 Feb 02	27 Feb 02	Lakes Middle School	Coeur d'Alene, ID	76	-	-
14 Feb 02	06 Mar 02	Redlands East Valley High School	Redlands, CA	23	-	-

27 Feb 02	12 Mar 02	Strong Vincent High School	Erie, PA	57	-	-
28 Feb 02	29 Mar 02	Opelika Middle School	Opelika, AL	27	-	-
01 Mar 02	14 Mar 02	St. Mary's School	Medford, OR	81	-	-
01 Mar 02	02 May 02	Brewton Middle School	Brewton, AL	82	-	-
01 Apr 02	30 Apr 02	Norman High School North	Norman, OK	114	-	-
02 Apr 02	22 May 02	Orting Middle School	Orting, WA	76	-	-
04 Apr 02	18 Apr 02	Lewis Center for Educational Research	Apple Valley, CA	215	-	-
15 Apr 02	14 May 02	Barton Junior High School	Buda, TX	149	-	-
22 Apr 02	07 May 02	Chaffin Junior High School	Fort Smith, AR	96	-	-
25 Apr 02	09 May 02	Oak Mountain Middle School	Birmingham, AL	138	-	-
25 Apr 02	09 May 02	Park Forest Middle School	State College, PA	61	-	-
25 Apr 02	09 May 02	State College Area High School	State College, PA	16	-	-
25 Apr 02	09 May 02	State College Area High School	State College, PA	66	-	-
01 May 02	11 Jun 02	Chula Vista High School	Chula Vista, CA	228	-	-
06 May 02	22 May 02	Ptarmigan Ridge Intermediate School	Orting, WA	9	-	-
08 May 02	23 May 02	University Public School	Detroit, MI	154	-	-
23 May 02	07 Jun 02	Cornerstone Christian School	Poway, CA	21	-	-
24 Jun 02	28 Jun 02	Ballard Junior High School	Huxley, IA	37	-	-

A265. GAVRT Scientist Telecons

Theme(s): SSE

Msn/Prgm(s): DSMS[B60]

Description: Goldstone Apple Valley Radio Telescope (GAVRT) is a partnership involving NASA Jet Propulsion Laboratory (JPL) and the Lewis Center for Educational Research. GAVRT enables students, in their classrooms, to make observations of Jupiter, the Sun, and distant quasars using radio astronomy. Linked via the Internet to Operations Control at the Lewis Center in Apple Valley, GAVRT students remotely control a 34-meter radio telescope, once part of NASA's Deep Space Network. They collect science data which they analyze and forward to JPL scientists. Students participating in this project are given an opportunity to talk with a JPL scientist. Scientists are available during the same time slot each week and schools are scheduled ahead of time, one school per week. Individual students ask science questions and receive answers that frequently lead to further discussions in this informal setting.

Lead: Dr. Steven Levin, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *steven.m.levin@jpl.nasa.gov.* Phone: 818-354-1917.

Primary URL: *http://deepspace.jpl.nasa.gov/dsn/applevalley*

2nd URL: *http://www.lewiscenter.org/global*

Scientist(s):

Dr. Scott Bolton	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Varoujan Gorjian	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Michael Klein	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Steven Levin	NASA Jet Propulsion Laboratory	Pasadena, CA

Partner(s): Lewis Center for Educational Research — Apple Valley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
04 Dec 01	04 Dec 01	Orting Middle School	Orting, WA	13	-	-
11 Dec 01	11 Dec 01	Opelika Middle School	Opelika, AL	26	-	-
18 Dec 01	18 Dec 01	Brewton Middle School	Brewton, AL	16	-	-
15 Jan 02	15 Jan 02	Orting Middle School	Orting, WA	13	-	-
22 Jan 02	22 Jan 02	Barton Junior High School	Buda, TX	41	-	-
29 Jan 02	29 Jan 02	Opelika Middle School	Opelika, AL	16	-	-
05 Mar 02	05 Mar 02	Brewton Middle School	Brewton, AL	16	-	-
12 Mar 02	12 Mar 02	Ballard Junior High School	Huxley, IA	47	-	-
26 Mar 02	26 Mar 02	Meadowdale Middle School	Lynnwood, WA	19	-	-
09 Apr 02	09 Apr 02	Lewis Center for Educational Research	Apple Valley, CA	10	-	-
15 Apr 02	15 Apr 02	Lewis Center for Educational Research	Apple Valley, CA	9	-	-
30 Apr 02	30 Apr 02	Park Forest Middle School	State College, PA	116	-	-
01 May 02	01 May 02	St. Mary's School	Medford, OR	11	-	-
01 May 02	01 May 02	St. Mary's School	Medford, OR	30	-	-

07 May 02	07 May 02	Norman High School North	Norman, OK	26	-	-
14 May 02	14 May 02	Ramona Middle School	La Verne, CA	6	-	-
21 May 02	21 May 02	Ramona Middle School	La Verne, CA	9	-	-
28 May 02	28 May 02	Strong Vincent High School	Erie, PA	15	-	-

A266. Genesis Classroom/Student Presentations

Theme(s): SSE

Msn/Prgm(s): Genesis[B44]

Description: On February 13, 2002, McREL senior consultants John Ristvey and Dr. Donna Bogner spent a great day pilot-testing the materials with four classes of Ben Wentworth's students at the Colorado School for the Deaf and Blind. John, Ben, and James Bristol (Ben's teacher's aid) worked with the students as they did the exploration. Dr. Bogner observed and took notes on Mr. Wentworth's verbal instructions and physical adaptations as the students completed the activity, completed the report sheet, and suggested 11 scenarios to improve the model.

Lead: Dr. Gilbert Yanow, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *gilbert.yanow@jpl.nasa.gov.* Phone: 818-354-8060.

Contact: John Ristvey, Mid-continent Research for Education and Learning (McREL), Aurora, CO 80014.
E-mail: *jristvey@mcrel.org.* Phone: 303-632-5620.

Primary URL: *http://genesismission.jpl.nasa.gov/*

Scientist(s):

Dr. Donna Bogner	Mid-continent Research for Education and Learning (McREL)	Aurora, CO
Mr. James Bristol	Colorado School for the Deaf and the Blind	Colorado Springs, CO
Mr. John Ristvey	Mid-continent Research for Education and Learning (McREL)	Aurora, CO
Mr. Ben Wentworth,	Colorado School for the Deaf and the Blind	Colorado Springs, CO

Partner(s): Colorado School for the Deaf and the Blind Colorado Springs, CO

Event(s):

Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Feb 02	13 Feb 02	Colorado School for the Deaf and the Blind	Colorado Springs, CO	23	-	-

A267. Goldstone Communications Complex—Student Tours

Theme(s): SSE

Msn/Prgm(s): DSMS[B60]

Description: Student tours are available at the Goldstone Deep Space Communications Complex in the Mojave Desert, CA. Students see the huge antennas that communicate with NASA robotic spacecraft that are exploring the Solar System; they are taken to several antenna sites, including the largest, 70 meters (230 feet) in diameter, where they go up inside the pedestal. They visit the small museum to learn of NASA missions that are supported by the Deep Space Network, and they hear about the local wildlife in their journey across the unique desert landscape.

Lead: Ms. Marie Massey, Goldstone Deep Space Communications Complex, Fort Irwin, CA 92310.
E-mail: *marie.massey@csoconline.com.* Phone: 760-255-8687.

Primary URL: *http://gts.gdscc.nasa.gov/*

2nd URL: *http://deepspace.jpl.nasa.gov/dsn/educ/index.html*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Feb 02	02 Feb 02	Barstow High School	Barstow, CA	12	77,000	-
14 Mar 02	14 Mar 02	Lewis Center for Educational Research	Apple Valley, CA	37	-	-
02 May 02	02 May 02	Lewis Elementary School	Fort Irwin, CA	18	-	-
07 May 02	07 May 02	Lewis Elementary School	Fort Irwin, CA	44	-	-
10 May 02	10 May 02	Lewis Elementary School	Fort Irwin, CA	44	-	-
10 May 02	10 May 02	University of California, Santa Barbara	Santa Barbara, CA	13	-	-
14 May 02	14 May 02	Lewis Elementary School	Fort Irwin, CA	44	-	-
16 May 02	16 May 02	Lewis Elementary School	Fort Irwin, CA	44	-	-
23 May 02	23 May 02	Skyline North Elementary School	Barstow, CA	45	-	-
28 May 02	28 May 02	Keystone School	Barstow, CA	1	-	-
30 May 02	30 May 02	Skyline North Elementary School	Barstow, CA	48	-	-
03 Jun 02	03 Jun 02	Henderson Elementary School	Barstow, CA	39	-	-
04 Jun 02	04 Jun 02	Henderson Elementary School	Barstow, CA	51	-	-

11 Jun 02	11 Jun 02	Keystone School	Barstow, CA	9	-	-
28 Jun 02	28 Jun 02	Mirman School	Los Angeles, CA	43	-	-

A268. Hands-On Universe Workshop

Theme(s): ASO

Msn/Prgm(s): STARBASE[B10]

Description: High school science teachers bring the adventure of exploring the Universe directly to their students through the help of Hands-On Universe (HOU) and Students Training for Achievement in Research Based on Analytical Space-Science Experience (STARBASE). The high school education goal of STARBASE is to introduce science to students by letting them do science. Our objective is to put astronomical data and tools into students' hands and then to mentor the students in their investigations. The key is to train a network of client science teachers who will sustain the project. STARBASE has a network of telescopes ready to supply data to students. The HOU network offers workshops in which teachers are trained in astronomy, how to teach astrophysics, and how to use image processing software. HOU then gives the teachers the software and an account to access the HOU data archive, which allows the teachers to request images from STARBASE telescopes. STARBASE hosts the workshops, which includes providing computer-equipped classrooms, presentations by astronomers, planetarium shows, observatory tours, star parties, lodging, and meals. Teachers are trained during their choice of 5-day, face-to-face workshops or 1-day workshops followed by an online course. Together, the STARBASE and HOU networks deliver a powerful tool for involving students directly in science.

Lead: Dr. David Barnaby, Western Kentucky University, Bowling Green, KY 42101.
E-mail: *david.barnaby@wku.edu.* Phone: 270-745-4357.

Primary URL: *http://starbase.wku.edu*

2nd URL: *http://hou.lbl.gov*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Jun 02	30 Jun 02	Yerkes Observatory	Williams Bay, WI	27	-	-
08 Jul 02	12 Jul 02	Western Kentucky University	Bowling Green, KY	5	-	-
13 Jul 02	13 Jul 02	Western Kentucky University	Bowling Green, KY	4	-	-

A269. IMAGE Presentations to Students

Theme(s): SEC

Msn/Prgm(s): IMAGE[B102]

Description: Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) personnel work directly with students to serve as role models and to communicate firsthand the excitement of science and science research.

Lead: Dr. Sten Odenwald, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *odenwald@mail630.gsfc.nasa.gov.* Phone: 301-286-6953.

Scientist(s): Dr. Sten Odenwald — NASA Goddard Space Flight Center — Greenbelt, MD
Dr. Patricia Reiff — Rice University — Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	01 Jun 02	Rice University	Houston, TX	39	-	-
01 Oct 01	25 Sep 02	NASA Goddard Space Flight Center	Greenbelt, MD	2	-	-
10 Jun 02	10 Jun 02	Holy Redeemer School	Kensington, MD	426	-	-
10 Jul 02	12 Jul 02	Holy Redeemer School	Kensington, MD	58	-	-

A270. "Live from Mars 2001" and "Live from Mars 2002"

Theme(s): SSE

Msn/Prgm(s): P2K[B9], JPL SSE Theme[B39], Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], Viking[B56]

Description: Two Live from Mars specials aired during the 2001-2002 school year, connecting students across the Nation directly with NASA and university scientists and engineers who are working on the Mars Odyssey mission. Broadcasted by more than 125 public television stations and simultaneously on NASA TV, the programs reached an audience of teachers and students which was estimated at more than 10 million. Sequences related the exploration of Mars to key space and Earth science topics that are found in State and national science standards. Scenes of the building and testing of Mars Odyssey presented the engineering and technical

challenges that were successfully faced by the mission. Companion Web resources provided original biographies and journals, allowing the men and women behind the Odyssey spacecraft to describe their career paths and personal commitment to exploring the Solar System. "Live from Mars 2001" originated live from NASA Jet Propulsion Laboratory (JPL) on October 30, 2001, just one week after the Mars orbit insertion. Deputy Project Manager Roger Gibbs interacted with students on camera, direct from the mission support area. Questions from students in Washington (DC), Michigan, Idaho, and Montreal (Canada), as well as via e-mail were answered on camera by Gibbs and other NASA researchers. "Live from Mars 2002" was broadcasted live from the Mars Student Imaging Project (MSIP) at Arizona State University on Tuesday, March 19, 2002: Researchers Vicky Hamilton and Phil Christensen described the first results from Odyssey's infrared camera, using pictures that were literally "live from Mars." The first group of youngsters to participate on site in MSIP, from the Olympia School District (IL), described their excitement at being able to target Odyssey's camera. During both programs, panels of researchers and engineers fielded e-mail questions from students, and during "Live from Mars 2002," a real-time videoconference also linked students in Green Valley (AZ), Chehalis (WA), Silverton (OR), and Erie (PA) to the Arizona State University researchers.

Lead: Mr. Geoffrey Haines-Stiles, Geoff Haines-Stiles Productions, Morristown, NJ 07960.
E-mail: *ghs@passporttoknowledge.com.* Phone: 973-656-9403.

Contact: Ms. Erna Akuginow, Geoff Haines-Stiles Productions, Morristown, NJ 07960.
E-mail: *ea@passporttoknowledge.com.* Phone: 973-656-9403.

Primary URL: *http://passporttoknowledge.com/mars*

2nd URL: *http://passporttoknowledge.com*

Scientist(s):

Mr. Peter Antreasian	NASA Jet Propulsion Laborator	Pasadena, CA
Ms. Nina Armagno	NASA Kennedy Space Center	Kennedy Space Center, FL
Dr. Josh Bandfield	Arizona State University	Tempe, AZ
Dr. John Beck	Stanford University	Stanford, CA
Ms. Kelly Bender	Arizona State University	Tempe, AZ
Mr. Guy Beutelschies	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Derek Blackway	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Scott Bolton	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Bill Boynton	University of Arizona	Tucson, AZ
Mr. Larry Bryant	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. John Callas	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Cha	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Phil Christensen	Arizona State University	Tempe, AZ
Mr. Richard Cook	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Joy Crisp	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Frank Cucinotta	NASA Johnson Space Center	Houston, TX
Dr. Eric De Jong	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Paul Delaune	NASA Johnson Space Center	Houston, TX
Dr. Ken Edgett	Malin Space Science Systems	San Diego, CA
Dr. Charles Elachi	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Heather Enos	University of Arizona	Tucson, AZ
Mr. Jim Erickson	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Bill Feldman	Los Alamos National Laboratory	Los Alamos, NM
Mr. Chuck Fellows	University of Arizona	Tucson, AZ
Ms. Robin Fergason	Arizona State University	Tempe, AZ
Mr. Orlando Figueroa	NASA Office of Space Science	Washington, DC
Mr. Daniel Finnerty	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Jim Garvin	NASA Office of Space Science	Washington, DC
Mr. S. Michael Gayle	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Consuelo Gennaro	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Roger Gibbs	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Tim Glotch	Arizona State University	Tempe, AZ
Mr. Barry Goldstein	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Matthew Golumbek	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Steven Gorevan	Honeybee Robotics, Ltd.	New York, NY
Mr. Zareh Gorjian	NASA Jet Propulsion Laboratory	Pasadena, CA

Mr. Trevor Graff	Arizona State University	Tempe, AZ
Mr. Angel Guarnica	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Geoffrey Haines-Stiles	Geoff Haines-Stiles Productions	Morristown, NJ
Dr. Vicky Hamilton	Arizona State University	Tempe, AZ
Dr. David Hathaway	NASA Marshall Space Flight Center	Marshall Space Flight Center, AL
Mr. Scott Hulme	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Moriba Jah	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Alice Jerahian	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Christine Johnson	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Denise Kato	Lockheed Martin Space Systems	Littleton, CO
Mr. Carl Kloss	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Ms. Amy Knudson	Arizona State University	Tempe, AZ
Mr. Matthew Landano	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Wayne Lee	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Stephanie Lievense	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Randell Lindemann	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Nora Mainland	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Rob Manning	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Robert Mase	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Jim McClure	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Greg Mehall	Arizona State University	Tempe, AZ
Ms. Laura Mehall	Arizona State University	Tempe, AZ
Mr. Andy Morrison	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Brian Muirhead	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Michelle Munk	NASA Langley Research Center	Hampton, VA
Ms. Mary Beth Murrill	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Tom Myrick	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Firouz Naderi	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Albert Nakata	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Scott Nowicki	Arizona State University	Tempe, AZ
Dr. Timothy J. Parker	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Jeffrey Plaut	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Peter Poon	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Erik Pounders	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. James Rice	Arizona State University	Tempe, AZ
Mr. Tommaso Rivellini	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Deanne Rogers	Arizona State University	Tempe, AZ
Ms. Ruth Rudd	Millcreek Education Center	Erie, PA
Dr. Steve Ruff	Arizona State University	Tempe, AZ
Mr. Mark Ryne	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Steve Saunders	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Seidel	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Chris Shinohara	University of Arizona	Tucson, AZ
Mr. Wayne Sidney	Lockheed Martin Space Systems	Littleton, CO
Mr. David Spencer	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Steve Squyres	Cornell University	Ithaca, NY
Mr. Adam Steltzner	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Michelle Thaller	SIRTF Science Center/ California Institute of Technology	Pasadena, CA
Mr. Pete Theisinger	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Marla Thornton	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Jennifer H. Trosper	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Paige Valderrama	Arizona State University	Tempe, AZ
Ms. Michelle Viotti	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Grace Wang	NASA Jet Propulsion Laboratory	Pasadena, CA

	Dr. Mike Watkins	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Keith Watt	Arizona State University	Tempe, AZ
	Ms. Stacy Weinstein	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Charles Whetsel	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Shonte Wright	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	Arizona State University		Tempe, AZ
	Johns Hopkins University Applied Physics Laboratory		Laurel, MD
	Lockheed Martin Space Systems		Littleton, CO
	Los Alamos National Laboratory		Los Alamos, NM
	NASA Ames Research Center		Moffett Field, CA
	NASA Glenn Research Center		Cleveland, OH
	NASA Goddard Space Flight Center		Greenbelt, MD
	NASA Jet Propulsion Laboratory		Pasadena, CA
	NASA Johnson Space Center		Houston, TX
	NASA Kennedy Space Center		Kennedy Space Center, FL
	NASA Langley Research Center		Hampton, VA
	NASA Office of Earth Science		Washington, DC
	NASA Office of Public Affairs		Washington, DC
	National Center for Atmospheric Research (NCAR)		Boulder, CO
	Planetary Data System		Pasadena, CA
	Planetary Science Institute		Tucson, AZ
	SIRTF Science Center/California Institute of Technology		Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
		Bay District Schools	Panama City, FL	-	5,000	-
		Catholic Television Network	Oakland, CA	-	15,000	-
		Chillicothe High School	Chillicothe, MO	-	100	-
		Coldwater Community Schools	Coldwater, MI	-	2,500	-
		Colorado Springs School District	Colorado Springs, CO	-	32,000	-
		Danville Governor's School	Danville, VA	50	-	-
		Fairfax County Public Schools	Annandale, VA	-	850,000	-
		Gratiot-Isabella Regional Education Services District	Ithaca, MI	-	5,000	-
		Idaho Public Television	Boise, ID	-	-	-
		John B. Connally Middle School	San Antonio, TX	250	-	-
		KAFT-TV, Channel 13/Fayetteville	Conway, AR	-	-	-
		KBIN-TV, Channel 32/Council Bluffs	Johnston, IA	-	-	-
		KCPT-TV, Channel 19	Kansas City, MO	-	-	-
		KDIN-TV, Channel 11/Des Moines	Johnston, IA	-	-	-
		KDTN-TV, Channel 2/Dallas	Dallas, TX	-	-	-
		KERA-TV, Channel 13/Dallas, Fort Worth, Denton	Dallas, TX	-	-	-
		KETA-TV, Channel 13/Oklahoma City	Oklahoma City, OK	-	-	-
		KETC-TV, Channel 9	St. Louis, MO	-	-	-
		KETG-TV, Channel 9/Arkadelphia	Conway, AR	-	-	-
		KETJ-TV, Channel 19/Jonesville	Conway, AR	-	-	-
		KETS-TV, Channel 2/Little Rock	Conway, AR	-	-	-
		KHIN-TV, Channel 36/Red Oak	Johnston, IA	-	-	-
		KIIN-TV, Channel 12/Iowa City	Johnston, IA	-	-	-
		KLCS-TV, Channel 58/Los Angeles	Los Angeles, CA	-	-	-
		KLPA-TV, Channel 25/Alexandria	Baton Rouge, LA	-	-	-
		KLPB-TV, Channel 24/Lafayette	Baton Rouge, LA	-	-	-
		KLRU-TV, Channel 18/Austin	Austin, TX	-	-	-
		KLTL-TV, Channel 18/Lake Charles	Baton Rouge, LA	-	-	-
		KLTM-TV, Channel 13/Monroe	Baton Rouge, LA	-	-	-

KLTS-TV, Channel 24/Shreveport	Baton Rouge, LA	-	-	-
KMOS-TV, Channel 6/Sedalia	Warrensburg, MO	-	-	-
KNCT-TV, Channel 46/Killeen	Killeen, TX	-	-	-
KNME-TV, Channel 5/Albuquerque	Albuquerque, NM	-	-	-
KOCE-TV, Channel 50	Huntington Beach, CA	-	-	-
KOED-TV, Channel 11/Tulsa	Oklahoma City, OK	-	-	-
KOET-TV, Channel 3/Eufaula	Oklahoma City, OK	-	-	-
KOZJ-TV, Channel 26/Joplin	Springfield, MO	-	-	-
KOZK-TV, Channel 21/Springfield	Springfield, MO	-	-	-
KQED-TV, Channel 9/San Francisco	San Francisco, CA	-	-	-
KRIN-TV, Channel 32/Waterloo	Johnston, IA	-	-	-
KRMA-TV, Channel 6/Denver	Denver, CO	-	-	-
KRSC-TV, Channel 35/Claremore	Claremore, OK	-	-	-
KSIN-TV, Channel 27/Sioux City	Johnston, IA	-	-	-
KTIN-TV, Channel 21/Fort Dodge	Johnston, IA	-	-	-
KTLC-TV, Channel 43/Oklahoma City	Oklahoma City, OK	-	-	-
KUAS-TV, Channel 27/Tucson	Tucson, AZ	-	-	-
KUAT-TV, Channel 6/Tucson	Tucson, AZ	-	-	-
KWET-TV, Channel 12/Cheyenne	Oklahoma City, OK	-	-	-
KYIN-TV, Channel 24/Mason City	Johnston, IA	-	-	-
Macomb Intermediate School District	Clinton Township, MI	-	120,000	-
Missouri School Boards Association	Columbia, MO	-	-	-
Montana Public Television	Bozeman, MT	-	-	-
New Hampshire Public Television	Durham, NH	-	-	-
Ohio Educational Telecommunications Association	Cincinnati, OH	-	-	-
Richardson Independent School District	Richardson, TX	-	34,000	-
South Carolina Educational Television	Columbia, SC	-	-	-
St. Louis Cooperating School Districts	St. Louis, MO	-	300,000	-
Telequebec	Montreal, Canada	-	-	-
Virginia Educational Satellite Network	Richmond, VA	-	-	-
Waterford School District	Waterford, MI	-	10,000	-
WBCC-TV, Channel 68/Cocoa	Cocoa, FL	-	-	-
WBCU-TV, Channel 27/Bowling Green	Bowling Green, OH	-	-	-
WBRA-TV, Channel 15/Roanoke	Roanoke, VA	-	-	-
WCET-TV, Channel 48/Cincinnati	Cincinnati, OH	-	-	-
WCEU-TV, Channel 15/Daytona Beach	Daytona Beach, FL	-	-	-
WCFE-TV, Channel 57/Plattsburgh	Plattsburgh, NY	-	-	-
WCNY-TV, Channel 24/Syracuse	Syracuse, NY	-	-	-
WCPB-TV, Channel 28/Salisbury	Owings Mills, MD	-	-	-
WCVN-TV, Channel 54/Covington	Lexington, KY	-	-	-
WEAO-TV, Channel 49/Akron	Kent, OH	-	-	-
WEBA-TV, Channel 14/Allendale	Columbia, SC	-	-	-
WEDU-TV, Channel 3/Tampa	Tampa, FL	-	-	-
WEKW-TV, Channel 52/Keene	Durham, NH	-	-	-
WENH-TV, Channel 11/Durham	Durham, NH	-	-	-
WETK-TV, Channel 33/Burlington	Colchester, VT	-	-	-
WFPT-TV, Channel 62/Frederick	Owings Mills, MD	-	-	-
WFSG-TV, Channel 56/Panama City	Tallahassee, FL	-	-	-
WFSU-TV, Channel 11/Tallahassee	Tallahassee, FL	-	-	-
WGCU TV, Channel 30/Fort Myers-Naples	Fort Myers, FL	-	-	-
WGPT-TV, Channel 36/Oakland	Owings Mills, MD	-	-	-
WHMC-TV, Channel 23/Conway	Columbia, SC	-	-	-
WHRO-TV, Channel 15/Norfolk	Norfolk, VA	-	-	-
Wisconsin Educational Telecommunications Board	Madison, WI	-	-	-
WITF-TV, Channel 33/Harrisburg	Harrisburg, PA	-	-	-

WITV-TV, Channel 7/Charleston	Columbia, SC	-	-	-
WJCT-TV, Channel 7/Jacksonville	Jacksonville, FL	-	-	-
WJPM-TV, Channel 33/Florence	Columbia, SC	-	-	-
WJWJ-TV, Channel 16/Beaufort	Beaufort, SC	-	-	-
WKAS-TV, Channel 25/Ashland	Lexington, KY	-	-	-
WKDP-TV, Channel 29/Paducah	Lexington, KY	-	-	-
WKGB-TV, Channel 53/Bowling Green	Lexington, KY	-	-	-
WKHA-TV, Channel 35/Hazard	Lexington, KY	-	-	-
WKLE-TV, Channel 46/Lexington-Richmond	Lexington, KY	-	-	-
WKMA-TV, Channel 35/Madisonville	Lexington, KY	-	-	-
WKMJ-TV, Channel 68/Louisville	Lexington, KY	-	-	-
WKMR-TV, Channel 38/Morehead	Lexington, KY	-	-	-
WKMU-TV, Channel 21/Murray-Mayfield	Lexington, KY	-	-	-
WKOH-TV, Channel 31/Owensboro-Henderson	Lexington, KY	-	-	-
WKON-TV, Channel 52/Owenton	Lexington, KY	-	-	-
WKPI-TV, Channel 22/Pikeville	Lexington, KY	-	-	-
WKSO-TV, Channel 29/Somerset	Lexington, KY	-	-	-
WKZT-TV, Channel 23/Elizabethtown	Lexington, KY	-	-	-
WLAE-TV, Channel 32/New Orleans	New Orleans, LA	-	-	-
WLED-TV, Channel 49/Littleton	Durham, NH	-	-	-
WLIW, Long Island Educational TV Council, Inc.	Plainview, NY	-	-	-
WLJT-TV, Channel 11	Martin, TN	-	-	-
WLPB-TV, Channel 27/Baton Rouge	Baton Rouge, LA	-	-	-
WLRN-TV, Channel 17/Miami	Miami, FL	-	-	-
WMFE-TV, Channel 24/Orlando	Orlando, FL	-	-	-
WMPB-TV, Channel 67/Baltimore	Owings Mills, MD	-	-	-
WMPT-TV, Channel 22/Annapolis	Owings Mills, MD	-	-	-
WMSY-TV, Channel 52/Marion	Roanoke, VA	-	-	-
WNCN-TV, Channel 17/Raleigh	Raleigh, NC	-	-	-
WNED, Western New York Public Broadcasting Association	Buffalo, NY	-	-	-
WNEH-TV, Channel 38/Greenwood	Columbia, SC	-	-	-
WNEO-TV, Channel 45/Alliance	Kent, OH	-	-	-
WNIN-TV, Channel 9/Evansville	Evansville, IN	-	-	-
WNPB-TV, Channel 24/Morgantown	Morgantown, WV	-	-	-
WNSC-TV, Channel 30/Rock Hill	Rock Hill, SC	-	-	-
WNTV-TV, Channel 29/Greenville	Columbia, SC	-	-	-
WNVC-TV, Channel 56/Fairfax	Falls Church, VA	-	-	-
WNYE-TV, Channel 25/New York City	Brooklyn, NY	-	-	-
WOSU-TV, Channel 34/Columbus	Columbus, OH	-	-	-
WOUB-TV, Channel 20/Athens	Athens, OH	-	-	-
WOUC-TV, Channel 44/Cambridge	Athens, OH	-	-	-
WPBA-TV, Channel 30/Atlanta	Atlanta, GA	-	-	-
WPBO-TV, Channel 42/Portsmouth	Columbus, OH	-	-	-
WPBT-TV, Channel 2/Miami	Miami, FL	-	-	-
WPBY-TV, Channel 33/Huntington	Huntington, WV	-	-	-
WPSX-TV, Channel 3/Clearfield	University Park, PA	-	-	-
WPTD-TV, Channel 16/Dayton	Dayton, OH	-	-	-
WPTO-TV, Channel 14/Oxford	Dayton, OH	-	-	-
WRET-TV, Channel 49/Spartanburg	Spartanburg, SC	-	-	-
WRJA-TV, Channel 27/Sumter	Sumter, SC	-	-	-
WRLK-TV, Channel 35/Columbia	Columbia, SC	-	-	-
WSBE-TV, Channel 36/Providence	Providence, RI	-	-	-
WSBN-TV, Channel 47/Norton	Roanoke, VA	-	-	-
WSKG Public Telecommunications Council	Binghamton, NY	-	-	-
WSPA-TV, Channel 7	Spartanburg, SC	-	-	-
WSRE-TV, Channel 23/Pensacola	Pensacola, FL	-	-	-

		WSWP-TV, Channel 9/Beckley	Beckley, WV	-	-	-
		WUFT-TV, Channel 5/Gainesville	Gainesville, FL	-	-	-
		WUSF-TV, Channel 16/Tampa	Tampa, FL	-	-	-
		WVER-TV, Channel 28/Rutland	Colchester, VT	-	-	-
		WVIZ-TV, Channel 25/Cleveland	Cleveland, OH	-	-	-
		WVPT-TV, Channel 51/Harrisonburg	Harrisonburg, VA	-	-	-
		WVTA-TV, Channel 41/Windsor	Colchester, VT	-	-	-
		WVTB-TV, Channel 20/Saint Johnsbury	Colchester, VT	-	-	-
		WWPB-TV, Channel 31/Hagerstown	Owings Mills, MD	-	-	-
		WXEL-TV, Channel 42/West Palm Beach	West Palm Beach, FL	-	-	-
		WXXI Public Broadcasting Council	Rochester, NY	-	-	-
		WYES-TV, Channel 12/New Orleans	New Orleans, LA	-	-	-
		Wyoming Public Television	Riverton, WY	-	-	-
10 Aug 01	11 Aug 01	National Teacher Training Institute	Tucson, AZ	50	-	-
20 Sep 01	20 Sep 01	Science Teachers' 2001 Workshop	University Park, PA	25	-	-
30 Sep 01	30 May 02	NASA TV	Washington, DC	-	1,290,000	250,000
30 Sep 01	30 May 02	Oakland Unified School District	Oakland, CA	-	50,000	-
30 Sep 01	30 May 02	PBS (Channel 512)	Alexandria, VA	-	8,800,000	750, 000
30 Sep 01	30 May 02	Redbank Valley School District	New Bethlehem, PA	30	-	-
30 Sep 01	30 May 02	Tampa Educational Cable Consortium	Tampa, FL	-	25,000	-
30 Oct 01	30 May 02	KAET-TV, Channel 8/Phoenix	Tempe, AZ	-	103,220	100
30 Oct 01	30 May 02	KEET-TV, Channel 13/Eureka	Eureka, CA	29, 456	58,100	100
30 Oct 01	30 May 02	KEMV-TV, Channel 6/Mountain View	Conway, AR	-	-	-
18 Nov 01	18 Nov 01	NASA Jet Propulsion Laboratory	Pasadena, CA	100	-	-
19 Mar 02	19 Mar 02	Arizona State University	Tempe, AZ	68	-	-

A271. "Live from the Aurora"

Theme(s): SEC

Msn/Prgm(s): P2K[B9], IS[B95], Ulysses[B96], Voyager[B97], ACE[B98], FAST[B100], RHESSI[B101], IMAGE[B102], IMP-8[B103], ISTP[B108], Cluster II[B109], Geotail[B110], Polar[B111], SOHO[B112], Wind[B113], MMS[B115], STEREO[B117], TIMED[B118], LWS[B119], Yohkoh[B121]

Description: "Live from the Aurora" is the broadcast television component of NASA's 2003 Sun-Earth Days: two hourlong programs, created by Passport to Knowledge, accompany extensive Web-based activities and online resources developed by the Sun-Earth Connection Education Forum. The project uses the beauty and mystery of the aurora to inform and excite students about how the Sun and Earth are connected systems and about the new science of space weather. Their broadcast on participating public television stations and NASA TV is slated for February 11 and March 18, 2003. Special outreach events will link NASA researchers to science centers and planetariums across the Nation. From a location close to the North Magnetic Pole (where field lines climb vertically up from Earth's surface) to NASA Wallops (where sounding rockets are prepared for auroral research in Norway and Alaska) to some of the most detailed, dramatic, and dynamic imagery ever received from NASA's IMAGE and TRACE satellites, the programs are full of intriguing places, astonishing visualizations, and personal stories of the researchers who work on cutting-edge research to show how our planet and our high-tech civilization are literally "living with a star." Online materials invite students behind the scenes to explore the technology and engineering which enable such science. Hands-on activities allow students to build and launch simple rockets in class and participate in online communities of students who are using NASA's Web resources to follow events all the way from the Sun to Earth and to predict auroras.

Lead: Mr. Geoffrey Haines-Stiles, Geoff Haines-Stiles Productions, Morristown, NJ 07960.
E-mail: *ghs@passporttoknowledge.com.* Phone: 973-656-9403.

Primary URL: *http://passporttoknowledge.com/sun*

2nd URL: *http://passporttoknowledge.com*

Scientist(s):			
	Dr. Mark Conde	University of Alaska Fairbanks	Fairbanks, AK
	Dr. Nicola Fox	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Tracy Gibb	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Geoffrey Haines-Stiles	Geoff Haines-Stiles Productions	Morristown, NJ
	Dr. Isabel Hawkins	University of California, Berkeley	Berkeley, CA
	Dr. James Labelle	Dartmouth College	Hanover, NH
	Dr. Miguel Larsen	Clemson University	Clemson, SC

	Ms. Elaine Lewis	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Robert Pfaff	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Art Poland	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Roger Smith	University of Alaska Fairbanks	Fairbanks, AK
	Dr. Barbara Thompson	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Richard Vondrak	NASA Goddard Space Flight Center	Greenbelt, MD
Partner(s):	Air Force Research Laboratory/VSBXR		Hanscom Air Force Base, MA
	American Geophysical Union (AGU)		Washington, DC
	American Institute for Aeronautics and Astronautics		Reston, VA
	Astronomical Society of the Pacific (ASP)		San Francisco, CA
	Carnegie Institute of Washington		Washington, DC
	European Space Agency		Paris, France
	Harvard-Smithsonian Center for Astrophysics		Cambridge, MA
	Johns Hopkins University Applied Physics Laboratory		Laurel, MD
	Lawrence Berkeley National Laboratory		Berkeley, CA
	Lawrence Livermore National Laboratory		Livermore, CA
	Lockheed Martin Advanced Technology Center		Palo Alto, CA
	Lockheed Martin Management and Data Systems		Philadelphia, PA
	Lockheed Martin Solar and Astrophysics Laboratory		Palo Alto, CA
	Lockheed Martin Space Systems		Littleton, CO
	Los Alamos National Laboratory		Los Alamos, NM
	McDonald Observatory		Austin, TX
	Middle Atlantic Planetarium Society		Clifton, NJ
	NASA Ames Research Center		Moffett Field, CA
	NASA Astrobiology Institute (NAI)		Moffett Field, CA
	NASA Dryden Flight Research Center		Edwards, CA
	NASA Glenn Research Center		Cleveland, OH
	NASA Goddard Space Flight Center		Greenbelt, MD
	NASA Jet Propulsion Laboratory		Pasadena, CA
	NASA Johnson Space Center		Houston, TX
	NASA Kennedy Space Center		Kennedy Space Center, FL
	NASA Langley Research Center		Hampton, VA
	NASA Marshall Space Flight Center		Marshall Space Flight Center, AL
	NASA Office of Aerospace Technology		Washington, DC
	NASA Office of Biological and Physical Research		Washington, DC
	NASA Office of Earth Science		Washington, DC
	NASA Office of Public Affairs		Washington, DC
	NASA Office of Space Flight		Washington, DC
	National Center for Atmospheric Research (NCAR)		Boulder, CO
	National Oceanic and Atmospheric Administration (NOAA)		Boulder, CO
	National Optical Astronomy Observatory (NOAO)		Tucson, AZ
	National Radio Astronomy Observatory		Socorro, NM
	National Science Foundation		Arlington, VA
	National Solar Observatory		Sunspot, NM
	Naval Research Laboratory		Washington, DC
	Raytheon Company		Lanham, MD
	Science Systems and Applications, Inc.		Lanham, MD
	Smithsonian Institution		Washington, DC
	Southwest Research Institute		Boulder, CO
	Space Telescope Science Institute		Baltimore, MD
	The Boeing Company		Cape Canaveral Air Station, FL
	The Boeing Company		Everett, WA

U.S. Air Force, Patrick Air Force Base	Patrick Air Force Base, FL
U.S. Geological Survey	Flagstaff, AZ
U.S. Naval Observatory	Washington, DC
University Corporation for Atmospheric Research (UCAR)	Boulder, CO
University of Alaska Fairbanks	Fairbanks, AK

A272. Living With a Star (LWS) Student Internship

Theme(s): SEC
Msn/Prgm(s): LWS[B119]
Description: The LWS Summer Student Program gives students the opportunity to work with scientists, engineers, or education and public outreach (E/PO) leads. The students develop different projects and present their final product at the end of the internship. The program is geared to give the students an overview of the different professions available on site and the science and engineering of the Sun-Earth connection missions. The main goal of the program is to promote an active interaction between scientists, engineers, or E/PO leads and the students and to inspire them to become the next generation of explorers during the 21st century.
Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.
Primary URL: *http://lws.gsfc.nasa.gov*
Scientist(s): Ms. Evelina Felicite-Maurice — NASA Goddard Space Flight Center — Greenbelt, MD
Ms. DeLee Smith — NASA Goddard Space Flight Center — Greenbelt, MD
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Jul 02	15 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	8	-	-

A273. MAP Cooperative Satellite Learning Project (CSLP)

Theme(s): SEU
Msn/Prgm(s): MAP[B79]
Description: Microwave Anisotropy Probe (MAP) works with Old Bridge High School, in New Jersey, throughout the year by providing human, electronic, and curricular resources for the CSLP program. The objectives of CSLP are to motivate students in the K-12 system into pursuing careers in science, engineering, mathematics, and space. It also demonstrates the application of technology and the integration of a variety of technical disciplines into a complex system of ground- and space-based segments called the "end-to-end" mission system. Further, through special projects performed by small, focused student groups, the participants learn such skills as leadership, planning, organization, speech and presentation, and group interaction.
Lead: Dr. David Spergel, Princeton University, Princeton, NJ 08544-1001.
E-mail: *dns@astro.princeton.edu.* Phone: 609-258-3589.
Primary URL: *http://map.gsfc.nasa.gov*
2nd URL: *http://cslp.gsfc.nasa.gov*

A274. Mars Reconnaissance Orbiter (MRO) Compact Reconnaissance Imaging Spectrometer for Mars (CRISM) Events

Theme(s): SSE
Msn/Prgm(s): MRO[B53]
Description: The CRISM education and public outreach (E/PO) office helped scientists, engineers, and other team members become involved in E/PO efforts by providing opportunities for participation in student and public events. This office coordinated and hosted these events and provided the resources necessary for the team members to talk to student participants, present demonstrations and tours, serve on panels, and have direct interaction with students regarding the Mars and the CRISM instrument.
Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.
Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.
Primary URL: *http://crism.jhuapl.edu/*

Scientist(s):	Dr. Olivier Barnouin-Jha	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Dr. Scott Murchie	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 May 02	02 May 02	Maryland Science Center	Baltimore, MD	-	581	-
10 May 02	10 May 02	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	123	-	-

A275. Mars Robotics Education Partnership

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56]

Description: This program will use robotics as a means to enable a sense of participation in Mars exploration. The goal is to build a cohesive set of robotics activities at all grade levels for progressive learning, where each set of grade-appropriate, standards-based activities prepare students for the next. The framework will enable students to move through the "pipeline" to more sophisticated activities, preparing them for potential careers in technology and engineering.

Contact: Ms. Cassie Bowman, NASA Ames Research Center, Moffett Field, CA 94035-1000.
E-mail: *cbowman@mail.arc.nasa.gov.* Phone: 617-547-3482.

Scientist(s):	Dr. Raymond Arvidson	Washington University	St. Louis, MO
	Dr. Deborah Bass	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Laura Berwin	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Diana Blaney	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Cassie Bowman	NASA Ames Research Center	Moffett Field, CA
	Dr. John Callas	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Joy Crisp	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Consuelo Gennaro	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Edward Guiness	Washington University	St. Louis, MO
	Ms. Stephanie Lievense	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Elaina McCartney	Cornell University	Ithaca, NY
	Ms. Kathy McNair-Borin	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Jennifer Mindock	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Doug Ming	NASA Johnson Space Center	Houston, TX
	Dr. Dick Morris	NASA Johnson Space Center	Houston, TX
	Ms. Helen Mortensen	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Frank Seelos	Washington University	St. Louis, MO
	Ms. Diane Sherman	Cornell University	Ithaca, NY
	Dr. Steve Squyres	Cornell University	Ithaca, NY
	Ms. Julie Townsend	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Jennifer H. Trosper	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Eddie Tunstel	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Tom Wdowiak	University of Alabama at Birmingham	Birmingham, AL
	Dr. Shonte Wright	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	Arizona State University		Tempe, AZ
	Carnegie Mellon University		Pittsburgh, PA
	Cornell University		Ithaca, NY
	Washington University		St. Louis, MO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
16 May 02	16 May 02	NASA Ames Research Center	Moffett Field, CA	30	500	-
11 Jul 02	30 Sep 02	NASA Jet Propulsion Laboratory	Pasadena, CA	11	-	-
10 Aug 02	19 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	11	-	-

A276. Mars Student Imaging Project

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: The Mars Student Imaging Project utilizes a NASA imaging facility at Arizona State University for scientists and students who are studying Mars. It is available to grades 5-12 and undergraduate educators and students. Teacher guides and curriculum supplements use real data, at first, from the orbital data obtained by the Mars Global Surveyor and 2001 Mars Odyssey and, later, by the Mars Reconnaissance Orbiter. This orbital data is compared to ground data collected from the Mars Pathfinder and, later, from the Mars Exploration Rovers and Mars Smart Lander. Activities are tested and reviewed by scientists and master educators and are made available online and in hard copy. All are inquiry-based activities that meet the national science, mathematics, and technology education standards. Pre- and postproject mentoring for teachers is a part of the program design, maximizing the impact of a real-science infusion into the classroom. A number of middle school, high school, and undergraduate student teams also have the opportunity to participate directly in the scientific exploration of Mars in near-real-time. A percentage of the pictures taken by the Thermal Emission Imaging System (THEMIS) instrument on the Odyssey spacecraft (and perhaps others over time) is dedicated to student use. Student teams from across the United States submit proposals to take pictures of specific regions of Mars, explaining the scientific questions they would like to answer. They then participate in acquiring the image, analyzing the data, and presenting their findings. At least one-quarter of the imaging-team slots are reserved for underrepresented groups (minority, female, rural, and inner-city), which are recruited through contacts with minority institutions and other programs. In addition to onsite student missions, opportunities for students exist through distance learning and through a special archived-image library of data that will be developed using data from all of NASA's past, present, and future Mars missions.

Contact: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.

Primary URL: *http://msip@asu.edu*

2nd URL: *http://mars.jpl.nasa.gov*

Scientist(s):

Ms. Kelly Bender	Arizona State University	Tempe, AZ
Dr. Phil Christensen	Arizona State University	Tempe, AZ
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Mr. Greg Mehall	Arizona State University	Tempe, AZ
Ms. Paige Valderrama	Arizona State University	Tempe, AZ
Mr. Keith Watt	Arizona State University	Tempe, AZ
Ms. Sally Watt	Arizona State University	Tempe, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Mar 02	05 Mar 02	Arizona State University	Tempe, AZ	36	120	-
12 Mar 02	12 Mar 02	Arizona State University	Tempe, AZ	14	-	-
18 Mar 02	20 Mar 02	Arizona State University	Tempe, AZ	14	-	-
23 Mar 02	26 Mar 02	Arizona State University	Tempe, AZ	16	-	-
27 Mar 02	30 Mar 02	Arizona State University	Tempe, AZ	13	-	-
09 Apr 02	12 Apr 02	Arizona State University	Tempe, AZ	32	-	-
22 Apr 02	24 Apr 02	Arizona State University	Tempe, AZ	14	-	-
02 May 02	02 May 02	Arizona State University	Tempe, AZ	8	-	-
06 May 02	08 May 02	Arizona State University	Tempe, AZ	2	-	-
13 May 02	15 May 02	Arizona State University	Tempe, AZ	6	-	-
16 May 02	16 May 02	Arizona State University	Tempe, AZ	9	-	-
21 May 02	23 May 02	Arizona State University	Tempe, AZ	1	-	-
28 May 02	30 May 03	Arizona State University	Tempe, AZ	22	-	-
14 Jun 02	14 Jun 02	Arizona State University	Tempe, AZ	12	-	-
17 Jun 02	21 Jun 02	Arizona State University	Tempe, AZ	34	-	-
19 Jun 02	19 Jun 02	Arizona State University	Tempe, AZ	3	-	-
24 Jun 02	28 Jun 02	Arizona State University	Tempe, AZ	16	-	-

A277. Mars: Classroom Visits

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: Mars classroom visits are presentations in a formal education setting that supplement ongoing learning in the classroom, highlighting how science, mathematics, and technology instruction relates to Mars exploration and vice versa. Scientists and engineers who are working on Mars missions volunteer their time, provide role-modeling experiences for students, and generate an interest in scientific discovery, technology innovation, and space-exploration careers. They also assist in disseminating Mars-related educational and informational materials to teachers and students. In addition to Mars missions, these visits teach students about Mars and compare it to Earth, bringing visuals and stories that make Mars an increasingly familiar planet and place to explore. They also alert teachers and students to the ongoing opportunities and programs in which they can participate.

Lead: Ms. Michelle Viotti, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *mviotti@jpl.nasa.gov.* Phone: 818-354-8774.

Scientist(s):

Mr. Todd Barber	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. John Beck	Stanford University	Stanford, CA
Mr. Boonsieng Benjauthrit	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Leo Bister	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Derek Blackway	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. John Callas	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Jim Erickson	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Orlando Figueroa	NASA Office of Space Science	Washington, DC
Dr. Ramon Garcia	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Winston Gin	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Edward Gonzales	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Richard Guerrero	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Kelly Henderson-Nelson	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Paul Herrera	NASA Jet Propulsion Laboratory	Pasadena, C
Mr. Scott Hulme	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Dan Johnston	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Dr. Melissa Lane	Arizona State University	Tempe, AZ
Ms. Stephanie Lievense	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Jim McClure	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. William Moore	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Kenneth Nealson	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Frank O'Donnell	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Glenn Reeves	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Ali Safaeinili	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Richard Shope	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Clark Snowdall	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Kathleen Spellman	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Suzanne Spitz	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Art Thompson	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Paige Valderrama	Arizona State University	Tempe, AZ
Mr. Keith Watt	Arizona State University	Tempe, AZ
Dr. Randii Wessen	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Harry Woo	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Nov 01	01 Nov 01	Colorado Academy	Denver, CO	21	-	-
06 Nov 01	06 Nov 01	Sespe Elementary School	Fillmore, CA	21	-	-
14 Nov 01	14 Nov 01	Revere Elementary School	Anaheim, CA	21	-	-
26 Nov 01	26 Nov 01	Wade Carpenter Middle Academy	Nogales, AZ	41	-	-

28 Nov 01	28 Nov 01	Birch Kirksey Middle School	Rogers, AR	21	-	-
05 Dec 01	05 Dec 01	Monrovia Schools Foundation	Monrovia, CA	21	-	-
06 Dec 01	06 Dec 01	Holmes Middle School	Northridge, CA	21	-	-
17 Dec 01	17 Dec 01	Fees Middle School	Tempe, AZ	322	-	-
21 Dec 01	21 Dec 01	Palm Crest Elementary School	La Cañada, CA	21	-	-
04 Jan 02	04 Jan 02	Roton Middle School	Norwalk, CT	21	-	-
04 Jan 02	04 Jan 02	University of Southern California	Los Angeles, CA	21	-	-
14 Jan 02	14 Jan 02	Palm Crest Elementary School	La Cañada, CA	21	-	-
18 Jan 02	18 Jan 02	Broadoaks Elementary School	Monrovia, CA	21	-	-
21 Jan 02	21 Jan 02	Valencia Elementary School	Upland, CA	21	-	-
28 Jan 02	28 Jan 02	Long Ranch Elementary School	Thousand Oaks, CA	21	-	-
30 Jan 02	30 Jan 02	Saint Ignatius School	Los Angeles, CA	21	-	-
06 Feb 02	06 Feb 02	Albion Elementary School	Los Angeles, CA	21	-	-
08 Feb 02	08 Feb 02	Leona Cox Elementary School	Santa Clarita, CA	21	-	-
11 Feb 02	11 Feb 02	Fees Middle School	Tempe, AZ	11	-	-
11 Feb 02	11 Feb 02	Nogales High School	Nogales, AZ	43	-	-
11 Feb 02	11 Feb 02	Westwood Charter School	Los Angeles, CA	21	-	-
15 Feb 02	15 Feb 02	McAuliffe Middle School	Los Alamitos, CA	21	-	-
18 Feb 02	18 Feb 02	Griffin Avenue Elementary School	Los Angeles, CA	21	-	-
21 Feb 02	21 Feb 02	Don Benito Fundamental Elementary School	Pasadena, CA	21	-	-
22 Feb 02	22 Feb 02	Edgewood Middle School	West Covina, CA	21	-	-
23 Feb 02	23 Feb 02	University of Southern California	Los Angeles, CA	21	-	-
25 Feb 02	25 Feb 02	Wittman Elementary School	Cerritos, CA	21	-	-
01 Mar 02	01 Mar 02	Arroyo Vista Elementary School	Van Nuys, CA	21	-	-
06 Mar 02	06 Mar 02	Camarillo Middle School	Camarillo, CA	21	-	-
06 Mar 02	06 Mar 02	Roosevelt Elementary School	Spokane, WA	21	-	-
07 Mar 02	07 Mar 02	First Avenue Middle School	Arcadia, CA	21	-	-
08 Mar 02	08 Mar 02	San Tan Elementary School	Gilbert, AZ	27	-	-
11 Mar 02	11 Mar 02	Marengo Elementary School	South Pasadena, CA	21	-	-
22 Mar 02	22 Mar 02	New Mexico Highlands University	Las Vegas, NM	21	-	-
24 Mar 02	24 Mar 02	Leona Cox Elementary School	Canyon Country, CA	21	-	-
25 Mar 02	25 Mar 02	Canyon Country Elementary School	Canyon Country, CA	21	-	-
27 Mar 02	27 Mar 02	Sumner Elementary School	Claremont, CA	21	-	-
02 Apr 02	02 Apr 02	Fees Middle School	Tempe, AZ	13	-	-
17 Apr 02	17 Apr 02	Mayfield High School	Las Cruces, NM	120	-	-
17 Apr 02	17 Apr 02	Sierra Middle School	Las Cruces, NM	125	-	-
24 Apr 02	24 Apr 02	Casa Vida Homeschool Enrichment Center	Ahwatukee, AZ	124	-	-
30 Apr 02	30 Apr 02	Mont Vernon Village School	Mont Vernon, NH	85	-	-
22 May 02	22 May 02	Dunsmore Elementary School	La Crescenta, CA	21	-	-
30 May 02	30 May 02	Walnut Elementary School	Baldwin Park, CA	21		-
04 Jun 02	04 Jun 02	Two Harbors Elementary School	Santa Catalina Island, CA	21	-	-
10 Jun 02	10 Jun 02	La Madera Elementary School	Lake Forest, CA	21	-	-
21 Aug 02	21 Aug 02	Nogales High School	Nogales, AZ	21	-	-

A278. Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: FIRST Robotics is a highly regarded national engineering contest that immerses high school students in engineering. In 6 intense weeks annually, students and engineers work together to brainstorm, design, construct, and test their champion robots. In addition to student learning, this program also gives Mars engineers a chance to work with students and teachers in their area of expertise and to serve as role models for the students with whom they work. This project is similar to the process that engineers use to design rover missions on Mars, so both engineer and student participants can make the important connection between what they are learning through FIRST and real-world applications. Students also learn important skills that are necessary for the high-wage, technology-rich jobs of the future, such as teamwork, critical thinking, and problem solving.

Contact: Ms. Stephenie Lievense, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.

E-mail: *Stephenie.H.Lievense@jpl.nasa.gov.* Phone: 818-393-6729.

Scientist(s):	Mr. Mark Balzer	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Chuck Bergh	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Joseph Bishop	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. D. J. Byrne	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Larry Fowler	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Dan Helmick	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Robert Hogg	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Shouhua Huang	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Brent Hunter	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Ken Hurst	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Satish Krishnan	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Daniel Limonadi	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Thomas Meehan	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Mauricio Morales	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Arin Morfopoulos	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Annette Nasif	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Greg Neat	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Leslie Paal	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Richard Petras	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Rex Quinn	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Jeff Sakamoto	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Stephen Sandstrom	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Daniel Scharf	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Fred Sericchio	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Jeff Snyder	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Rob Steele	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Jason Suchman	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Matt Tuchscherer	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Christopher Voorhees	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Kevin Watson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Shonte Wright	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	Los Angeles Sports Arena		Los Angeles, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
04 Jan 02	31 Mar 02	Arcadia High School	Arcadia, CA	-	-	-
04 Jan 02	31 Mar 02	Archer School for Girls	Los Angeles, CA	10	-	-
04 Jan 02	31 Mar 02	Clark Magnet High School	La Crescenta, CA	15	-	-
04 Jan 02	31 Mar 02	Crescenta Valley High School	La Crescenta, CA	10	-	-
04 Jan 02	31 Mar 02	Culver City High School	Culver City, CA	10	-	-
04 Jan 02	31 Mar 02	Dorsey High School	Los Angeles, CA	10	-	-
04 Jan 02	31 Mar 02	Frazier Mountain High School	Lebec, CA	34	-	-
04 Jan 02	31 Mar 02	Hart High School	Newhall, CA	10	-	-
04 Jan 02	31 Mar 02	Hope Chapel Academy	Hermosa Beach, CA	10	-	-
04 Jan 02	31 Mar 02	Immaculate High School	Los Angeles, CA	10	-	-
04 Jan 02	31 Mar 02	King Drew Magnet High School of Medicine and Science	Los Angeles, CA	10	-	-
04 Jan 02	31 Mar 02	La Cañada High School	La Cañada, CA	7	-	-
04 Jan 02	31 Mar 02	Mark Keppel High School	Alhambra, CA	10	-	-
04 Jan 02	31 Mar 02	Nimitz Middle School	Huntington Park, CA	10	-	-
04 Jan 02	31 Mar 02	Oakwood School	Hollywood, CA	10	-	-
04 Jan 02	31 Mar 02	Pinewood Academy and Advanced Education Academy	La Cañada, CA	10	-	-
04 Jan 02	31 Mar 02	Taft High School	Woodland Hills, CA	10	-	-
04 Jan 02	31 Mar 02	University of California, San Diego	La Jolla, CA	10	-	-
04 Jan 02	31 Mar 02	Van Nuys High School	Van Nuys, CA	10	-	-

04 Jan 02	31 Mar 02	Venice High School	Los Angeles, CA	10	-	-
04 Jan 02	31 Mar 02	West Covina High School	West Covina, CA	10	-	-
02 Apr 02	02 Apr 02	Epcot Center	Lake Buena Vista, FL	-	-	-

A279. Mars: Imagine Mars!

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: Imagine Mars! is a national science, art, and technology education initiative that challenges students to design a community on Mars that would be scientifically sound and offer a high quality of life. It draws on the former Mars Millennium Program. An integration of science, mathematics, and technology with the arts and humanities, it opens a door into science and technology for students who are more humanities-inclined and would otherwise not be as exposed to the excitement of scientific discovery. Activities are based on arts and humanities standards as well as science education standards. Scientists, engineers, artists, architects, and other community members serve as role models.

Lead: Ms. Michelle Viotti, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *mviotti@jpl.nasa.gov.* Phone: 818-354-8774.

Primary URL: *http://ImagineMars.jpl.nasa.gov*

Scientist(s):	Ms. Alice Jerahian	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Mark Sierak	Pacific Visions Communications	Los Angeles, CA
Partner(s):	National Endowment for the Arts		Washington, DC
	Pacific Visions Communications		Los Angeles, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
08 Jun 02	10 Jun 02	Americans for the Arts Convention	Nashville, TN	-	1,000	-
22 Jun 02	25 Jun 02	Parent Teacher Association (PTA) Convention	San Antonio, TX	-	2,000	-
30 Jun 02	05 Jul 02	National Education Association Expo	Dallas, TX	-	1,500	-

A280. Mars: Student Workshops

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: Mars student workshops provide hands-on, inquiry-based educational experiences related to Mars (geology, astrobiology, etc.). The activities are aligned with the national science and technology education standards. They are led by master educators for K-12 students.

Contact: Ms. Sheri Klug, Arizona State University, Tempe, AZ 85287.
E-mail: *sklug@asu.edu.* Phone: 480-965-1790.

Primary URL: *http://marsed.asu.edu*

Scientist(s):	Ms. Sheri Klug	Arizona State University	Tempe, AZ
	Ms. Paige Valderrama	Arizona State University	Tempe, AZ
	Mr. Keith Watt	Arizona State University	Tempe, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
03 Nov 01	03 Nov 01	Gateway School	Phoenix, AZ	88	-	-
10 Feb 02	10 Feb 02	Arizona State University	Tempe, AZ	14	-	-
26 Apr 02	26 Apr 02	Arizona State University	Tempe, AZ	27	-	-
24 May 02	24 May 02	Vern Burton Center	Port Angeles, WA	1,382	-	-
08 Jun 02	08 Jun 02	Smithsonian Astrophysical Observatory/ Fred Lawrence Whipple Observatory	Amado, AZ	60	-	-

A281. MicroObservatory Online Telescopes

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SEU Forum[B13], CXO[B67]

Description: Many students have a deep interest in astronomy, but limited opportunities to use telescopes to explore the heavens. The MicroObservatory network of five robotic, online telescopes enables middle and high school

teachers and their students to investigate the night sky from the convenience of their classrooms. By means of an intuitive Web interface, students control the telescopes by specifying the target, exposure time, observation time, filter, and site location. Located at sites around the world, the telescopes have a combined capability of a quarter of a million observations each year. Students in 20 States now access the telescopes to carry out investigations ranging from the distance to the Moon to the expansion of the Universe. We evaluated the learning gains of students who use our network of online, educational, automated telescopes to carry out investigations in astronomy and space science. We drew on items from the Astronomical Concept Inventory, an assessment designed to discriminate between the attractiveness of common misconceptions in astronomy and physical science, including light and color, astronomical scale and distance patterns of motion in time and space, and quantitative measurement and estimation. Initial results showed significant gains. There were particularly striking gains in students' ability to solve the math problems on the assessment. We conclude that inquiry-driven investigations, using online telescopes, can enhance student learning in astronomy, physical science, and mathematics.

Lead: Dr. Roy Gould, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *rgould@cfa.harvard.edu.* Phone: 617-496-7689.

Primary URL: *http://mo-www.harvard.edu/MicroObservatory*

Scientist(s):	Ms. Mary Dussault	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Roy Gould	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Partner(s):	Bromfield School		Harvard, MA
	Brooks School		North Andover, MA
	Cape Cod Lighthouse Charter School		Orleans, MA
	College of Charleston		Charleston, SC
	Fenway High School		Boston, MA
	Lincoln-Sudbury Regional High School		Sudbury, MA
	Massachusetts Institute of Technology		Cambridge, MA
	Milton Academy		Milton, MA
	National Science Teachers Association (NSTA)		Arlington, VA
	Northwest Middle School		Kansas City, KS
	Ouray High School		Ouray, CO
	W.M. Keck Observatory		Kamuela, HI
	Weymouth High School		Weymouth, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Feb 02	02 Feb 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	10	-	-
02 May 02	02 May 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	40	-	-

A282. NASA Connect: Having a Solar Blast

Theme(s): SEC

Msn/Prgm(s): ACE[B98]

Description: NASA engineers and researchers use data analysis and measurement to predict solar storms, anticipate how they will affect Earth, and improve our understanding of the Sun-Earth system. Dr. Eric Christian, one of the featured scientists on the show, talked about the Sun.

Lead: Dr. Eric Christian, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *erc@cosmicra.gsfc.nasa.gov.* Phone: 301-286-1041.

Primary URL: *http://connect.larc.nasa.gov/*

Scientist(s):	Dr. Eric Christian	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
28 Mar 02	28 Mar 02	NASA Langley Research Center	Hampton, VA	-	1,000,000	-

A283. Navigator: Student Support

Theme(s): ASO

Msn/Prgm(s): Navigator[B27], MSC[B28], KECK[B29], SIM[B32], TPF[B34]

Description: Navigator's goal for formal education is to involve students and teachers in the authentic process of discovery in order to achieve educational excellence in science literacy.

Lead: Ms. Jenny Tieu, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *jenny.tieu@jpl.nasa.gov.* Phone: 818-393-4765.

Scientist(s): Dr. Rudolf Danner — NASA Jet Propulsion Laboratory — Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
16 Jan 02	16 Jan 02	Frostig Middle School	Pasadena, CA	18	-	-
21 Mar 02	21 Mar 02	Sierra Vista Middle School	Covina, CA	201	-	-
17 Apr 02	17 Apr 02	Riverside Drive Elementary School	Sherman Oaks, CA	252	15	-
18 Apr 02	18 Apr 02	Los Angeles Convention Center	Los Angeles, CA	-	200	-
19 Apr 02	19 Apr 02	Griffin Avenue Elementary School	Los Angeles, CA	62	-	-
16 May 02	16 May 02	Lexington Elementary School	Pomona, CA	64	-	-
04 Jun 02	06 Jun 02	Flint Cultural Center-Longway Planetarium	Flint, MI	316	-	-
05 Jun 02	05 Jun 02	Lowell Academy	Flint, MI	34	-	-
06 Jun 02	06 Jun 02	Flint Cultural Center-Longway Planetarium	Flint, MI	50	25	-
07 Jun 02	07 Jun 02	Cook Elementary Academy	Flint, MI	32	-	-
26 Jul 02	26 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	25	-	-

A284. Near-Earth Asteroid Rendevous (NEAR) Classroom Visits and Student Events

Theme(s): SEC

Msn/Prgm(s): NEAR[B46], TIMED[B118]

Description: The education and public outreach (E/PO) office helped scientists, engineers, and other team members become involved in E/PO efforts by providing opportunities for offsite classroom visits and participation in student events. The E/PO office supported these events by providing the resources necessary for the team members to talk to school groups, present demonstrations, and to conduct classroom activities related to the missions Johns Hopkins University Applied Physics Laboratory is supporting. These efforts supported State, local, and national efforts that were directed toward the systemic reform of science, mathematics, and technology education. Also, these classroom activities were based on the criteria contained in the national mathematics, science, and technology standards.

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.

Primary URL: *http://near.jhuapl.edu/*

2nd URL: *http://www.timed.jhuapl.edu/*

Scientist(s):

Dr. Robert Erlandson	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. John Goldsten	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Theodore Hartka	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Christopher Hersman	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Karl Holub	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. David Lee	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. James McAdams	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Steven Offenbacher	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Andrew Santo	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Anthony Scarpati	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Richard Shelton	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Mr. William Skullney	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Thomas Strikwerda	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
12 Oct 01	12 Oct 01	Lamb of God School	Halethorpe, MD	21	-	-
18 Oct 01	18 Oct 01	Holy Name	Washington, DC	42	-	-
18 Oct 01	18 Oct 01	Sacred Heart School	Washington, DC	102	-	-
22 Oct 01	22 Oct 01	Longfellow Elementary School	Columbia, MD	102	-	-
16 Nov 01	16 Nov 01	New Windsor Middle School	New Windsor, MD	62	-	-
28 Nov 01	28 Nov 01	Johns Hopkins University	Baltimore, MD	30	-	-
16 Jan 02	16 Jan 02	Luther Rice Cooperative Preschool	Silver Spring, MD	19	-	-
08 Mar 02	08 Mar 02	Hollifield Station Elementary	Ellicott City, MD	30	-	-
18 Mar 02	18 Mar 02	Grace Episcopal Day School	Kensington, MD	16	-	-
25 Mar 02	25 Mar 02	Rising Sun Elementary School	Rising Sun, MD	73	-	-
25 Apr 02	25 Apr 02	Duba's Restaurant	Grand Rapids, MI	-	45	-
25 Apr 02	25 Apr 02	The River School	Washington, DC	5	-	-
26 Apr 02	26 Apr 02	Calvin College	Grand Rapids, MI	20	-	-
30 Apr 02	30 Apr 02	E. H. Markle Intermediate School	Hanover, PA	38	-	-
02 May 02	02 May 02	NASA Goddard Space Flight Center	Greenbelt, MD	350	-	-
13 May 02	13 May 02	Manor Woods Elementary	Ellicott City, MD	62	-	-
16 May 02	16 May 02	Lamb of God School	Halethorpe, MD	41	-	-
22 May 02	22 May 02	Mount St. Joseph High School	Baltimore, MD	77	-	-
24 Jun 02	05 Jul 02	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	39	-	-

A285. Near-Earth Asteroid Rendevous (NEAR) Student Events/Support

Theme(s): SEC

Msn/Prgm(s): NEAR[B46], TIMED[B118]

Description: The education and public outreach (E/PO) office helped scientists, engineers, and other team members become involved in E/PO efforts by providing opportunities for participation in student events. This office coordinated and hosted these events and provided the resources necessary for the team members to talk to student participants, present demonstrations and tours, serve on panels, and have direct interaction with students regarding Johns Hopkins University Applied Physics Laboratory-supported NASA missions.

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099. E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099. E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.

Primary URL: *http://near.jhuapl.edu/*

2nd URL: *http://www.timed.jhuapl.edu/*

Scientist(s): Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Noam Izenberg	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Thomas Strikwerda	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Apr 02	25 Apr 02	Duba's Restaurant	Grand Rapids, MI	-	45	-
02 May 02	02 May 02	NASA Goddard Space Flight Center	Greenbelt, MD	350	-	-
24 Jun 02	05 Jul 02	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	39	-	-

A286. Parsons School of Design Student Web Project

Theme(s): ASO

Msn/Prgm(s): SOFIA[B25]

Description: The Stratospheric Observatory for Infrared Astronomy (SOFIA) education and public outreach (E/PO) team has been working with students at the Parsons School of Design in New York City on a unique educational and creative collaboration to develop an interactive Web site introducing SOFIA to young students. The Parsons Web design instructor, Karen Nourse, wanted to give her students a challenging project—one that would involve working with an outside "client" to give the students real-world experience in client relationships and challenging design. Ms. Nourse found out about SOFIA and contacted the E/PO team. Soon, some 15 students were developing many creative ways to help explain the complexities of a telescope in an airplane. To date, the collaboration has produced several results—including an animated, typical night's research flight and a suggested new design for the SOFIA site. Check out Parsons' current efforts on behalf of SOFIA via the Internet address listed below.

Lead: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.

Primary URL: *http://a.parsons.edu/~nasa/final*

A287. Presentations by the Massachusetts Institute of Technology (MIT) Center for Space Research

Theme(s): SEU

Msn/Prgm(s): CXO[B67]

Description: Scientists and engineers introduced the Chandra mission to several groups of students by visiting classrooms and other education venues. They also took students and their teachers on tours of the Chandra Operation and Control Center (OCC) and the High Energy Transmission Gratings (HETG) Test/Alignment Facility. Chandra is the world's most powerful x-ray telescope that allows scientists to study the origin, structure, and evolution of our Universe in greater detail than ever before. The science instruments on board are controlled by commands that are transmitted from the OCC in Cambridge, MA. Each tour started with a presentation of Chandra and simple hands-on activities to introduce the concepts of spectroscopy and of transmission gratings. During the tour, the students were shown the place where scientists and engineers direct the flight and execute the observing plan of Chandra and where they receive the scientific data from the observatory. The students learned about the basics of x-ray astronomy and about the last, exciting discoveries made by MIT scientists with data acquired via Chandra. This program is coordinated with personnel of the Chandra X-Ray Observatory Operations Control Center.

Lead: Dr. Irene Porro, Massachusetts Institute of Technology, Cambridge, MA 02139.
E-mail: *iporro@space.mit.edu.* Phone: 617-258-7481.

Primary URL: *http://space.mit.edu/CSR/outreach/*

Scientist(s):

Dr. Royce Buehler	Massachusetts Institute of Technology	Cambridge, MA
Dr. Kathryn Flanagan	Massachusetts Institute of Technology	Cambridge, MA
Ms. Amy Fredericks	Massachusetts Institute of Technology	Cambridge, MA
Dr. Mario Jimenez-Garate	Massachusetts Institute of Technology	Cambridge, MA
Dr. Herman Marshall	Massachusetts Institute of Technology	Cambridge, MA
Dr. Irene Porro	Massachusetts Institute of Technology	Cambridge, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
23 Oct 01	23 Oct 01	Lexington High School	Lexington, MA	27	-	-
27 Oct 01	27 Oct 01	Brackett School	Arlington, MA	75	-	-
08 Nov 01	08 Nov 01	Cummings School	Somerville, MA	23	-	-
26 Nov 01	26 Nov 01	Massachusetts Institute of Technology	Cambridge, MA	35	-	-
06 Dec 01	06 Dec 01	Cummings School	Somerville, MA	23	-	-
29 Jan 02	29 Jan 02	O'Bryant High School	Roxbury, MA	14	-	-
04 Feb 02	04 Feb 02	Harrington Elementary School	Lexington, MA	62	-	-
20 Mar 02	20 Mar 02	Peabody Terrace Children's Center	Cambridge, MA	15	-	-
05 Apr 02	05 Apr 02	Massachusetts Institute of Technology	Cambridge, MA	19	-	-
11 Apr 02	11 Apr 02	Massachusetts Institute of Technology	Cambridge, MA	13	-	-
02 May 02	02 May 02	Massachusetts Institute of Technology	Cambridge, MA	40	-	-
10 May 02	10 May 02	Massachusetts Institute of Technology	Cambridge, MA	22	-	-

21 May 02	21 May 02	Cummings School	Somerville, MA	23	-	-
31 May 02	31 May 02	Massachusetts Institute of Technology	Cambridge, MA	24	-	-
08 Jun 02	08 Jun 02	Massachusetts Institute of Technology	Cambridge, MA	51	-	-

A288. Project SPARK—Student Program for Aeronautics Resources and Knowledge (SPARK)

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): IDEAS[B1]
Description: Project SPARK is a partnership between the University of Wisconsin-Madison and the Madison Metropolitan School District. The goal of this Initiative to Develop Education through Astronomy and Space Science (IDEAS) project was to help students develop the necessary skills to conduct science investigations in astronomy and space exploration at the upper elementary and middle school levels. Additional goals included developing effective oral and written skills, simple experimentation skills, and critical-thinking skills. The Madison Metropolitan School District has a significant number of underserved/underrepresented students with either minority or low-income backgrounds.
Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.
Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.
Primary URL: *http://tellus.ssec.wisc.edu/outreach/SPARK/home.html*
Scientist(s): Dr. Sanjay Limaye — University of Wisconsin-Madison — Madison, WI
Partner(s): Madison Metropolitan School District — Madison, WI
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 98	31 Jul 99	University of Wisconsin-Madison	Madison, WI	14	-	-

A289. Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Formal Education Student Support

Theme(s): SEC
Msn/Prgm(s): RHESSI[B101], STEREO[B117]
Description: The University of California, Berkeley, RHESSI education and public outreach team supports activities that use the RHESSI mission, facilities, personnel, and programs to provide information, experiences, and science resources for students in order to enhance their knowledge and skills in science, mathematics, engineering, and technology.
Lead: Dr. Nahide Craig, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.
Contact: Dr. Bryan Mendez, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *bmendez@ssl.berkeley.edu.* Phone: 510-643-2178.
Primary URL: *http://cse.ssl.berkeley.edu/hessi_epo/*
Scientist(s): Dr. Nahide Craig — University of California, Berkeley — Berkeley, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
23 Jul 02	23 Jul 02	University of California, Berkeley	Berkeley, CA	3	1	-

A290. Solar Terrestrial Probes (STP) Student Competitions

Theme(s): SEC
Msn/Prgm(s): STP[B114], TIMED[B118]
Description: The STP program education and public outreach office sponsors various competitions to entice students to learn more about NASA science and engineering through the use of competitions and challenges. The Thermosphere Ionosphere Mesosphere Energetics and Dynamics (TIMED) Engineering Competition Challenge was an exciting way for teams of students from the northeast region of the United States to test their engineering and quick-thinking skills, while solving a hypothetical anomaly on the spacecraft.
Lead: Ms. Barbara Lambert, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *Barbara.J.Lambert.1@gsfc.nasa.gov.* Phone: 301-286-1275.
Primary URL: *http://stp.gsfc.nasa.gov*
Scientist(s): Mr. Mike Butler — Johns Hopkins University Applied Physics Laboratory — Laurel, MD

	Dr. Bruce Campbell	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Eugene Hoffman	Morgan State University	Baltimore, MD
	Mr. Dave Kusnierkiewicz	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Ms. Barbara Lambert	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Charles Mercer	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Frederick Oliver	Morgan State University	Baltimore, MD
	Dr. Dereje Seifu	Morgan State University	Baltimore, MD
	Mr. Vern Smith	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Anna Swamy	Morgan State University	Baltimore, MD
	Dr. Elsayed Talaat	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Dr. Sam Yee	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Partner(s):	Baltimore Museum of Industry		Baltimore, MD
	Johns Hopkins University Applied Physics Laboratory		Laurel, MD
	Morgan State University		Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
17 Dec 01	20 Apr 02	NASA Goddard Space Flight Center	Greenbelt, MD	56	-	-

A291. Space Day at Bacliff, TX

Theme(s): SSE

Msn/Prgm(s): LPI B/F[B16]

Description: Lunar and Planetary Institute scientists, education and program services staff, and accounting staff participated in Space Day 2002 at K.E. Little Elementary in Bacliff, TX, on May 3, 2002. The school, which serves 950 students and more than 50 faculty members, suspended regular classes for the entire day so that all could participate. Dr. Allan Treiman gave a talk on Martian mysteries; Dr. Robert Herrick gave a talk on hot and cold planets; Dr. Patrick McGovern gave a talk on the Mars Orbiter Laser Altimeter (MOLA), Live from Mars; and Dr. Paul Schenk presented the Solar System in 3-D in the computer lab. Delilah Cranford, Cheryl Perry, Mary Noel, and Ronda Wilson gave presentations to first and second graders on rocketry and space capsules and guided students in doing a related hands-on activity project. These activities were part of the EXPLORE! and Fun with Science Program. Pam Thompson also led a hands-on reflectance spectrometry lab with the fifth-grade gifted and talented students. Space Day 2002 was a full day of hands-on, interactive space experiences for all students from prekindergarten to fifth grade. With the permission of Principal Mary Ann Cole, the school suspended regular classes for the day in order to dedicate the entire day to space science activities. Students made Moon cookies out of Rice Krispies® and peanut butter, parachuted an "eggstronaut" from 20 feet, threw a frisbee across the scaled Solar System, and listened to planetary scientists discuss Mars and other planets.

Lead: Ms. Ronda Wilson, Lunar and Planetary Institute, Houston, TX 77058-1113.
E-mail: *rwilson@lpi.usra.edu.* Phone: 281-244-2040.

A292. Space Day in Chicago

Theme(s): SSE

Msn/Prgm(s): DePaul B/F[B15]

Description: More than 250 Chicago-area students participated in an interactive Space Day program on May 2, 2002. Over 100 student science projects were on display. Students had the opportunity to participate in judging each other's science projects as well as to interact with NASA personnel from around the country via the Internet. Chicago students also witnessed, via the Cyber Space Day Webcast, the delivery of a congratulatory message that they created for a former astronaut, Senator John Glenn. With the help of AT&T Broadband, the students learned how to navigate NASA Web sites and asked questions during the National Space Day Webcast. They also had the opportunity to participate in various astronomy activities in the STARLAB, which was loaned to DePaul University by the Chicago Board of Education. Additionally, the students participated in the Signatures in Space program and the Send Your Name to Mars program.

Lead: Ms. Karen Cullen, DePaul University, Chicago, IL 60604.
E-mail: *kcullen@depaul.edu.* Phone: 773-325-4516.

Scientist(s): Dr. Bernhard Beck-Winchatz DePaul University Chicago, IL

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 May 02	02 May 02	DePaul University	Chicago, IL	307	-	-

A293. Space Infrared Telescope Facility (SIRTF) Classroom Visits

Theme(s): ASO

Msn/Prgm(s): SIRTF[B24]

Description: SIRTF scientists spend time in classrooms, explaining infrared science and giving infrared camera demonstrations.

Lead: Dr. Michelle Thaller, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *thaller@ipac.caltech.edu.* Phone: 626-395-8670.

Scientist(s): Ms. Doris Daou SIRTF Science Center/ California Institute of Technology Pasadena, CA
Dr. Sergio Fajardo NASA Jet Propulsion Laboratory Pasadena, CA
Dr. Stephen Lord NASA Jet Propulsion Laboratory Pasadena, CA
Dr. Luisa Ruebel NASA Jet Propulsion Laboratory Pasadena, CA
Dr. Suzanne Sotheby NASA Jet Propulsion Laboratory Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Nov 01	15 Nov 01	California Institute of Technology	Pasadena, CA	45	-	-
10 Jan 02	10 Jan 02	California Institute of Technology	Pasadena, CA	55	-	-
03 Apr 02	05 Apr 02	Palomar Observatory	Mount Palomar, CA	183	-	-

A294. Space Science Education at the University of Wisconsin

Theme(s): SSE

Msn/Prgm(s): IDEAS[B1], SRT[B3]

Description: The University of Wisconsin-Madison (UW-Madison) Office of Space Science Education (OSSE) supports education and public outreach programs that have been developed in collaboration with on-campus space science researchers. NASA-funded scientists from the Space Science and Engineering Center, Space Astronomy Laboratory, and the Departments of Astronomy and Physics partner with OSSE Education staff to develop and participate in a broad spectrum of formal and informal space science education programs that are based on the OSSE philosophy of emphasizing a balance of current content and solid pedagogy. Activities include professional development workshops and inservices for teachers, K-12 curriculum mapping for State school districts, school visits and presentations, space science education summer sessions that target the unique learning needs of the State's minority and low-income students, public lectures, special topical presentations at local observatories and planetariums, and innovative distance-learning programs that feature UW-Madison space science research that is supported by NASA.

Lead: Dr. Sanjay Limaye, University of Wisconsin-Madison, Madison, WI 53715.
E-mail: *sanjayl@ssec.wisc.edu.* Phone: 608-262-9541.

Scientist(s): Dr. Robert Benjamin University of Wisconsin-Madison Madison, WI
Dr. Ed Churchwell University of Wisconsin-Madison Madison, WI
Dr. Walt Harris University of Wisconsin-Madison Madison, WI
Dr. Sanjay Limaye University of Wisconsin-Madison Madison, WI
Dr. Dan McCammon University of Wisconsin-Madison Madison, WI
Ms. Margaret Mooney University of Wisconsin-Madison Madison, WI
Dr. Peter Timbie University of Wisconsin-Madison Madison, WI

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
10 Jun 02	14 Jun 02	University of Wisconsin-Madison	Madison, WI	15	-	-
17 Jun 02	21 Jun 02	University of Wisconsin-Madison	Madison, WI	15	-	-
17 Jun 02	21 Jun 02	University of Wisconsin-Madison	Madison, WI	10	-	-
24 Jun 02	28 Jun 02	University of Wisconsin-Madison	Madison, WI	10	-	-
18 Jul 02	19 Jul 02	University of Wisconsin-Madison	Madison, WI	40	-	-
19 Sep 02	19 Sep 02	Bateman Elementary School	Chicago, IL	37	-	-

A295. STARBASE Teachers and Students

Theme(s): ASO

Msn/Prgm(s): STARBASE[B10]

Description: Students Training for Achievement in Research Based on Analytical Space-Science Experience (STARBASE) astronomers bring the tools of astronomical research directly to high school students, teachers, and parents. The high school education goal of STARBASE is to introduce science to students by letting them do science. Our objective is to put astronomical data and tools into the students' hands, then to mentor the students in their investigations. We have formed a network of nine client high schools in Kentucky and the Midsouth, using the Hands-On Universe project as a model. Through the high school science teachers, we have introduced image-processing software into the classrooms, and we are visiting the schools to show students the data that they can download and the types of investigations that they can conduct. During our visits, the teachers ask us to give lectures on topics for which they feel personally less prepared. In addition, we give lectures to parent councils and school boards on the education opportunity of becoming partners in STARBASE. Also, undergraduate students routinely make astronomical observations by using meter-class telescopes after being trained by STARBASE astronomers. Our objective is to train college students to independently operate remote research-grade telescopes from a laboratory on campus. Once trained, the students obtain research-quality data for student investigations and for the network's key projects (e.g., a search for extrasolar planets). The trainees undergo an intense course, including at least 20 hours of instruction at the Bell Observatory in Kentucky, followed by 20 hours of instruction in remote operation from campus. All instruction is done at night under the supervision of an astronomer, and it is completed with a successful remote-observing exam that is performed in front of two astronomers. The students are contributing to publications that will bear their names, and they are practicing skills that will help them succeed in future scientific endeavors.

Lead: Dr. David Barnaby, Western Kentucky University, Bowling Green, KY 42101.
E-mail: *david.barnaby@wku.edu.* Phone: 270-745-4357.

Primary URL: *http://starbase.wku.edu*

Scientist(s):

Dr. David Barnaby	Western Kentucky University	Bowling Green, KY
Dr. Michael Carini	Western Kentucky University	Bowling Green, KY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
31 Jan 02	31 Jan 02	Metcalfe County High School	Edmonton, KY	4	35	-
26 Mar 02	26 Mar 02	Warren County High School	Bowling Green, KY	82	-	-
11 Apr 02	11 Apr 02	Hancock County High School	Lewisport, KY	72	-	-
11 Apr 02	11 Apr 02	Hancock County High School	Lewisport, KY	35	-	-
07 May 02	07 May 02	Western Kentucky University	Bowling Green, KY	3	-	-
19 Aug 02	23 Aug 02	Cross Roads Learning Center	Sturgeon Bay, WI	11	-	-
26 Aug 02	26 Aug 02	Grayson County High School	Leitchfield, KY	46	-	-

A296. Student Interns Gain Professional Experience on the Solar Terrestrial Probes (STP) Program

Theme(s): SEC

Msn/Prgm(s): STP[B114]

Description: High school, undergraduate, and graduate students who are interested in pursuing mathematics, science, engineering, or technological studies are encouraged to apply for summer internships with NASA scientists and engineers! The STP program strongly supports the mentoring of students by program staff. Internships offer students the opportunity to work in a professional environment that provides the challenges necessary for personal enrichment and career growth.

Lead: Ms. Barbara Lambert, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *Barbara.J.Lambert.1@gsfc.nasa.gov.* Phone: 301-286-1275.

Primary URL: *http://stp.gsfc.nasa.gov*

2nd URL: *http;//lws.gsfc.nasa.gov*

Scientist(s):

Mr. Gilberto Colon	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Fred Herrero	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Barbara Lambert	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Arlene Peterson	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. DeLee Smith	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
10 Jun 02	16 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	6	-	-

A297. Sun-Earth Connection Education Forum (SECEF) Formal Education Student Support

Theme(s): SEC
Msn/Prgm(s): SECEF[B14]
Description: The Sun-Earth Connection Education Forum (SECEF) supports activities that use Sun-Earth connection missions, facilities, personnel, and programs to provide information, experiences, and research opportunities for students to enhance their knowledge and skills in science, mathematics, engineering, and technology.
Lead: Ms. Elaine Lewis, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lewis@mail630.gsfc.nasa.gov.* Phone: 301-286-3337.

Scientist(s):			
	Dr. Nahide Craig	University of California, Berkeley	Berkeley, CA
	Dr. Isabel Hawkins	University of California, Berkeley	Berkeley, CA
	Ms. Ruth Paglierani	University of California, Berkeley	Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
08 Jul 02	26 Jul 02	University of California, Berkeley	Berkeley, CA	37	-	-

A298. TIGER Talk

Theme(s): SEU
Msn/Prgm(s): HEASARC[B86]
Description: This is a talk to students about Dr. Christian's work on the Trans-Iron Galactic Element Recorder (TIGER) balloon mission in Antarctica. While in Antarctica, Dr. Christian fielded e-mail questions on the mission and on Antarctica from students in several high schools around the country. The question-and-answer file was posted on the TIGER Web site. Upon return, he spoke to those students and others about his work.
Lead: Dr. Eric Christian, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *erc@cosmicra.gsfc.nasa.gov.* Phone: 301-286-1041.
Primary URL: *http://tiger.gsfc.nasa.gov*

Scientist(s):			
	Dr. Eric Christian	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Mar 02	07 Mar 02	Schenectady High School	Schenectady, NY	179	-	-
18 Mar 02	18 Mar 02	Old Bridge High School	Old Bridge, NJ	31	-	-
23 Apr 02	23 Apr 02	New Mexico State University, Las Cruces	Las Cruces, NM	40	10	-
24 Apr 02	24 Apr 02	New Mexico State University, Las Cruces	Las Cruces, NM	819	-	-

A299. TIMED Classroom Visits and Student Events

Theme(s): SEC
Msn/Prgm(s): TIMED[B118]
Description: The Thermosphere Ionosphere Mesophere Energetics and Dynamics (TIMED) education and public outreach (E/PO) office helped scientists, engineers, and other team members become involved in E/PO efforts by providing opportunities for offsite classroom visits and participation in student events. The E/PO office supported these events by providing the resources necessary for the team members to talk to school groups, present demonstrations, and to conduct classroom activities related to the TIMED mission. These efforts supported State, local, and national efforts that were directed toward the systemic reform of science, mathematics, and technology education. Also, these classroom activities were based on the criteria contained in the national mathematics, science, and technology standards.
Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.
Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.
Primary URL: *http://www.timed.jhuapl.edu/*

Scientist(s):	Mr. Juan Lander	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Mr. Andrew Santo	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Nov 01	02 Nov 01	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	119	-	-
23 Feb 02	23 Feb 02	Baltimore Museum of Industry	Baltimore, MD	365	-	-
19 Apr 02	19 Apr 02	Sheffield Elementary School	Sheffield, PA	52	-	-
23 May 02	23 May 02	St. Catherine Laboure	Wheaton, MD	50	-	-

A300. TIMED Student Events

Theme(s): SEC

Msn/Prgm(s): TIMED[B118]

Description: The Thermosphere Ionsphere Mesosphere Energetics and Dynamics (TIMED) education and public outreach (E/PO) office helped scientists, engineers, and other team members become involved in E/PO efforts by providing opportunities for participation in student events. This office coordinated and hosted these events and provided the resources necessary for the team members to talk to student participants, present demonstrations and conduct tours, serve on panels, and interact directly with students regarding the TIMED mission.

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.

Primary URL: *http://www.timed.jhuapl.edu/*

Scientist(s):	Mr. Glen Baer	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Mr. Vince Bailey	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Ms. Linda Butler	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Mr. Marc Clayton	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Dr. Steve Gemeny	Raytheon Company	Lexington, MA
	Mr. Bill Knopf	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Mr. Dave Kusnierkiewicz	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Ms. Kristi Marren	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Mr. Thomas Milnes	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Dr. Elsayed Talaat	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
	Dr. Sam Yee	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Nov 01	02 Nov 01	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	119	-	-
23 Feb 02	23 Feb 02	Baltimore Museum of Industry	Baltimore, MD	365	-	-

A301. Ulysses Tours and Classroom Visits

Theme(s): SEC
Msn/Prgm(s): Ulysses[B96]
Description: The Ulysses team provides tours for students and the public of the NASA Jet Propulsion Laboratory (JPL). They are available to answer questions and motivate students into thinking of careers that they would not have considered, prior to meeting a scientist. The scientist's participation sparks interest in Sun-Earth connection missions. Ulysses team members also support requests for classroom presentations from the JPL speakers bureau. They also go to schools to prepare the students for Sun-Earth Day, a national celebration of our dynamic Sun and its effects on Earth.
Lead: Ms. Andrea Angrum, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *andrea.angrum@mail1.jpl.nasa.gov.* Phone: 818-354-6775.
Primary URL: *http://ulysses@jpl.nasa.gov*
Scientist(s): Dr. Shonte Wright — NASA Jet Propulsion Laboratory — Pasadena, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Dec 01	07 Dec 01	NASA Jet Propulsion Laboratory	Pasadena, CA	63	-	-
28 May 02	28 May 02	California State Polytechnic University	Pomona, CA	26	-	-
31 May 02	31 May 02	Mt. Wilson Institute, Hale Solar Laboratory	Pasadena, CA	36	-	-

A302. Voyager Classroom Visits

Theme(s): SEC
Msn/Prgm(s): Voyager[B97]
Description: Voyager team members visit local elementary, junior, and senior high schools.
Lead: Ms. Andrea Angrum, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *andrea.angrum@mail1.jpl.nasa.gov.* Phone: 818-354-6775.
Scientist(s): Mr. Thomas Weeks — NASA Jet Propulsion Laboratory — Pasadena, CA
Ms. Charlotte Weiss — NASA Jet Propulsion Laboratory — Pasadena, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 Dec 01	11 Dec 01	Main Street Elementary School	Los Angeles, CA	70	-	-
11 Dec 01	11 Dec 01	Main Street Elementary School	Los Angeles, CA	71	-	-

A303. "Who's Got The Power?" Student Presentations

Theme(s): SEU
Msn/Prgm(s): Swift[B83]
Description: These presentations to students feature Swift science and materials to improve science, mathematics, and/or technology education for middle and high school students. The presentations are made either in classrooms or through a public television channel that is aimed at middle schools students and is viewed in the classroom. Supporting materials which accompany the presentations are available.
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
Contact: Dr. Phil Plait, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *phil@universe.sonoma.edu.* Phone: 707-664-2190.
Primary URL: *http://swift.sonoma.edu*
2nd URL: *http://swift.sonoma.edu/program.html*
Scientist(s): Dr. Laura Whitlock — Sonoma State University — Rohnert Park, CA
Partner(s): WPSX-TV, Channel 3/Clearfield — University Park, PA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 Dec 01	12 Dec 01	Hoover High School	Hoover, AL	100	-	-
08 Mar 02	08 Mar 02	WPSX-TV, Channel 3/Clearfield	University Park, PA	-	1,000,000	-
29 Mar 02	29 Mar 02	WPSX-TV, Channel 3/Clearfield	University Park, PA	-	1,000,000	-
26 Apr 02	26 Apr 02	WPSX-TV, Channel 3/Clearfield	University Park, PA	-	1,000,000	-
29 Aug 02	29 Aug 02	Gallatin County High School	Warsaw, KY	71	-	-

A304. Young Astronauts

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The Young Astronauts program was created for fourth through sixth graders, using aerospace themes to develop student interest and proficiency in science technology and mathematics. The curriculum was developed by the Young Astronaut Council, the world's largest space/technology education organization. Dr. Lynn Rothschild was featured in the "live" interaction portion of the television program which introduced scientists and research to the students. The astrobiology educator guide, "Life on Earth . . . and Elsewhere?," was provided to the teachers of the program for continued astrobiology exposure during the course.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Public Outreach

A305. Air Expo for the Public

Theme(s): ASO
Msn/Prgm(s): SOFIA[B25]
Description: NASA Ames Research Center (ARC) cohosts an annual air show, Wings Over Moffett, at Moffett Federal Airfield, the location of NASA ARC; this is a 2-day public event. Attendees include tourists, families, individuals, and NASA employees and contractors—the general public. There is an admission charge, and the air show is operated in cooperation with NASA ARC by a private group. Attendance varies year by year, but it is generally 20,000 to 60,000.
Lead: Ms. Edna DeVore, SETI Institute, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.
Contact: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.
Primary URL: *http://researchpark.arc.nasa.gov/Mainpages/EventsMeetings/AirExpo.html*

Scientist(s):	Ms. Edna DeVore	SETI Institute	Mountain View, CA
	Mr. Allan Meyer	Universities Space Research Association (USRA)/SOFIA	Moffett Field, CA
Partner(s):	Universities Space Research Association (USRA)/SOFIA		Moffett Field, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
27 Jul 02	28 Jul 02	NASA Ames Research Center	Moffett Field, CA	-	5,000	-

A306. Astrobiology at UCLA

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The University of California, Los Angeles (UCLA) Center for Astrobiology was invited to participate with a display representing the sciences at UCLA in LA, a large University-sponsored outdoor mixer. Nine hundred invited guests and several hundred staff attended this event which was held under the trees in Dickson Plaza at UCLA. The booth consisted of a large number of fossils that were arranged in a hands-on display. Bruce Runnegar and Michael Vendrasco talked about the fossils to interested attendees who ranged in age from 10 to 80. The event was a great success for UCLA and for astrobiology. Barbara Laval and Keith Kirts collected six pages of e-mail addresses for the ongoing Astrobiology SuperStars events.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Ms. Barbara Laval, University of California, Los Angeles, Los Angeles, CA 90095.
E-mail: *blaval@ucla.edu.* Phone: 310-794-4122.

Scientist(s):	Mr. Michael Vendrasco	University of California, Los Angeles	Los Angeles, CA

A307. Astrobiology Science Conference Public Talks

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The second astrobiology conference was held at NASA Ames Research Center at Moffett Field, CA, April 7-11,

2002. A number of education and public outreach events were held during the conference. On Sunday, April 7, a series of three related talks were given by researchers to a public audience of over 300 people. Dr. Chris McKay gave the opening talk, entitled "Astrobiology: The Search for Life Beyond the Earth," followed by Dr. Peter Doran's talk, "Research in Extreme Cold Environments." The final speaker was Dr. William Moore, who presented an entertaining talk, "Europa: Icing on the Cake of Life." The public talks were followed by an event for teachers in which education specialists from eight NASA Astrobiology Institute lead teams presented their programs and products. This event was attended by over 40 local teachers.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Scientist(s):			
	Dr. Peter Doran	University of Illinois at Chicago	Chicago, IL
	Dr. Christopher McKay	NASA Ames Research Center	Moffett Field, CA
	Mr. William Moore	NASA Jet Propulsion Laboratory	Pasadena, CA

A308. Astrobiology Television Program: "The Stories Rocks Tell"

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: Penn State Astrobiology Research Center (PSARC) scientists worked with Penn State Public Broadcasting to explore early Earth through a multimedia current-events program, "What's in the News" ("WITN"). The 15-minute television broadcast, "The Stories Rocks Tell: Learning About Early Earth," was aimed primarily at students in grades 4 through 7. The focus of the program was the oxygenation of Earth and how geologists study the oxygen clues in rocks to learn how the planet developed an atmosphere that supports life. Along with the segment, "WITN" provided a Web site that included a broadcast script, articles, activities, links to additional resources, a reading list, and video clips of two women graduate students, Heather Buss and Laura Liermann, who shared their story about their pursuit of science. The Web site was archived so that teachers, students, and the public can access it at any time. The weekly "WITN" programs reach more that 5 million children nationwide and are distributed nationally via satellite and videotape by International Telecommunications Services, Inc. (I.T.S.).
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Dr. Lisa Brown, Pennsylvania State University, University Park, PA 16802.
E-mail: *lisabrown@psu.edu.* Phone: 814-863-7687.
Primary URL: *http://witn.psu.edu/2403/*

A309. "Astronomy at 41, 000 Feet—The Story of SOFIA"

Theme(s): ASO
Msn/Prgm(s): SOFIA[B25]
Description: "Astronomy at 41, 000 Feet—the Story of SOFIA" is a presentation for a general public that is interested in astronomy, aeronautics, and, more specifically, infrared research. The content covers the Stratospheric Observatory for Infrared Astronomy (SOFIA) program. Late in 2004, the largest airborne telescope ever built will begin making astronomical observations. The SOFIA telescope features a diameter of 2.5 meters (nearly 100 inches) and will view the Universe from an open cavity built into a highly modified Boeing 747. Four nights a week, from around 41, 000 feet, SOFIA will make astronomical observations that are impossible for any other telescope, whether on a mountaintop or in space. In this interesting presentation, you will learn about the nature of infrared energy, why astronomers want to study the infrared energy that many objects in space emit, and why they have to conduct their studies from a high-flying aircraft. You'll also discover the fascinating story behind the technology that allows astronomers to overcome the effects of the aircraft's slipstream and vibrations to—as one astronomer put it—"use a telescope in an earthquake during a hurricane."
Lead: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.
Primary URL: *http://sofia.arc.nasa.gov/Edu/calendar/edu_calendar.html*
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 May 02	11 May 02	Mt. Tamalpais State Park	Mill Valley, CA	-	277	-
30 Jul 02	03 Aug 02	ALCON	Salt Lake City, UT	-	145	-

A310. ASU Earth Science Day

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: Earth Science Day is an annual event that brings team members from the Geological Sciences Department at Arizona State University (ASU) together to provide hands-on activities for K-12 students, teachers, and parents. The ASU Astrobiology Program demonstrated how impact craters are made on the surface of Mars and provided opportunities for students to make their own impact craters and compare them with images from the surface of Mars. Dr. Jack Farmer gave a public lecture on the future exploration of Mars. Each year, the public is invited to bring in rock specimens in an effort to stump "Dr. Rock." Dr. Jack Farmer, in his famous role of Dr. Rock, supplied a microscope and his geologic knowledge to analyze these rocks and let the specimen's provider look at the structure while he provided a geologic explanation.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Dr. Jack Farmer, Arizona State University, Tempe, AZ 85287.
E-mail: *jack.farmer@asu.edu.* Phone: 480-965-6748.

A311. Authors' Nights at the Harvard-Smithsonian Center for Astrophysics (CfA)

Theme(s): ASO
Msn/Prgm(s): SEU Forum[B13]
Description: Meet today's top science writers in an intimate setting at the Harvard-Smithsonian Center for Astrophysics (CfA). The CfA invites popular science authors from around the world to put a human face on the scientific endeavor. They tell us about the latest discoveries and the people who made them, as well as key figures in the history of astronomy and physics.
Lead: Mr. David Aguilar, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *daguilar@cfa.harvard.edu.* Phone: 617-495-7461.
Primary URL: *http://cfa-www.harvard.edu/events.html*

A312. Backyard Astronomy

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): SERCH B/F[B19]
Description: This regional Backyard Astronomy program is developed to enhance the public's understanding of astronomy and NASA Office of Space Science missions. To accomplish this goal, program sites will be set up in communities around Mississippi. These sites will be encouraged to become self-supporting through fees and/or community grants. We will use our experience to develop a model that can be used in other States or regions. We plan to expand the existing Backyard Astronomy program so that everyone in the State will be within 40 miles of sites where presentations are given. Our goal will be to reach 5,000 or more people. Each presentation will consist of 1) a brief introduction to the current night sky, 2) a presentation on a planet, deep sky object, space astronomy mission, or current astronomical discovery, and 3) an observing session with portable telescopes (weather permitting). In addition to the community programs, we have presented Backyard Astronomy library programs for children in grades K-8 at libraries all over the State. These programs are scheduled through regional library commissions in the Orbit the World With Books program. We would expand this portion of the program that reached over 2,500 people last year. Follow-up support for teachers, librarians, and others will be provided through an extensive astronomy education materials center; a Web site with an "Ask the Astronomer" page; a summer college-credit course in astronomy for teachers; weekend Continuing Education Units (CEU), hands-on, astronomy activities workshops for teachers; presentations at State and regional science teacher conventions; and field trips to bring groups to the Rainwater Observatory. Developing a cadre of experienced presenters will be an important objective of this proposal, since it will ensure the future of the program.
Lead: Mr. James Hill, Rainwater Observatory and Planetarium, French Camp, MS 39745.
E-mail: *jhill@astronomers.org.* Phone: 662-547-6377.
Partner(s): College of Charleston — Charleston, SC
Mississippi Space Grant Consortium — Oxford, MS

A313. Cassini Sky Watching Events

Msn/Prgm(s): Cassini/Huygens Probe[B37]
Description: The events listed are Saturn observing sessions using ground-based telescopes.

Lead: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.
Scientist(s): Mr. Stephen Edberg NASA Jet Propulsion Laboratory Pasadena, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 Oct 01	11 Oct 01	Beverly Hilton Hotel	Beverly Hills, CA	-	75	-
15 Sep 02	15 Sep 02	Palm Canyon Resort	Borrego Springs, CA	-	25	-
28 Sep 02	28 Sep 02	Paradise Canyon School	La Cañada, CA	32	-	-
15 Dec 02	15 Dec 02	NASA Jet Propulsion Laboratory	Pasadena, CA	6	-	-

A314. Cassini Talks

Theme(s): SSE
Msn/Prgm(s): Cassini/Huygens Probe[B37]
Description: This public engagement for the Cassini-Huygens mission consists of presentations that can take on many forms, based on the demographics of the audience.
Lead: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.
Scientist(s): Mr. Todd Barber NASA Jet Propulsion Laboratory Pasadena, CA
Mr. David Doody NASA Jet Propulsion Laboratory Pasadena, CA
Mr. Stephen Edberg NASA Jet Propulsion Laboratory Pasadena, CA
Ms. Shannon McConnell NASA Jet Propulsion Laboratory Pasadena, CA
Ms. Trina Ray NASA Jet Propulsion Laboratory Pasadena, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Oct 01	26 Oct 01	California Science Teachers Association	Sacramento, CA	95	-	-
12 Nov 01	12 Nov 01	Los Angeles Astronomical Society	Los Angeles, CA	-	45	-
25 Nov 01	25 Nov 01	Mt. Wilson Institute	Mt. Wilson, CA	-	40	-
10 Jul 02	10 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	50	-	-
16 Jul 02	16 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	30	-	-
24 Jul 02	24 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	3	-	-
28 Jul 02	01 Aug 02	International Planetarium Society Conference	Wichita, KS	-	40	-
01 Aug 02	01 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	18	-	-

A315. Center for Astrobiology and Early Evolution (CABEE) Newsletter

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The CABEE newsletter, titled "Planets & Life," is published each autumn and spring academic quarter and is disseminated to an interested public via mailing lists, lectures, workshops, and among the astrobiology community on campus. Each issue (three to date) includes astrobiology research news and news of the University of Washington astrobiology community. Newsletters will soon be available online via our Web site.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Ms. Linda Khandro, University of Washington, Seattle, WA 98195-1310.
E-mail: *lindak@astro.washington.edu.* Phone: 206-543-9541.
Primary URL: *http://depts.washington.edu/astrobio*

A316. Chandra Public Outreach by the Massachusetts Institute of Technology (MIT) Center for Space Research (CSR)

Theme(s): SEU
Msn/Prgm(s): CXO[B67], HETE-2[B78], RXTE[B80]
Description: Scientists from the MIT Center for Space Research contributed to public outreach with talks about Chandra for interested groups at various venues: amateur astronomers' clubs, astronomy centers, colleges, theology schools, etc., as well as on the MIT campus when people visited the laboratories, satellite control centers, and other facilities at the Center for Space Research. Our initiatives featured science presentations and tours of CSR facilities for families that were attending the MIT Family Weekend, journalists who were awarded the

Knight Science Journalism Fellowship, congressional senior staff, local theology students, and members of the Boston chapter of the National Space Society. Chandra materials were abundantly distributed on each of these occasions.

Lead: Dr. Irene Porro, Massachusetts Institute of Technology, Cambridge, MA 02139.
E-mail: *iporro@space.mit.edu.* Phone: 617-258-7481.

Primary URL: *http://space.mit.edu/CSR/outreach/*

Scientist(s):		
Dr. Fred Baganoff	Massachusetts Institute of Technology	Cambridge, MA
Dr. Claude Canizares	Massachusetts Institute of Technology	Cambridge, MA
Dr. Geoffrey Crew	Massachusetts Institute of Technology	Cambridge, MA
Dr. Kathryn Flanagan	Massachusetts Institute of Technology	Cambridge, MA
Ms. Amy Fredericks	Massachusetts Institute of Technology	Cambridge, MA
Dr. Steve Kissel	Massachusetts Institute of Technology	Cambridge, MA
Dr. Alan Levine	Massachusetts Institute of Technology	Cambridge, MA
Dr. Thomas Pannuti	Massachusetts Institute of Technology	Cambridge, MA
Dr. Irene Porro	Massachusetts Institute of Technology	Cambridge, MA
Dr. Roland Vanderspek	Massachusetts Institute of Technology	Cambridge, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
19 Oct 01	19 Oct 01	Massachusetts Institute of Technology	Cambridge, MA	-	20	-
19 Oct 01	19 Oct 01	Massachusetts Institute of Technology	Cambridge, MA	-	25	-
19 Oct 01	19 Oct 01	Massachusetts Institute of Technology	Cambridge, MA	-	17	-
19 Oct 01	19 Oct 01	Massachusetts Institute of Technology	Cambridge, MA	-	87	-
08 Nov 01	08 Nov 01	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	-	150	-
30 Dec 01	30 Dec 01	Massachusetts Institute of Technology	Cambridge, MA	-	12	-
25 Jan 02	25 Jan 02	Massachusetts Institute of Technology	Cambridge, MA	-	12	-
08 Mar 02	08 Mar 02	Massachusetts Institute of Technology	Cambridge, MA	-	15	-
15 Mar 02	15 Mar 02	Massachusetts Institute of Technology	Cambridge, MA	30	-	-
18 Mar 02	18 Mar 02	Weston Jesuit School of Theology	Cambridge, MA	14	-	-
20 Mar 02	20 Mar 02	Massachusetts Institute of Technology	Cambridge, MA	-	10	-
25 Mar 02	25 Mar 02	Weston Jesuit School of Theology	Cambridge, MA	14	-	-
05 Apr 02	05 Apr 02	Massachusetts Institute of Technology	Cambridge, MA	5	-	-
15 Apr 02	15 Apr 02	LodeStar Astronomy Center	Albuquerque, NM	-	30	-
08 May 02	08 May 02	Massachusetts Institute of Technology	Cambridge, MA	14	-	-
22 Aug 02	22 Aug 02	Massachusetts Institute of Technology	Cambridge, MA	-	6	-

A317. Chandra Summer Lecture Series at the Massachusetts Institute of Technology (MIT) Center for Space Research (CSR)

Theme(s): SEU

Msn/Prgm(s): CXO[B67]

Description: The MIT Center for Space Research hosted a series of six lectures entitled "Tour of the X-ray Universe with the Chandra Satellite." The lectures were held during the summer and were intended to address the general public, in particular, families, middle and high school teachers, and precollege students. Dr. Marshall illustrated the latest Chandra results that bring new insights into the interaction between the high-energy jets and supermassive black holes that are found at the center of some galaxies. Dr. Huenemoerder explained what x-ray spectra are and showed the audience what they tell us about the unique features of our Sun and other cool stars. Dr. Lee talked about how the spectra that were obtained with the Chandra high-energy gratings are used to study black holes. Dr. Gaensler described the dramatic explosions that characterize the deaths of very massive stars, called supernovas, and the objects that are left behind. Dr. Baganoff presented what we learned from Chandra observations of the galactic center and the reasons why astronomers believe supermassive black holes exist at the centers of galaxies. Dr. Chakrabarty described the Chandra X-Ray Observatory and some of its recent exciting discoveries. In particular, he discussed new insights about the properties of neutron stars.

Lead: Dr. Irene Porro, Massachusetts Institute of Technology, Cambridge, MA 02139.
E-mail: *iporro@space.mit.edu.* Phone: 617-258-7481.

Primary URL: *http://space.mit.edu/CSR/outreach*

Scientist(s):		
Dr. Fred Baganoff	Massachusetts Institute of Technology	Cambridge, MA

Dr. Deepto Chakrabarty	Massachusetts Institute of Technology	Cambridge, MA
Dr. Bryan Gaensler	Harvard University	Cambridge, MA
Dr. David Huenemoerder	Massachusetts Institute of Technology	Cambridge, MA
Dr. Julia Lee	Massachusetts Institute of Technology	Cambridge, MA
Dr. Herman Marshall	Massachusetts Institute of Technology	Cambridge, MA
Dr. Irene Porro	Massachusetts Institute of Technology	Cambridge, MA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Jun 02	26 Jun 02	Massachusetts Institute of Technology	Cambridge, MA	-	20	-
10 Jul 02	10 Jul 02	Massachusetts Institute of Technology	Cambridge, MA	-	30	-
31 Jul 02	31 Jul 02	Massachusetts Institute of Technology	Cambridge, MA	-	30	-
07 Aug 02	07 Aug 02	Massachusetts Institute of Technology	Cambridge, MA	-	37	-
21 Aug 02	21 Aug 02	Massachusetts Institute of Technology	Cambridge, MA	-	42	-
04 Sep 02	04 Sep 02	Massachusetts Institute of Technology	Cambridge, MA	-	48	-

A318. Chandra X-Ray Center Online Education and Outreach

Theme(s): SEU

Msn/Prgm(s): CXO[B67]

Description: The Chandra X-Ray Center maintains an award-winning Web site providing access to the general public, educators, students, amateur astronomers, and special interest groups. It publicly released Chandra images, background and contextual information about cosmic x-ray sources, an updated archive of answers to questions that were submitted through "Ask an Astrophysicist," downloadable classroom-ready materials and resources, a program that provides simplified access and structured guidance for educator use of Chandra data sets and analysis tools, and special features such as the Chandra Chronicles and the Chandra Digest. Since its inception in 1999, the public Web site has received over 80 awards. New awards this year included its listing in the UK 50 Best Astronomy Web Sites and being designated as a USA Today Hot Site and an AOL Hot Link. The Web site has also received several highly ranked awards for design and content.

Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.

Primary URL: *http://chandra.harvard.edu*

A319. Chandra X-Ray Center Operation Control Center Tours

Theme(s): SEU

Msn/Prgm(s): CXO[B67]

Description: The Chandra X-Ray Center arranges tours of the Chandra Operation Control Center for school groups and other educational purposes which include audience or age-appropriate presentations about the Chandra mission and science and a discussion of satellite operations. Tours are frequently carried out in collaboration with the Chandra project at the Massachusetts Institute of Technology. Tours can be requested by sending an e-mail to the Chandra Public Outreach Group at *cxcedu@harvard.edu*.

Lead: Mr. Bruce Roberts, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *broberts@cfa.harvard.edu.* Phone: 617-496-7089.

Partner(s): Massachusetts Institute of Technology Cambridge, MA

A320. Chandra X-Ray Center Public Outreach

Theme(s): SEU

Msn/Prgm(s): CXO[B67]

Description: Members of the Chandra X-Ray Center staff and scientists working with Chandra observations present talks and distribute outreach materials (such as posters, CDs, etc.) to diverse public groups to inform the general public and special interest segments about the status of the Chandra mission and the latest exciting science results. Talks are illustrated with viewgraphs, slides, or multimedia presentations. Outreach materials are provided at no cost and in sufficient quantity to supply an audience's needs. All printed and multimedia materials contain addresses and Web sites where the public can obtain further information. In this past fiscal year, 18 Chandra talks were presented to groups that ranged in scope from the World Congress on Information Technology in Adelaide, Australia, to a Rotary Club lunch.

Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.

Primary URL: *http://chandra.harvard.edu*
2nd URL: *http://chandra.nasa.gov*

Scientist(s):		
Dr. Roger Brissenden	Chandra X-Ray Center	Cambridge, MA
Mr. Thomas Calderwood	Chandra X-Ray Center	Cambridge, MA
Dr. Martin Elvis	Chandra X-Ray Center	Cambridge, MA
Dr. F. Rick Harnden, Jr.	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Dr. Vinay Kashyap	Chandra X-Ray Center	Cambridge, MA
Ms. Kimberly Kowal	Chandra X-Ray Center	Cambridge, MA
Ms. Kathleen Lestition	Chandra X-Ray Center	Cambridge, MA
Dr. Stephen Murray	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
Dr. Rita Sambruna	George Mason University	Fairfax, VA
Dr. Eric Schlegel	Chandra X-Ray Center	Cambridge, MA
Dr. Harvey Tananbaum	Chandra X-Ray Center	Cambridge, MA
Dr. Wallace Tucker	Chandra X-Ray Center	Cambridge, MA
Ms. Diana Worrall	University of Bristol	Bristol, United Kingdom

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
10 Oct 01	10 Oct 01	Reuben H. Fleet Science Center	San Diego, CA	100	-	-
01 Nov 01	01 Nov 01	Smithsonian National Air and Space Museum	Washington, DC	150	-	-
14 Nov 01	14 Nov 01	Hampshire County Federation Women's Institute	Bristol, NH	120	-	-
05 Feb 02	05 Feb 02	Fallbrook Rotary Club	Fallbrook, CA	50	-	-
27 Feb 02	01 Mar 02	World Congress on Information Technology	Adelaide, Australia	2,000	-	-
25 Mar 02	25 Mar 02	Sonoma State University	Rohnert Park, CA	100	-	-
05 Apr 02	05 Apr 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	20	-	-
08 Apr 02	12 Apr 02	Royal Astronomical Society Meeting	Bristol, United Kingdom	150	-	-
11 Apr 02	11 Apr 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	110	-	-
20 Apr 02	20 Apr 02	Museum of Science	Boston, MA	50	-	-
20 Apr 02	20 Apr 02	Museum of Science	Boston, MA	20	-	-
07 May 02	07 May 02	Morrison Planetarium	San Francisco, CA	100	-	-
08 May 02	11 May 02	Mid Atlantic Planetarium Society Meeting	Worchester, MA	130	-	-
14 May 02	22 May 02	Princeton University	Princeton, NJ	147	-	-
15 May 02	15 May 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	20	-	-
20 May 02	20 May 02	Art Institute of San Diego	San Diego, CA	100	-	-
02 Aug 02	03 Aug 02	National Astronomical League Conference	Salt Lake City, UT	150	-	-
05 Aug 02	05 Aug 02	Eugene Astronomical Society	Eugene, OR	40	-	-

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A321. Children's Nights at the Harvard-Smithsonian Center for Astrophysics

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): SEU Forum[B13]
Description: The Harvard-Smithsonian Center for Astrophysics conducts a program for children twice a year, once in the spring and then another in the autumn. These programs are intended for children between the ages of 8 and 12, and they consist of a talk that is given by a scientist and are followed by telescopic observing, weather permitting. The next program will be held on November 1, 2002.
Lead: Mr. David Aguilar, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *daguilar@cfa.harvard.edu.* Phone: 617-495-7461.
Primary URL: *http://cfa-www.harvard.edu/events.html*

A322. Club Space Place Activities

Theme(s): SEC
Msn/Prgm(s): ST-5[B120]
Description: Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities are provided to the Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently, there are 272 partners that reach thousands of children. Copies of Club Space Place resources are distributed at education conferences.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.
Contact: Ms. Liliana Novati, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Liliana.Novati@jpl.nasa.gov.* Phone: 818-354-1486.

Primary URL: *http://spaceplace.jpl.nasa.gov*
2nd URL: *http://spaceplace.nasa.gov*

Scientist(s):	Ms. Diane Fisher	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	4-H Arkansas		Little Rock, AR
	4-H Delaware		Newark, DE
	4-H Florida		Gainesville, FL
	4-H Kansas		Colby, KS
	4-H Kentucky		Lexington, KY
	4-H Maine		Bangor, ME
	4-H Maryland		College Park, MD
	4-H Massachusetts		Walpole, MA
	4-H Michigan		East Lansing, MI
	4-H Minnesota		Minneapolis, MN
	4-H Missouri		Columbia, MO
	4-H Montana		Bozeman, MT
	4-H National		Auburn, AL
	4-H Nebraska		Lincoln, NE
	4-H New Hampshire		Durham, NH
	4-H North Carolina		Raleigh, NC
	4-H Oregon		Corvallis, OR
	4-H South Dakota		Brookings, SD
	4-H Texas		Dallas, TX
	4-H Virginia		Blacksburg, VA
	4-H Wisconsin		Madison, WI
	Alaska State Library Association		Juneau, AK
	American Library Association (ALA)		Chicago, IL
	Arizona Library Association		Tempe, AZ
	Arkansas Library Association		Conway, AR
	Boys & Girls Clubs, National Headquarters		Atlanta, GA
	California Library Association		Sacramento, CA
	Great Lakes Region Civil Air Patrol		Wright-Patterson Air Force Base, OH
	Illinois Library Association		Chicago, IL
	Iowa Library Association		Des Moines, IA
	Middle East Region Civil Air Patrol		Andrews Air Force Base, MD
	Missouri Library Association		Columbia, MO
	National Headquarters Civil Air Patrol		Maxwell Air Force Base, AL
	North Central Region Civil Air Patrol		Minneapolis, MN
	Northeast Region Civil Air Patrol		McGuire Air Force Base, NJ
	Pacific Region Civil Air Patrol		Beale Air Force Base, CA
	Rhode Island Library Association		Cranston, RI
	Rocky Mountain Civil Air Patrol		Littleton, CO
	Southeast Region Civil Air Patrol		Maxwell Air Force Base, AL
	Southwest Region Civil Air Patrol		Lewisville, TX
	State Library of Hawaii		Honolulu, HI
	Texas Education Association		Austin, TX
	U.S. Department of Education		Washington, DC
	Wyoming Library Association		Buffalo, WY

YWCA of America New York, NY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Feb 02	28 Feb 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	1,395	-
01 Mar 02	31 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	1,395	-
09 Mar 02	11 Mar 02	Association for Supervision and Curriculum Development (ASCD) Conference	San Antonio, TX	-	4,000	-
14 Mar 02	16 Mar 02	International Technology Education Association (ITEA) Conference	Columbus, OH	-	2,300	-
01 Jun 02	30 Jun 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	1,395	-

A323. CONTOUR Public Lectures

Theme(s): SSE

Msn/Prgm(s): CONTOUR[B41]

Description: The Comet Nucleus Tour (CONTOUR) team gave various lectures to the general public, including science, education-related, and senior citizen audiences.

Lead: Ms. Kathy May, Cornell University, Ithaca, NY 14853.
E-mail: *kathym@astrosun.astro.cornell.edu.* Phone: 607-255-8542.

Primary URL: *http://www.countour2002.org*

Scientist(s):		
Dr. Anita Cochran	University of Texas at Austin	Austin, TX
Dr. Noam Izenberg	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Dave Jarrett	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Thomas Jones	Cornell University	Ithaca, NY
Ms. Laura Lautz	Cornell University	Ithaca, NY
Dr. Peter Thomas	Cornell University	Ithaca, NY
Dr. Joseph Veverka	Cornell University	Ithaca, NY
Dr. Donald Yeomans	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
11 Oct 01	11 Oct 01	University of Texas at El Paso	El Paso, TX	-	80	-
15 Oct 01	15 Oct 01	Jamesville-DeWitt High School	DeWitt, NY	3	-	-
17 Oct 01	17 Oct 01	University of Texas at El Paso	El Paso, TX	-	25	-
22 Oct 01	22 Oct 01	Beverly Martin Elementary School	Ithaca, NY	-	150	-
26 Feb 02	26 Feb 02	Oklahoma Christian University	Edmond, OK	-	150	-
27 Feb 02	27 Feb 02	Oklahoma Christian University	Edmond, OK	-	70	-
07 Mar 02	07 Mar 02	Cornell University	Ithaca, NY	75	-	-
08 Mar 02	08 Mar 02	Cornell University	Ithaca, NY	-	150	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	75	-
11 May 02	11 May 02	Cornell University	Ithaca, NY	-	12	-
16 May 02	16 May 02	Maryland Science Center	Baltimore, MD	-	13	-
29 Jun 02	29 Jun 02	Brevard County Community College	Cocoa, FL	-	600	-
29 Jun 02	29 Jun 02	Radisson Resort	Cocoa Beach, FL	-	16	-
30 Jun 02	30 Jun 02	NASA Kennedy Space Center	Kennedy Space Center, FL	-	300	-
30 Jun 02	30 Jun 02	NASA Kennedy Space Center	Kennedy Space Center, FL	-	400	-
30 Jun 02	30 Jun 02	Radisson Resort	Cocoa Beach, FL	-	400	-
01 Jul 02	01 Jul 02	Radisson Resort	Cocoa Beach, FL	-	100	-
15 Jul 02	19 Jul 02	Cornell University	Ithaca, NY	15	-	-

A324. "Cosmic Connections" Talk

Theme(s): SEU

Msn/Prgm(s): HEASARC[B86]

Description: This program is a presentation on the evolution of matter in the Universe.
Lead: Mr. Michael Arida, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *arida@milkyway.gsfc.nasa.gov.* Phone: 301-286-2291.
Primary URL: *http://imagine.gsfc.nasa.gov*

Scientist(s):			
	Mr. Michael Arida	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
24 Jul 02	24 Jul 02	NASA Goddard Space Flight Center	Greenbelt, MD	25	-	-
05 Aug 02	05 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	20	-	-
14 Aug 02	14 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	20	-	-

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A325. Cosmic Hot Interstellar Plasma Spectrometer (CHIPS) Public Outreach and Informal Education

Theme(s): SEU
Msn/Prgm(s): CHIPS[B75]
Description: The CHIPS staff at the University of California, Berkeley, supports the efforts of science centers, museums, and planetariums by providing them with images, activities, programs, and scientific presentations. CHIPS mission scientists share the science of their mission with the general public and educators by using specific programs that are developed by science centers. The mission also provides images and animations specifically for educators and for the general public to support programs developed by science centers.
Lead: Dr. Nahide Craig, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.
Contact: Dr. Bryan Mendez, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *bmendez@ssl.berkeley.edu.* Phone: 510-643-2178.
Primary URL: *http://cse.ssl.berkeley.edu/chips_epo/*

A326. Deep Impact Amateur Astronomer Partnership

Theme(s): SSE
Msn/Prgm(s): Deep Impact[B43]
Description: The Deep Impact mission outreach team is in its third year of partnership with the amateur astronomers. On a national basis the partnership seeks to have amateur astronomers provide images of Comet Tempel 1. These images have been submitted as part of the science team's database to study the comet for the encounter in July 2005. These selected amateur and professional astronomers track and image Comet Tempel 1 to fill in the gaps between the tracking and imaging that is provided by the larger professional telescopes. These images have helped the science team determine the characteristics of Comet Tempel 1 with more consistency than the larger telescopes can provide because of mission budget and scheduling. A second important goal of the partnership with amateur astronomers is to build relationships now for the planning of special community events during the encounter in July 2005. Through partnerships such as the ones being formed with amateur astronomers, Deep Impact will be able to form a nationwide community and hold special events in the urban and rural areas with its network of amateur astronomers, museums, science centers, universities, libraries, and other special groups and organizations.
Lead: Dr. Lucy McFadden, University of Maryland, College Park, MD 20742.
E-mail: *McFadden@astro.umd.edu.* Phone: 301-405-2081.
Contact: Ms. Elizabeth Warner, University of Maryland, College Park, MD 20742.
E-mail: *warnerem@astro.umd.edu.* Phone: 301-405-6555.
Primary URL: *http://deepimpact.umd.edu/stsp*

Scientist(s):			
	Mr. Jim Crane	Ball Aerospace Technologies Corporation	Boulder, CO
	Mr. Gary Emerson	Ball Aerospace Technologies Corporation	Boulder, CO
	Dr. Karen Meech	University of Hawaii at Manoa	Honolulu, HI
	Ms. Elizabeth Warner	University of Maryland	College Park, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
24 Jan 02	24 Jan 02	Gardner-Webb University	Boiling Springs, NC	-	75	-
25 Jan 02	25 Jan 02	Denver Museum of Nature and Science	Denver, CO	-	62	-
20 Feb 02	20 Feb 02	University of Colorado at Boulder	Boulder, CO	-	62	-

07 Mar 02	07 Mar 02	Discover Center Science Museum	Fort Collins, CO	-	45	-
18 Apr 02	18 Apr 02	Longmont Christian School	Longmont, CO	-	43	-
09 May 02	09 May 02	Roper Mountain Science Center	Greenville, SC	2	34	-
10 May 02	12 May 02	Wildacres Retreat	Little Switzerland, NC	5	120	-
01 Jul 02	01 Jul 02	University of Hawaii at Manoa	Honolulu, HI	-	100	-

A327. Deep Impact Public/Informal Events

Theme(s): SSE

Msn/Prgm(s): Deep Impact[B43]

Description: The Deep Impact mission science, engineering, and outreach team presents at public and informal events on a continuous basis, including lectures, tours, activity events, media, and astronomy nights. Aside from the outreach team members, 8 science and 13 engineering members of the mission went out to give talks or participate directly in events. Almost without exception, the records for public outreach are the result of the direct participation of mission team members rather than the distribution of materials. Team members have been creative in their approach to sharing the mission, and it is a high priority to share comet science as a basic part of the presentation. Some events are structured to specific audiences and/or professional groups, while others are focused on general audiences. In addition, some of the outreach listed under public outreach has been made to students through Scouts or 4-H, and those events are presented as educational events. Early partnerships are being formed and cultivated with public institutions and organizations in preparation for launch and encounter events. The Deep Impact mission also partners with the Solar System Ambassadors, which is reported to Edcats through that program.

Contact: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.

Scientist(s):		
Dr. Michael A'Hearn	University of Maryland	College Park, MD
Mr. Jim Baer	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. William Bittman	Ball Aerospace Technologies Corporation	Boulder, CO
Ms. Denise Cook-Clampert	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Gerald Cruse	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Mike Ensminger	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Joseph Girard	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Art Hammon	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Jochem Kissel	University of Maryland	College Park, MD
Mr. Casey Lisse	University of Maryland	College Park, MD
Mr. John Marriott	Ball Aerospace Technologies Corporation	Boulder, CO
Dr. Lucy McFadden	University of Maryland	College Park, MD
Dr. Karen Meech	University of Hawaii at Manoa	Honolulu, HI
Ms. Gretchen Reavis	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Jon Robison	Ball Aerospace Technologies Corporation	Boulder, CO
Ms. Maura Rountree-Brown	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Peter Schultz	Brown University	Providence, RI
Mr. Royce Short	Ball Aerospace Technologies Corporation	Boulder, CO
Mr. Shawn Smith	Ball Aerospace Technologies Corporation	Boulder, CO
Ms. Elizabeth Warner	University of Maryland	College Park, MD
Dr. Donald Yeomans	NASA Jet Propulsion Laboratory	Pasadena, CA

Partner(s): Ball Aerospace Technologies Corporation, Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Oct 01	05 Oct 01	Maryland Science Center	Baltimore, MD	-	150	-
20 Oct 01	20 Oct 01	Camp Reeves Boy Scout Camp	Robbins, MD	-	75	-
20 Oct 01	20 Oct 01	Custer Institute	Southold, NY	-	100	-
15 Nov 01	15 Nov 01	Society of Mechanical Engineers	Providence, RI	-	25	-
29 Nov 01	29 Nov 01	Muniz Corporation	Houston, TX	8	-	-
05 Dec 01	06 Dec 01	Maryland Technology Showcase	Baltimore, MD	-	10,000	-
11 Dec 01	11 Dec 01	University of Hawaii at Manoa	Honolulu, HI	-	15	-
19 Dec 01	19 Dec 01	UMD Foundation	Baltimore, MD	-	50	-
20 Dec 01	20 Dec 01	University of Maryland	College Park, MD	-	40	-

24 Jan 02	24 Jan 02	Veterans of Foreign Wars	Louisville, CO	16	32	-
07 Feb 02	07 Feb 02	University of Hawaii at Manoa	Honolulu, HI	-	500,000	-
15 Feb 02	15 Feb 02	Little Thompson Observatory	Berthoud, CO	-	40	-
17 Feb 02	17 Feb 02	Ball Aerospace Technologies Corporation	Boulder, CO	11	-	-
18 Feb 02	18 Feb 02	New York Times	New York, NY	-	8,800,000	-
19 Feb 02	19 Feb 02	University of Maryland	College Park, MD	6	163,000	-
01 Mar 02	01 Mar 02	Craigmont Planetarium	Memphis, TN	-	6,000	-
01 Mar 02	01 Mar 02	Kiwa Corral Camp	Lyons, CO	108		-
01 Mar 02	01 Mar 02	This is True, Inc.	Boulder, CO	-	103,738	-
11 Mar 02	11 Mar 02	4-H Chevy Chase, MD	Chevy Chase, MD	144		-
07 Apr 02	07 Apr 02	Pasadena Cherry Blossom Festival	Pasadena, CA	-	6, 000	-
23 Apr 02	23 Apr 02	Berger Terrace	Potomac, MD	15	-	-
27 Apr 02	27 Apr 02	University of Maryland	College Park, MD	-	20,000	-
06 May 02	06 May 02	Space Telescope Science Institute	Baltimore, MD	-	150	500
09 May 02	09 May 02	Longmont Rotary Club	Longmont, CO	-	175	-
14 May 02	14 May 02	Ball Aerospace Technologies Corporation	Boulder, CO	45	-	-
16 May 02	16 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	30	-	-
24 May 02	24 May 02	Ball Aerospace Technologies Corporation	Boulder, CO	21	-	-
28 May 02	28 May 02	Ball Aerospace Technologies Corporation	Boulder, CO	60	-	-
28 May 02	28 May 02	Rotary Club Metro	Honolulu, HI	350	-	-
20 Jun 02	20 Jun 02	NASA Jet Propulsion Laboratory	Pasadena, CA	110	-	-
24 Jun 02	24 Jun 02	University of Maryland	College Park, MD	-	600,000	-
24 Jun 02	24 Jun 02	WBUR Radio	Boston, MA	-	700,000	-
29 Jul 02	02 Aug 02	Technical University of Berlin	Berlin, Germany	-	400	-
31 Jul 02	31 Jul 02	Ball Aerospace Technologies Corporation	Boulder, CO	10	-	-
02 Aug 02	04 Aug 02	Nach Clausnitzers	Obercunnersdorf, Germany	3	-	-
03 Aug 02	03 Aug 02	Nach Clausnitzers	Obercunnersdorf, Germany	-	10,000	-
03 Aug 02	03 Aug 02	Rocky Mountain News	Denver, CO	-	661,943	-
03 Aug 02	03 Aug 02	Wilhelm Tempel Schuele	Obercunnersdorf, Germany	5	65	-
18 Aug 02	18 Aug 02	Science News	Washington, DC	-	200,000	-
18 Aug 02	19 Aug 02	University of Maryland	College Park, MD	-	50,000	-
19 Aug 02	19 Aug 02	University of Maryland	College Park, MD	-	20,000	-
21 Aug 02	21 Aug 02	Ball Aerospace Technologies Corporation	Boulder, CO	25	-	-
11 Sep 02	11 Sep 02	Louisville Times	Louisville, CO	-	3,200	-
01 Oct 02	31 Oct 02	ABC Sports	New York, NY	-	7,700,000	-

A328. Deep Space Network Informal Education

Msn/Prgm(s): DSMS[B60]

Description: Miscellaneous educational activities include symposiums, demonstrations, and other individual events.

Lead: Ms. Shirley Wolff, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *shirley.e.wolff@jpl.nasa.gov.* Phone: 818-354-4069.

Primary URL: *http://deepspace.jpl.nasa.gov/dsn*

Scientist(s):			
	Mr. Brian Cook	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Gary Glass	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. William Imbriale	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Michael Klein	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. James Lesh	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Anthony Mittskus	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Jason Willis	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Shirley Wolff	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Apr 02	07 Apr 02	Pasadena Cherry Blossom Festival	Pasadena, CA	-	240	-

17 May 02	17 May 02	California State Polytechnic University	Pomona, CA	73	-	-
11 Jul 02	11 Jul 02	Oxnard Community College	Oxnard, CA	250	-	-
28 Jul 02	01 Aug 02	International Planetarium Society Conference	Wichita, KS	-	500	-

A329. Deep Space Network Public Events

Theme(s): SSE

Msn/Prgm(s): DSMS[B60]

Description: Managers, engineers, and scientists from the Deep Space Network have occasional opportunities to make presentations or interact in some way with the public at a variety of venues, including civic groups, amateur radio clubs, and other community activities. During these presentations, they describe the functions and capabilities of the Deep Space Network and the role that the system plays in communicating with spacecraft that are exploring the Solar System.

Lead: Ms. Shirley Wolff, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *shirley.e.wolff@jpl.nasa.gov.* Phone: 818-354-4069.

Primary URL: *http://deepspace.jpl.nasa.gov/dsn*

Scientist(s):

Dr. Scott Bolton	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. James Hodder	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Michael Klein	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Martin Slade	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Apr 02	New Mexico Museum of Space History	Alamogordo, NM	-	300	-
27 Nov 01	01 Dec 01	AAS Division of Planetary Sciences Meeting	New Orleans, LA	800	-	-
26 Jan 02	26 Jan 02	Salvation Army Team Emergency Radio Net (SATERN)	San Bernardino, CA	-	50	-
31 Jan 02	30 Sep 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	62,326	-

A330. Explore! Fun with Science

Theme(s): SSE

Msn/Prgm(s): LPI B/F[B16]

Description: Explore! is a cooperative project between the Lunar and Planetary Institute (LPI), the NASA Office of Space Science, and libraries. The goal is to bring space science materials and activities into informal education venues. Fun with Science is a youth services program composed of eight topics, complete with activities, resources, and NASA handouts. In a public library setting, the program is designed to be an exciting addition to library and afterschool programs, and in school libraries Explore! becomes a valuable resource to the librarian and the entire education staff. LPI conducts training workshops for public and school library staff, formal education staff, and any interested youth leaders.

Lead: Dr. Robert Herrick, Lunar and Planetary Institute, Houston, TX 77058-1113.
E-mail: *herrick@lpi.usra.edu.*

Contact: Ms. Mary Noel, Lunar and Planetary Institute, Houston, TX 77058-1113.
E-mail: *noel@lpi.usra.edu.* Phone: 218-486-2198.

Primary URL: *http://www.lpi.usra.edu*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
31 Jan 02	31 Jan 02	Moore Memorial Public Library	Texas City, TX	-	20	-
04 Mar 02	08 Mar 02	Louisiana Library Association Conference	Baton Rouge, LA	900	300	-
12 Mar 02	16 Mar 02	Public Library Association Conference	Phoenix, AZ	-	9,000	-
11 Apr 02	11 Apr 02	Vermillion Parish Library	Abbeville, LA	19	-	-
23 Apr 02	26 Apr 02	Texas Library Association Conference	Dallas, TX	12,000	7,000	-
15 May 02	15 May 02	Alamo Area Library System (AALS)	San Antonio, TX	20	-	-
04 Jun 02	04 Jun 02	Carrollton Public Library	Carrollton, TX	30	-	-
05 Jun 02	05 Jun 02	Arapaho Elementary School	Richardson, TX	25	-	-
15 Aug 02	15 Aug 02	Rylie Academy Charter School	Dallas, TX	105	-	-

A331. Fun in the Sun—Summer Camp

Theme(s): SEC

Msn/Prgm(s): Solar-B[B116]

Description: Fun in the Sun is a weeklong summer camp developed for children of ages 9-11. The camp is designed to give the campers an entertaining and engaging exposure to the nature of our Sun, our modern understanding and observation of it, and its very central importance in our lives on Earth. The Sun and Sun-Earth Connection themes are explored through a variety of projects, incorporating scientific ideas, art, and crafts to appeal to the campers' age group. These projects provide ample hands-on/minds-on activities and produce daily take-home materials and products. Campers begin the week with an orientation of our Sun as a star and the scale of the Sun, planets, and the Solar System. The Sun in human history is showcased through some cultural solar iconography and mythology from around the world, and the idea of the Sun in art and myth is made personal when the campers are guided to create their own. Technological connections between humans and the Sun are investigated through the examination of modern solar images that have been obtained by satellite observatories like SOHO, Yohkoh, TRACE, Solar-B, and other solar missions. To put solar-measuring technology in the hands of the campers, three different sundial activities are run: a small pendant version, a paper-and-string version, and a large-scale analemmic human dial. The Sun-Earth Connection theme is explored as well, the central focus of which is the SEEC, or Sun-Earth Energy Connections hike, in which campers seek out and relate objects and processes in the immediate environment that are connected to each other in chains and webs of solar energy that flow through Earth's system. At the conclusion of the week campers build miniature "solar pizzas" and cook them in solar ovens, forming a tasty model of the Sun and its different layers and cooking it using energy from the Sun.

Lead: Mr. Benjamin Burress, Chabot Space and Science Center, Oakland, CA 94619.
E-mail: *bburress@chabotspace.org.* Phone: 510-336-7308.

Primary URL: *http://www.chabotspace.org/vsc/exhibits/solarb/*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
08 Jul 02	12 Jul 02	Chabot Space and Science Center	Oakland, CA	18	-	-

A332. Galaxy Evolution Explorer (GALEX) Social

Theme(s): SEU

Msn/Prgm(s): GALEX[B77]

Description: The GALEX staff had direct interaction with over 300 children, parents, and teachers on July 21 at an ice cream social. The GALEX staff gave the kids instructions on how to make a galactic mobile (from "The Space Place" Web site), and they helped them to figure out which items in pictures were galaxies. It was a 5-hour event. Principal Investigator Dr. Chris Martin from California Institute of Technology led the effort.

Lead: Dr. Chris Martin, California Institute of Technology, Pasadena, CA 91125.

Contact: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.

Primary URL: *http://www.srl.caltech.edu/galex/*

2nd URL: *http://spaceplace.jpl.nasa.gov*

Scientist(s): Dr. Chris Martin California Institute of Technology Pasadena, CA

Event(s):\Dates Location Participants

Start Date	End Date	Venue	City, State	DIR	ANON	WEB
21 Jul 02	21 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	300	-

A333. Goldstone Communications Complex—Public Tours

Theme(s): SSE

Msn/Prgm(s): DSMS[B60]

Description: Tours of the Goldstone Deep Space Communications Complex in the Mojave Desert, CA, are available to the general public. Participants see the huge antennas that communicate with NASA's robotic spacecraft which are exploring the Solar System; they are taken to see several antennas, including the largest, 70 meters (230 feet) in diameter, where they go up inside the pedestal. They visit the small museum to learn of the NASA missions supported by the Deep Space Network. The goal is an awareness of NASA Solar System exploration and, specifically, how incredible it is to be in communication with spacecraft that are a billion miles distant.

Lead: Ms. Marie Massey, Goldstone Deep Space Communications Complex, Fort Irwin, CA 92310.

E-mail: *marie.massey@csoconline.com.* Phone: 760-255-8687.
Primary URL: *http://gts.gdscc.nasa.gov/*
2nd URL: *http://deepspace.jpl.nasa.gov/dsn/educ/index.html*
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	31 Oct 01	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	20	-
01 Nov 01	30 Nov 01	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	102	-
01 Dec 01	31 Dec 01	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	50	-
01 Jan 02	31 Jan 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	41	-
01 Feb 02	28 Feb 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	23	-
01 Mar 02	31 Mar 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	40	-
01 Apr 02	30 Apr 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	68	-
01 May 02	31 May 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	51	-
01 Jun 02	30 Jun 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	33	-
01 Jul 02	31 Jul 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	138	-
01 Aug 02	31 Aug 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	42	-
01 Sep 02	30 Sep 02	Goldstone Deep Space Communications Complex	Fort Irwin, CA	-	140	-

A334. Hubble Space Telescope (HST) Amateur Astronomical Community Events

Theme(s): ASO
Msn/Prgm(s): HST[B22]
Description: The amateur astronomy community, through the participation of hundreds of clubs around the country, hosts many types of events that reach out to the general public. These various clubs offer programs for local elementary, middle, and high school, youth organizations, and they host monthly public open houses. Two larger events, Astronomy Day, held in the spring, and regional Star Parties, held throughout the year, promote the hobby of amateur astronomy and educate the public about Hubble Space Telescope and other NASA space missions. The clubs invest time and funds for advertising the event, which is held in a public location: a shopping mall, college, or surrounding a local observatory in the case of Astronomy Day; or remote dark sky locations for the Star Parties. Solar observation takes place in the daytime. Astronomy Day attendance by the general public is anywhere from 100 to several thousand people per location, all impacted by this 2-day exposure to astronomy. Star Parties usually have 100 to 500 participants. The Space Telescope Science Institute supports the clubs by contacting them to assess their needs for upcoming events and by identifying the educational materials that will best meet their requirements, based upon the audience. These materials include educational, visually interactive resources and hundreds of our most popular HST lithographs, posters, and videos. These handouts and visuals constitute a valuable resource for the general public to learn about Hubble Space Telescope. The clubs also use the materials to enhance K-12 school and youth groups in their outreach programs.
Lead: Mr. John Stoke, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *stoke@stsci.edu.* Phone: 410-338-4394.
Contact: Ms. Lucy Albert, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *lalbert@stsci.edu.* Phone: 410-338-4857.
Scientist(s): Ms. Lucy Albert — Space Telescope Science Institute — Baltimore, MD
Ms. Inge Heyer — Space Telescope Science Institute — Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
20 Feb 02	30 Sep 02	University of Rochester	Rochester, NY	-	300	-
20 Mar 02	20 Mar 02	Selby Lane Air & Space Science Technology Magnet School	Atherton, CA	-	250	-
25 Mar 02	30 Sep 02	Griffith Observatory	Los Angeles, CA	-	600	-
08 Apr 02	08 Apr 02	Astronomical Society of Harrisburg	Harrisburg, PA	30	-	-
20 Apr 02	20 Apr 02	Accenture Astronomy Club	Atlanta, GA	-	200	-
20 Apr 02	20 Apr 02	Amarillo Astronomy Club	Amarillo, TX	-	200	-
20 Apr 02	20 Apr 02	Back Bay Amateur Astronomers	Chesapeake, VA	-	500	-
20 Apr 02	20 Apr 02	Barnard-Seyfert Astronomical Society of Nashville	Nashville, TN	-	200	-
20 Apr 02	20 Apr 02	Boys & Girls Club of Madison County	Berea, KY	-	250	-
20 Apr 02	20 Apr 02	Calumet Astronomical Society	Hammond, IN	-	500	-
20 Apr 02	20 Apr 02	Central Pennsylvania Observers	State College, PA	-	200	-
20 Apr 02	20 Apr 02	Christian Association of Stellar Explorers	Siloam Springs, AR	-	50	-
20 Apr 02	20 Apr 02	Cincinnati Astronomical Society	Hamilton, OH		100	-
20 Apr 02	20 Apr 02	Delaware Astronomical Society	Newark, DE	-	200	-
20 Apr 02	20 Apr 02	Delmarva Star Gazers	Dover, DE	-	106	-
20 Apr 02	20 Apr 02	Greenbelt Astronomy Club	Greenbelt, MD	-	200	-
20 Apr 02	20 Apr 02	Indiana Astronomical Society	Mooresville, IN	-	400	-
20 Apr 02	20 Apr 02	Lockheed Martin	Columbus, IN	-	600	-
20 Apr 02	20 Apr 02	Museum Astronomical Resource Society	Tampa, FL	-	734	-
20 Apr 02	20 Apr 02	National Space Science and Technology Institute	Colorado Springs, CO	-	84	-
20 Apr 02	20 Apr 02	Prairie Astronomy Club	Lincoln, NE	-	200	-
20 Apr 02	20 Apr 02	Rochester Academy of Science	Hilton, NY	-	1,500	-
20 Apr 02	20 Apr 02	Rose City Astronomers	Portland, OR	-	400	-
20 Apr 02	20 Apr 02	Sacramento Valley Astronomical Society	Sacramento, CA	-	650	-
20 Apr 02	20 Apr 02	Spokane Astronomical Society	Spokane, WA	-	200	-
20 Apr 02	20 Apr 02	Subaru Telescope	Hilo, HI	-	10,000	-
20 Apr 02	20 Apr 02	Sugar Creek Astronomical Society	Bell Vista, AR	-	300	-
20 Apr 02	20 Apr 02	Treasure Coast Astronomical Society	Port St. Lucie, FL	-	350	-
20 Apr 02	20 Apr 02	Twin City Amateur Astronomers	Stanford, IL	-	500	-
20 Apr 02	20 Apr 02	Whatcom Association of Celestial Observers	Ferndale, WA	-	200	-
20 Apr 02	20 Apr 02	Wilderness Center Astronomy Club	Wilmot, OH	-	200	-
27 Apr 02	27 Apr 02	Albany Visitors Center and Planetarium	Albany, NY	-	150	-
16 May 02	16 May 02	Howard Astronomical League of Central Maryland	Columbia, MD	30	-	-
21 May 02	21 May 02	Delaware Astronomical Society	Newark, DE	30	-	-
13 Jun 02	13 Jun 02	Berks County Amateur Astronomical Society	Reading, PA	30	-	-
11 Aug 02	11 Aug 02	Lehigh Valley Amateur Astronomical Society	Allentown, PA	30	-	-
13 Aug 02	13 Aug 02	Baltimore Astronomical Society	Baltimore, MD	30	-	-
06 Sep 02	08 Sep 02	Boise Astronomical Society	Boise, ID	-	150	-

A335. Hubble Space Telescope (HST) Speakers Bureau

Theme(s): ASO

Msn/Prgm(s): HST[B22]

Description: The Office of Public Outreach at the Space Telescope Science Institute (STScI) operates a speakers bureau to fulfill requests from our local and regional communities for presentations about the Hubble Space Telescope. Presentations are given by STScI science and technical staff and cover a range of HST topics, including the telescope itself, recent HST discoveries, and careers in science and technology. Speaker requests typically come from a variety of sources, including schools, science centers, amateur astronomy organizations, and senior/retirement centers.

Lead: Dr. Ian Griffin, Space Telescope Science Institute, Baltimore, MD 21218.

E-mail: *griffin@stsci.edu.* Phone: 410-338-4567.

Scientist(s):	Ms. Lucy Albert	Space Telescope Science Institute	Baltimore, MD
	Ms. Inge Heyer	Space Telescope Science Institute	Baltimore, MD
	Dr. Helmut Jenkner	Space Telescope Science Institute	Baltimore, MD
	Mr. Max Mutchler	Space Telescope Science Institute	Baltimore, MD
	Dr. Sid Parsons	Space Telescope Science Institute	Baltimore, MD
	Dr. Massimo Stiavelli	Space Telescope Science Institute	Baltimore, MD
	Mr. Robert Winsor	Space Telescope Science Institute	Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
30 Nov 01	30 Nov 01	Johns Hopkins University	Baltimore, MD	-	20	-
02 Mar 02	02 Mar 02	National Capital Astronomers	Washington, DC	-	45	-
16 Mar 02	16 Mar 02	Johns Hopkins University	Baltimore, MD	-	50	-
21 Mar 02	21 Mar 02	Martin Boulevard Elementary School	Baltimore, MD	-	60	-
13 Apr 02	25 May 02	Catonsville Community College	Baltimore, MD	-	15	-
30 May 02	30 May 02	Johns Hopkins University	Baltimore, MD	-	13	-
22 Jun 02	22 Jun 02	Harford County Astronomical Society	Bel Air, MD	-	25	-
29 Jul 02	29 Jul 02	Johns Hopkins University	Baltimore, MD	-	20	-

A336. Hubble Space Telescope (HST) Workshops and Presentations

Theme(s): ASO

Msn/Prgm(s): HST[B22]

Description: The Space Telescope Science Institute staff are often invited and/or requested by professional organizations, community organizations, radio and television stations, and schools to give talks and/or make presentations. Topics for these events can vary and they include what the Hubble Space Telescope does, how information is processed, images from the telescope and the science behind it, and how to use HST materials in the classroom. From Teach for America to Rotary Clubs, National Public Radio broadcasts to local television stations, graduate education program students to first-grade classrooms, the Space Telescope Science Institute has presented Hubble Space Telescope materials that have excited, amazed, and challenged a wide variety of public audiences.

Lead: Ms. Bonnie Eisenhamer, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *bonnie@stsci.edu.* Phone: 410-338-4798.

Scientist(s):	Ms. Faith Abney	Space Telescope Science Institute	Baltimore, MD
	Ms. Lucy Albert	Space Telescope Science Institute	Baltimore, MD
	Ms. Robin Auer	Space Telescope Science Institute	Baltimore, MD
	Ms. Diane Bell	University of Tennessee at Martin	Martin, TN
	Mr. Brett Blacker	Space Telescope Science Institute	Baltimore, MD
	Ms. Heather Bradbury	Space Telescope Science Institute	Baltimore, MD
	Dr. Carol Christian	Space Telescope Science Institute	Baltimore, MD
	Ms. Cathy Clemens	Museum of Science	Boston, MA
	Dr. Megan Donahue	Space Telescope Science Institute	Baltimore, MD
	Ms. Bonnie Eisenhamer	Space Telescope Science Institute	Baltimore, MD
	Dr. Scott Friedman	Johns Hopkins University	Baltimore, MD
	Dr. Andrew Fruchter	Space Telescope Science Institute	Baltimore, MD
	Ms. Karen Gaydos	Space Telescope Science Institute	Baltimore, MD
	Mr. Christopher Hanley	Space Telescope Science Institute	Baltimore, MD
	Ms. Inge Heyer	Space Telescope Science Institute	Baltimore, MD
	Ms. Helen Hunt	Johns Hopkins University	Baltimore, MD
	Ms. Robin Kantor	Space Telescope Science Institute	Baltimore, MD
	Mr. Mark Kochte	Space Telescope Science Institute	Baltimore, MD
	Dr. Sanjay Limaye	University of Wisconsin-Madison	Madison, WI
	Dr. Mario Livio	Space Telescope Science Institute	Baltimore, MD
	Mr. Dan McCallister	Space Telescope Science Institute	Baltimore, MD
	Ms. Grace Mitchell	Space Telescope Science Institute	Baltimore, MD
	Mr. Max Mutchler	Space Telescope Science Institute	Baltimore, MD
	Ms. Shannon Myers	NASA Johnson Space Center	Houston, TX

Dr. Paolo Padovani	Space Telescope Science Institute	Baltimore, MD
Ms. Cheryl Pavlovsky	Space Telescope Science Institute	Baltimore, MD
Ms. Patty Reeves	Space Telescope Science Institute	Baltimore, MD
Ms. Carole Rest	Space Telescope Science Institute	Baltimore, MD
Mr. Tony Roman	Space Telescope Science Institute	Baltimore, MD
Dr. Al Schultz	Space Telescope Science Institute	Baltimore, MD
Ms. Maria Sieve	Augsburg College	Minneapolis, MN
Mr. John Stoke	Space Telescope Science Institute	Baltimore, MD
Dr. Terry Teays	Space Telescope Science Institute	Baltimore, MD
Mr. Ray Villard	Space Telescope Science Institute	Baltimore, MD
Dr. Mark Voit	Space Telescope Science Institute	Baltimore, MD
Mr. Robert Winsor	Space Telescope Science Institute	Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
06 Oct 01	09 Oct 01	Association of Science-Technology Centers (ASTC) Conference	Phoenix, AZ	-	200	-
15 Oct 01	15 Oct 01	Herndon High School	Herndon, VA	125	-	-
20 Oct 01	20 Oct 01	Smithsonian National Air and Space Museum	Washington, DC	-	120	-
09 Nov 01	09 Nov 01	Abbey Junior School	Birmingham, United Kingdom	93	-	-
19 Nov 01	19 Nov 01	Curtius Elementary School	Berlin, Germany	52	-	-
07 Dec 01	07 Dec 01	Hernwood Elementary School	Randallstown, MD	96	-	-
01 Jan 02	30 Sep 02	WYPR 88.1 FM	Baltimore, MD	-	40,000	-
07 Jan 02	07 Jan 02	Bob Jones University	Greenville, SC	36	-	-
09 Jan 02	09 Jan 02	University of Florida	Gainesville, FL	20	-	-
10 Jan 02	10 Jan 02	Pennsylvania State University	University Park, PA	-	100	-
02 Feb 02	02 Feb 02	Stuckey Elementary School	Redford, IL	120	-	-
02 Feb 02	02 Feb 02	The Aerospace Corporation	Arlington, VA	-	30	-
02 Feb 02	02 Feb 02	University of Alabama at Huntsville	Huntsville, AL	300	-	-
04 Feb 02	04 Feb 02	Columbia University	New York, NY	200	-	-
04 Feb 02	04 Feb 02	St. Mary's College	St. Mary's City, MD	-	150	-
05 Feb 02	05 Feb 02	JFK Intermediate School	Deer Park, NY	20	-	-
05 Feb 02	05 Feb 02	Montclair State University	Upper Montclair, NJ	-	25	-
08 Feb 02	08 Feb 02	Center of Excellence for Science & Mathematics Education	Martin, TN	-	200	-
15 Feb 02	17 Feb 02	Farpoint SciFi Convention	Elkridge, MD	-	500	-
21 Feb 02	21 Feb 02	Michigan Aerospace Alliance	Lansing, MI	175	-	-
22 Feb 02	22 Feb 02	University of Tennessee at Martin	Martin, TN	200	-	-
23 Feb 02	23 Feb 02	Fairmont State College	Fairmont, WV	50	80	-
28 Feb 02	28 Feb 02	Park Maitland School	Maitland, FL	42	-	-
05 Mar 02	05 Mar 02	Cherry Creek Elementary School	Lowell, MI	835	-	-
11 Mar 02	11 Mar 02	Boy Scouts of America—Cub Scouts Finger Lakes Council	Geneva, NY	-	60	-
12 Mar 02	12 Mar 02	Cambridge Montessori School	Cambridge, MA	16	-	-
12 Mar 02	12 Mar 02	Children's House of Montessori	Woodbridge, CT	16	-	-
15 Mar 02	15 Mar 02	Western Colorado Math and Science Center	Grand Junction, CO	175	-	-
21 Mar 02	21 Mar 02	Martin Boulevard Elementary School	Baltimore, MD	65	-	-
21 Mar 02	21 Mar 02	Maryland Science Center	Baltimore, MD	-	100	-
21 Mar 02	21 Mar 02	National Science Foundation	Arlington, VA	-	200	-
24 Mar 02	24 Mar 02	St. Mary's College	St. Mary's City, MD	-	150	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	16,000	-	-
27 Mar 02	27 Mar 02	Space Telescope Science Institute	Baltimore, MD	60	-	-
28 Mar 02	28 Mar 02	Bedford Road Elementary School	Pleasantville, NY	30	-	-
30 Mar 02	30 Mar 02	Harford County Astronomical Society	Bel Air, MD	-	22	-
01 Apr 02	01 Apr 02	University of Wisconsin-Madison	Madison, WI	1,200	-	-

16 Apr 02	16 Apr 02	Skokie School	Winnetka, IL	44	-	-
19 Apr 02	21 Apr 02	I-CON SciFi Convention	Stony Brook, NY	-	500	-
23 Apr 02	28 Apr 02	National Council for the Teachers of Mathematics (NCTM) Conference	Las Vegas, NV	20,000	-	-
24 Apr 02	24 Apr 02	Harrisburg Area Community College	Gettysburg, PA	25	-	-
24 Apr 02	24 Apr 02	Kingwood Elementary School	Kingwood, WV	100	-	-
24 Apr 02	24 Apr 02	Morehead State University	Morehead, KY	22	-	-
24 Apr 02	24 Apr 02	St. Helena of the Cross	Chicago, IL	22	-	-
25 Apr 02	25 Apr 02	Gettysburg College	Gettysburg, PA	30	-	-
27 Apr 02	27 Apr 02	Western Colorado Math and Science Center	Grand Junction, CO	30	-	-
02 May 02	02 May 02	Timonium Elementary School	Timonium, MD	75	-	-
03 May 02	03 May 02	Riderwood Elementary School	Towson, MD	543	-	-
04 May 02	04 May 02	Eye to the Future	Minneapolis, MN	350	150	-
07 May 02	07 May 02	Worthington Elementary School	Worthington, KY	22	-	-
09 May 02	09 May 02	Montessori School	Baltimore, MD	100	-	-
09 May 02	09 May 02	Rock Creek International School	Washington, DC	63	-	-
11 May 02	11 May 02	Ravens Stadium	Baltimore, MD	-	400	-
14 May 02	14 May 02	StanKraft, Inc.	Skokie, IL	-	100	-
16 May 02	16 May 02	Cockeysville Middle School	Cockeysville, MD	60	-	-
20 May 02	20 May 02	Boy Scouts of America—Baltimore Area Council	Baltimore, MD	-	40	-
20 May 02	20 May 02	NASA Johnson Space Center	Houston, TX	-	1,000	-
21 May 02	21 May 02	Folger McKinsey Elementary School	Severna Park, MD	22	-	-
21 May 02	21 May 02	University of Nevada, Las Vegas	Las Vegas, NV	25	-	-
22 May 02	22 May 02	Amateur Astronomers Association of Pittsburgh	Glenshaw, PA	-	30	-
24 May 02	24 May 02	Cliffdale Elementary School	Fayetteville, NC	126	-	-
24 May 02	27 May 02	Balticon SciFi Convention	Baltimore, MD	-	500	-
01 Jun 02	30 Sep 02	WYPR 88.1 FM	Baltimore, MD	-	40,000	-
03 Jun 02	03 Jun 02	Bowie High School	Bowie, MD	22	-	-
04 Jun 02	04 Jun 02	Riviera Beach Elementary School	Pasadena, MD	22	-	-
04 Jun 02	04 Jun 02	St. Marks School	Catonsville, MD	30	-	-
06 Jun 02	06 Jun 02	Maryland Science Center	Baltimore, MD	-	200	-
06 Jun 02	06 Jun 02	Santa Fe Community College	Santa Fe, NM	-	300	-
06 Jun 02	06 Jun 02	Step Star Network's Young Astronauts	Spokane, WA	-	50	-
08 Jun 02	08 Jun 02	Amateur Astronomers Association of Pittsburgh	Glenshaw, PA	-	70	-
08 Jun 02	08 Jun 02	Amateur Astronomers Association of Pittsburgh	Glenshaw, PA	-	30	-
09 Jun 02	09 Jun 02	The Baltimore Sun	Baltimore, MD	-	430,000	-
11 Jun 02	11 Jun 02	Mad Science of South Orange County	Laguna Hills, CA	-	150	-
11 Jun 02	11 Jun 02	Western Colorado Math and Science Center	Grand Junction, CO	-	24	-
13 Jun 02	13 Jun 02	East Lincoln High School	Denver, NC	30	-	-
17 Jun 02	17 Jun 02	Challenger Learning Center	Hammond, IN	100	-	-
17 Jun 02	17 Jun 02	San Diego State University	San Diego, CA	15	-	-
19 Jun 02	19 Jun 02	Maryland Science Center	Baltimore, MD	-	100	-
12 Jul 02	12 Jul 00	Marriott Hunt Valley Inn	Hunt Valley, MD	-	30	-
12 Jul 02	12 Jul 02	Marriott Hunt Valley Inn	Hunt Valley, MD	-	30	-
12 Jul 02	14 Jul 02	Star Trek Association of Towson	Towson, MD	-	2,000	-
13 Jul 02	13 Jul 02	Marriott Hunt Valley Inn	Hunt Valley, MD	-	30	-
13 Jul 02	13 Jul 02	Marriott Hunt Valley Inn	Hunt Valley, MD	-	30	-
16 Jul 02	16 Jul 02	Saunders Middle School	Manassas, VA	150	-	-
17 Jul 02	17 Jul 02	Johns Hopkins University	Baltimore, MD	30	-	-
17 Jul 02	17 Jul 02	Museum of Flight	Seattle, WA	-	7	-
18 Jul 02	18 Jul 02	Johns Hopkins University	Baltimore, MD	-	20	-
18 Jul 02	18 Jul 02	Maryland Science Center	Baltimore, MD	-	50	-
25 Jul 02	25 Jul 02	South Dakota Schools of Mines and Technology	Rapid City, SD	14	-	-
29 Jul 02	29 Jul 02	Maryland Science Center	Baltimore, MD	18		-
30 Jul 02	30 Jul 02	Boy Scouts of America—Baltimore Area Council	Baltimore, MD	-	30	-
03 Aug 02	03 Aug 02	Maryland Science Center	Baltimore, MD	-	100	-
03 Aug 02	03 Aug 02	Maryland Science Center	Baltimore, MD	-	30	-

14 Aug 02	14 Aug 02	Western Colorado Math and Science Center	Grand Junction, CO	-	100	-
20 Aug 02	20 Aug 02	Johns Hopkins Children's Center	Baltimore, MD	-	10	-
21 Aug 02	21 Aug 02	Cold Spring Elementary School	Potomac, MD	57	-	-
28 Aug 02	28 Aug 02	Harford County Astronomical Society	Bel Air, MD	-	100	-
30 Aug 02	30 Aug 02	Richard Montgomery High School	Rockville, MD	22	-	-
02 Sep 02	02 Sep 02	St. Marks School	Catonsville, MD	30	-	-
05 Sep 02	05 Sep 02	Halstead Academy	Baltimore, MD	88	-	-
06 Sep 02	06 Sep 02	Houston Baptist University	Houston, TX	60	-	-
06 Sep 02	06 Sep 02	Woodhome Elementary/Middle School	Baltimore, MD	30	-	-
10 Sep 02	10 Sep 02	Maryland Science Center	Baltimore, MD	-	20	-
18 Sep 02	18 Sep 02	The Putney School	Putney, VT	20	-	-
23 Sep 02	23 Sep 02	Western Colorado Math and Science Center	Grand Junction, CO	-	24	-
30 Sep 02	30 Sep 02	Museum of Science	Boston, MA	30	-	-

A337. IMAGE Amateur Astronomy Clubs

Theme(s): SEC
Msn/Prgm(s): IMAGE[B102]
Description: One of our most enthusiastic public education constituencies is the amateur astronomer. The Image for Magnetopause-to-Aurora Global Explorer (IMAGE) team is frequently invited to give talks at local and regional amateur astronomer organizations.
Lead: Dr. Sten Odenwald, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *odenwald@mail630.gsfc.nasa.gov.* Phone: 301-286-6953.
Scientist(s): Dr. Sten Odenwald — NASA Goddard Space Flight Center — Greenbelt, MD
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
20 Nov 01	20 Nov 01	Analemma Society	Great Falls, VA	-	47	-
02 Feb 02	02 Feb 02	National Capital Astronomers	Washington, DC	-	38	-
14 Mar 02	14 Mar 02	Baltimore Astronomical Society	Baltimore, MD	-	15	-
09 Apr 02	09 Apr 02	Greenbelt Astronomy Club	Greenbelt, MD	-	18	-
21 Jun 02	21 Jun 02	Atlanta Astronomy Club	Atlanta, GA	-	85	-

A338. IMAGE Planetariums and Museum Lectures

Theme(s): SEC
Msn/Prgm(s): IMAGE[B102]
Description: Bringing the results of taxpayer-supported science research to the public is a major priority with the Imager for Magnetopause-to-Aurora Global Explorer (IMAGE). One popular venue by which IMAGE science results are dramatically presented is through the planetarium lecture program.
Lead: Dr. Sten Odenwald, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *odenwald@mail630.gsfc.nasa.gov.* Phone: 301-286-6953.
Primary URL: *http://image.gsfc.nasa.gov/poetry*
Scientist(s): Dr. Sten Odenwald — NASA Goddard Space Flight Center — Greenbelt, MD
Dr. Patricia Reiff — Rice University — Houston, TX
Partner(s): Rice University — Houston, TX
University of California, Berkeley — Berkeley, CA
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	Houston Museum of Natural Science	Houston, TX	-	200,000	-
12 Apr 02	12 Apr 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	198	-

A339. Interactive Exhibits at Community Events

Theme(s): SEC, SSE
Msn/Prgm(s): SECEF[B14], SSI B/F[B20]
Description: The Space Science Institute (SSI) has created a mobile space science outreach exhibit (500 square feet)—staffed by SSI educators and scientists to provide hands-on, interactive experiences and NASA outreach materials for all ages—that can be used at a variety of community events. This small road show was creatively assembled

from prototype components of SSI's traveling exhibits, "Electric Space" and "MarsQuest." Our interactive exhibits have been very successful this year, providing support for South Dakota's Space Day, the Wyoming State Science Fair, and a community science night at the Insights El Paso Science Museum. SSI collaborated with the South Dakota Space Grant Consortium to bring its mobile exhibit to Space Day, a 1-day event in Brookings, SD, attended by over 4,000 students from the surrounding rural and suburban school districts. For the Wyoming State Science Fair in Laramie, WY, the SSI broker provided a very well received interactive presentation for 300 students and teachers, called "The Beauty and Wonder of Planets, Stars, and Galaxies!" At the Insights El Paso Science Museum, SSI collaborated with the University of Texas at El Paso and the Insights Museum to host a community science night in support of the activities surrounding the Space Weather Center exhibit's visit to the museum. In addition, SSI education staff has developed family astronomy games for use in these interactive exhibits that are extremely successful in engaging parents with their children.

Lead: Dr. Cherilynn Morrow, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *camorrow@colorado.edu.* Phone: 303-492-7321.

Scientist(s):	Mr. James Harold	Space Science Institute	Boulder, CO
	Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
Partner(s):	South Dakota Space Grant Consortium		Rapid City, SD
	South Dakota State University		Brookings, SD
	University of Texas at El Paso		El Paso, TX
	University of Wyoming		Laramie, WY

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Mar 02	02 Mar 02	Insights El Paso Science Museum	El Paso, TX	-	405	-
11 Mar 02	11 Mar 02	Wyoming State Science Fair	Laramie, WY	-	300	-
05 Apr 02	05 Apr 02	South Dakota State University	Brookings, SD	5	233	-

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A340. "Light and Shadow" Workshop

Theme(s): SEC
Msn/Prgm(s): HEASARC[B86]
Description: This half-hour demonstration is aimed at elementary school children, particularly in grades K-3. In it, we show the children various light sources (flashlight and laser pointer) and ask them about what shadows they would expect to see from each source under different circumstances. We try to illustrate that light travels in straight lines and that is why we can see shadows. The students get a chance to make their own "shadowgrams" using special photosensitive paper that is exposed to sunlight.
Lead: Dr. Louis Barbier, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lmb@cosmicra.gsfc.nasa.gov.* Phone: 301-286-4054.
Primary URL: *http://lheawww.gsfc.nasa.gov/NIGHTGLOW/*

Scientist(s):	Dr. Louis Barbier	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Aug 02	01 Aug 02	NASA Goddard Space Flight Center	Greenbelt, MD	30	-	-

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A341. Lunar and Planetary Institute (LPI) Speakers Bureau

Theme(s): SSE
Msn/Prgm(s): LPI B/F[B16]
Description: The LPI speakers bureau provides scientists who speak on a range of topics to schools, colleges, civic groups and societies, and science centers locally, regionally, and nationally upon request. For some venues, hands-on activities and demonstrations are also provided. There is no charge for the speakers, although reimbursement for transportation costs is requested for long-distance travel.
Lead: Ms. Pamela Thompson, Lunar and Planetary Institute, Houston, TX 77058-1113.
E-mail: *thompson@lpi.usra.edu.* Phone: 281-486-2175.
Primary URL: *http://www.lpi.usra.edu/lpi.html*

Scientist(s):	Dr. Robert Herrick	Lunar and Planetary Institute	Houston, TX
	Dr. Walter Kiefer	Lunar and Planetary Institute	Houston, TX
	Dr. Patrick McGovern	Lunar and Planetary Institute	Houston, TX
	Dr. Paul Spudis	Lunar and Planetary Institute	Houston, TX

	Ms. Pamela Thompson	Lunar and Planetary Institute	Houston, TX
	Dr. Allan Treiman	Lunar and Planetary Institute	Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
03 May 02	03 May 02	K. E. Little Elementary School	Bacliff, TX	1,052	-	-

A342. Mapping the Cosmic Microwave Background—Microwave Anisotropy Probe (MAP) Informal Outreach

Theme(s): SEU

Msn/Prgm(s): MAP[B79]

Description: The objectives of this two-session course were to introduce the satellite and its mission to an informal audience and to prepare them for what to expect when the results of the mission become public. This course was made available to participants in the Adler Planetarium and Astronomy Museum's Course Program. The course was hosted in the Adler's CyberSpace Studio.

Lead: Dr. David Spergel, Princeton University, Princeton, NJ 08544-1001.
E-mail: *dns@astro.princeton.edu.* Phone: 609-258-3589.

Primary URL: *http://map.gsfc.nasa.gov*

2nd URL: *http://www.astro.princeton.edu/~clark/teachersguide.html*

Scientist(s):	Ms. Lindsay Bartolone	Adler Planetarium and Astronomy Museum	Chicago, IL

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
19 Jun 02	26 Jun 02	Adler Planetarium and Astronomy Museum	Chicago, IL	22	-	-

A343. Mars: Public Talks

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: These public talks occur around the country to bring the excitement of space exploration to the general public.

Contact: Ms. Connie Gennaro, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Consuelo.Gennaro@jpl.nasa.gov.* Phone: 818-393-2502.

Scientist(s):	Ms. Tracey Abbott	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Mark Adler	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Joanne Alano	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Bob Anderson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Todd Barber	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Sheryl Bergstrom	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Derek Blackway	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Susan Braunheim-Kalagerakos	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Enrico Bruno	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Larry Bryant	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Scott Carpenter	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. David Cha	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Kar-Ming Cheung	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Phil Christensen	Arizona State University	Tempe, AZ
	Ms. Nagin Cox	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Andrea Donnellan	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Charles Elachi	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Christine Farguson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Orlando Figueroa	NASA Office of Space Science	Washington, DC
	Mr. Mike Garrett	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Jim Garvin	NASA Office of Space Science	Washington, DC
	Ms. Consuelo Gennaro	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Roger Gibbs	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Matthew Golumbek	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Bob Gounley	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Rob Grover	NASA Jet Propulsion Laboratory	Pasadena, CA

Dr. Vicky Hamilton	Arizona State University	Tempe, AZ
Mr. Laurence Harms	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Etta Heber	Chabot Space and Science Center	Oakland, CA
Dr. Ayanna Howard	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Christine Johnson	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Corinne Karpinski	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Linda Kekelis	Chabot Space and Science Center	Oakland, CA
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Ms. Rebecca Knudsen	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Stephanie Lievense	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Matthew Lum	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Greg Mehall	Arizona State University	Tempe, AZ
Ms. Jennifer Mindock	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Helen Mortensen	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Firouz Naderi	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Tam Nguyen	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Tom Nolan	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Erik Pounders	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Steve Ruff	Arizona State University	Tempe, AZ
Ms. Regina Sakurai	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Miguel San Martin	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Steve Silverman	Santa Barbara Museum of Natural History	Santa Barbara, CA
Mr. David Spencer	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Will Stefanov	Arizona State University	Tempe, AZ
Ms. Sarita Thakoor	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Paige Valderrama	Arizona State University	Tempe, AZ
Ms. Michelle Viotti	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Keith Watt	Arizona State University	Tempe, AZ
Dr. Catherine Weitz	NASA Office of Space Science	Washington, DC
Mr. Mark Wilkinson	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Tracy Williams	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Shonte Wright	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
04 Oct 01	04 Oct 01	Eugene Planetarium	Eugene, OR	50	-	-
06 Oct 01	06 Oct 01	Arizona State University	Tempe, AZ	66	-	-
13 Oct 01	13 Oct 01	Arizona State University	Tempe, AZ	50	-	-
23 Oct 01	23 Oct 01	Arizona State University	Tempe, AZ	66	-	-
31 Oct 01	31 Oct 01	Crowne Plaza	Phoenix, AZ	570	-	-
08 Nov 01	08 Nov 01	Discovery Center	Red Bluff, CA	-	300	-
15 Nov 01	17 Nov 01	Doubletree Hotel	Pasadena, CA	-	100	-
16 Nov 01	16 Nov 01	Los Angeles Convention Center	Los Angeles, CA	150	-	-
19 Nov 01	19 Nov 01	NASA Jet Propulsion Laboratory	Pasadena, CA	-	370	-
21 Nov 01	21 Nov 01	Kennedy Space Center Visitor Center	Kennedy Space Center, FL	50	-	-
15 Dec 01	15 Dec 01	Los Angeles Valley College	Valley Glen, CA	-	500	-
18 Dec 01	18 Dec 01	Santa Barbara Museum of Natural History	Santa Barbara, CA	-	50	-
02 Jan 02	02 Jan 02	Crossroads Church	Corona, CA	-	150	-
04 Jan 02	04 Jan 02	Santa Barbara Museum of Natural History	Santa Barbara, CA	-	60	
11 Jan 02	13 Jan 02	Arizona State University	Tempe, AZ	500	-	-
13 Jan 02	13 Jan 02	Chabot Space and Science Center	Oakland, CA	-	-	200
25 Jan 02	28 Apr 02	Golden State Museum	Sacramento, CA	-	17,000	-
02 Feb 02	02 Feb 02	Golden State Museum	Sacramento, CA	-	2,900	-
06 Feb 02	06 Feb 02	Hompa Hongwanji Buddhist Temple	Los Angeles, CA	15	-	-
13 Feb 02	13 Feb 02	Pasadena Town and Country School	Pasadena, CA	22	-	-
18 Feb 02	18 Feb 02	Oregon Museum of Science and Industry	Portland, OR	-	200	-

18 Feb 02	18 Feb 02	Wesley Bolin Park	Phoenix, AZ	216	-	-
20 Feb 02	20 Feb 02	Church on the Way	Van Nuys, CA	32	-	-
22 Feb 02	22 Feb 02	Arizona State University	Tempe, AZ	170	-	-
25 Feb 02	25 Feb 02	Wittman Elementary School	Cerritos, CA	-	300	-
26 Feb 02	26 Feb 02	Calabassas Middle School	Rio Rico, AZ	15	500	-
26 Feb 02	26 Feb 02	Rio Rico High School	Rio Rico, AZ	15	-	-
27 Feb 02	08 Mar 02	West Covina Christian School	West Covina, CA	-	321	-
28 Feb 02	28 Feb 02	Nogales High School	Nogales, AZ	500	2,050	-
07 Mar 02	07 Mar 02	Fees Middle School	Tempe, AZ	130	1,000	-
12 Mar 02	12 Mar 02	Lunar and Planetary Science Conference	League City, TX	527	-	-
18 Mar 02	18 Mar 02	Anaheim Sertoma Club	Anaheim, CA	25	-	-
23 Mar 02	23 Mar 02	California Institute of Technology	Pasadena, CA	-	1,850	-
23 Mar 02	23 Mar 02	Mingus High School	Cottonwood, AZ	-	500	-
27 Mar 02	27 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	90	-
27 Mar 02	27 Mar 02	Santiago High School	Corona, CA	-	1,510	-
30 Mar 02	30 Mar 02	Arizona State University	Tempe, AZ	250	-	-
05 Apr 02	07 Apr 02	Pasadena Civic Center	Pasadena, CA	-	1,000	-
12 Apr 02	12 Apr 02	St. Rose Catholic School	Paso Robles, CA	167	-	-
13 Apr 02	13 Apr 02	Los Angeles Valley College	Valley Glen, CA	75	-	-
18 Apr 02	18 Apr 02	Grazide Elementary School	Hacienda Heights, CA	105	-	-
18 Apr 02	18 Apr 02	New Mexico State University, Las Cruces	Las Cruces, NM	180	-	-
19 Apr 02	19 Apr 02	California Science Center	Los Angeles, CA	-	3500	-
24 Apr 02	24 Apr 02	Capital Hill, Longworth House Office Building	Washington, DC	35	-	-
25 Apr 02	25 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	800	-
25 Apr 02	25 Apr 02	Orchard Dale Elementary	Whittier, CA	105	-	-
27 Apr 02	27 Apr 02	University of California, Irvine	Irvine, CA	150	-	-
29 Apr 02	29 Apr 02	Turtleback Elementary School	San Diego, CA	85	-	-
29 Apr 02	29 Apr 02	University of Hawaii at Hilo	Hilo, HI	-	275	-
02 May 02	02 May 02	Chabot Space and Science Center	Oakland, CA	-	-	300
03 May 02	03 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	7	-	-
03 May 02	03 May 02	St. Elizabeth Parish School	Altadena, CA	4	-	-
25 May 02	25 May 02	Olympic National Park	Port Angeles, WA	34	-	-
25 May 02	25 May 02	Vern Burton Center	Port Angeles, WA	65	-	-
26 May 02	26 May 02	Vern Burton Center	Port Angeles, WA	70	-	-
06 Jun 02	06 Jun 02	Prescott Resort and Casino	Prescott, AZ	60	-	-
08 Jun 02	08 Jun 02	Biltmore Hotel	Los Angeles, CA	-	50	-
10 Jun 02	10 Jun 02	Mount Gleason Junior High School	Sunland, CA	208	-	-
11 Jun 02	11 Jun 02	Atherton Baptist Homes	Alhambra, CA	120	-	-
12 Jun 02	12 Jun 02	Pasadena Civic Center	Pasadena, CA	-	30	-
13 Jun 02	13 Jun 02	Union League of Chicago	Chicago, IL	150	-	-
25 Jun 02	26 Jun 02	Astrocamp	Idyllwild, CA	175	-	-
05 Jul 02	06 Jul 02	Utah Valley State College	Orem, UT	-	600	-
11 Jul 02	11 Jul 02	Compton Community College	Compton, CA	85	40	-
19 Jul 02	19 Jul 02	Smithsonian National Air and Space Museum	Washington, DC	650	-	-
19 Oct 02	19 Oct 02	Chandler School	Pasadena, CA	-	200	-

A344. Mars: Public Tours

Theme(s): SSE

Msn/Prgm(s): Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], MSL[B54], Mars Scout[B55], Viking[B56], Mars Express[B63], Mars NetLander[B64]

Description: The public tours of Mars facilities provide the public with a behind-the-scenes view of mission development and science in action.

Lead: Ms. Michelle Viotti, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *mviotti@jpl.nasa.gov.* Phone: 818-354-8774.

Contact: Mr. David Cha, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *David.D.Cha@jpl.nasa.gov.* Phone: 818-393-6022.

Scientist(s): Mr. Erik Bailey NASA Jet Propulsion Laboratory Pasadena, CA

Mr. Todd Barber	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Deborah Bass	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Kelly Bender	Arizona State University	Tempe, AZ
Mr. Derek Blackway	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. David Cha	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Phil Christensen	Arizona State University	Tempe, AZ
Mr. David Clough	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Jenny Cruz	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Consuelo Gennaro	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Gerald Halpert	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Vicky Hamilton	Arizona State University	Tempe, AZ
Mr. Terry Himes	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Terry Huntsberger	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Mr. Alex Kory	Arizona State University	Tempe, AZ
Mr. David Lavery	NASA Office of Space Science	Washington, DC
Mr. Lee Magnone	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Erin Martin	Arizona State University	Tempe, AZ
Mr. Greg Mehall	Arizona State University	Tempe, AZ
Mr. Frank O'Donnell	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Helen Paley	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Steve Ruff	Arizona State University	Tempe, AZ
Ms. Denise Stark	Arizona State University	Tempe, AZ
Ms. Paige Valderrama	Arizona State University	Tempe, AZ
Mr. Keith Watt	Arizona State University	Tempe, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
30 Oct 01	30 Oct 01	Arizona State University	Tempe, AZ	170	-	-
06 Nov 01	06 Nov 01	Arizona State University	Tempe, AZ	8	-	-
06 Nov 01	06 Nov 01	Arizona State University	Tempe, AZ	48	-	-
09 Nov 01	09 Nov 01	Arizona State University	Tempe, AZ	31	-	-
13 Nov 01	13 Nov 01	Arizona State University	Tempe, AZ	14	-	-
16 Nov 01	16 Nov 01	Arizona State University	Tempe, AZ	27	-	-
20 Nov 01	20 Nov 01	Arizona State University	Tempe, AZ	45	-	-
20 Nov 01	20 Nov 01	Arizona State University	Tempe, AZ	12	-	-
27 Nov 01	27 Nov 01	Arizona State University	Tempe, AZ	24	-	-
29 Nov 01	29 Nov 01	Arizona State University	Tempe, AZ	21	-	-
29 Nov 01	29 Nov 01	Arizona State University	Tempe, AZ	19	-	-
30 Nov 01	30 Nov 01	Arizona State University	Tempe, AZ	22	-	-
30 Nov 01	30 Nov 01	Arizona State University	Tempe, AZ	22	-	-
30 Nov 01	30 Nov 01	Arizona State University	Tempe, AZ	14	-	-
04 Dec 01	04 Dec 01	Arizona State University	Tempe, AZ	21	-	-
10 Dec 01	10 Dec 01	Arizona State University	Tempe, AZ	19	-	-
10 Dec 01	10 Dec 01	Arizona State University	Tempe, AZ	15	-	-
10 Dec 01	10 Dec 01	Arizona State University	Tempe, AZ	48	-	-
11 Dec 01	11 Dec 01	Arizona State University	Tempe, AZ	48	-	-
11 Dec 01	11 Dec 01	Arizona State University	Tempe, AZ	42	-	-
08 Jan 02	08 Jan 02	NASA Jet Propulsion Laboratory	Pasadena, CA	6	-	-
08 Jan 02	08 Jan 02	NASA Jet Propulsion Laboratory	Pasadena, CA	2	-	-
16 Jan 02	16 Jan 02	Arizona State University	Tempe, AZ	43	-	-
16 Jan 02	16 Jan 02	Arizona State University	Tempe, AZ	46	-	-
16 Jan 02	16 Jan 02	Arizona State University	Tempe, AZ	50	-	-
23 Jan 02	23 Jan 02	Arizona State University	Tempe, AZ	14	-	-
29 Jan 02	29 Jan 02	Arizona State University	Tempe, AZ	22	-	-
31 Jan 02	31 Jan 02	Arizona State University	Tempe, AZ	10	-	-
07 Feb 02	07 Feb 02	Arizona State University	Tempe, AZ	14	-	-

08 Feb 02	08 Feb 02	Arizona State University	Tempe, AZ	36	-	-
08 Feb 02	08 Feb 02	NASA Jet Propulsion Laboratory	Pasadena, CA	46	-	-
11 Feb 02	11 Feb 02	NASA Jet Propulsion Laboratory	Pasadena, CA	6	-	-
11 Feb 02	13 Feb 02	NASA Jet Propulsion Laboratory	Pasadena, CA	24	-	-
12 Feb 02	12 Feb 02	NASA Jet Propulsion Laboratory	Pasadena, CA	60	-	-
13 Feb 02	13 Feb 02	Arizona State University	Tempe, AZ	32	-	-
14 Feb 02	14 Feb 02	Arizona State University	Tempe, AZ	60	-	-
14 Feb 02	14 Feb 02	Arizona State University	Tempe, AZ	20	-	-
15 Feb 02	15 Feb 02	Arizona State University	Tempe, AZ	5	-	-
18 Feb 02	18 Feb 02	Arizona State University	Tempe, AZ	5	-	-
19 Feb 02	19 Feb 02	Arizona State University	Tempe, AZ	17	-	-
20 Feb 02	20 Feb 02	Arizona State University	Tempe, AZ	12	-	-
25 Feb 02	25 Feb 02	Arizona State University	Tempe, AZ	12	-	-
28 Feb 02	28 Feb 02	Arizona State University	Tempe, AZ	25	-	-
01 Mar 02	01 Mar 02	Arizona State University	Tempe, AZ	11	-	-
01 Mar 02	01 Mar 02	Arizona State University	Tempe, AZ	2	-	-
01 Mar 02	01 Mar 02	Arizona State University	Tempe, AZ	127	-	-
04 Mar 02	04 Mar 02	Arizona State University	Tempe, AZ	122	-	-
05 Mar 02	05 Mar 02	Arizona State University	Tempe, AZ	35	-	-
08 Mar 02	08 Mar 02	Arizona State University	Tempe, AZ	25	-	-
11 Mar 02	11 Mar 02	Arizona State University	Tempe, AZ	33	-	-
13 Mar 02	14 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	1	-	-
15 Mar 02	15 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	39	-	-
19 Mar 02	19 Mar 02	Arizona State University	Tempe, AZ	27	-	-
29 Mar 02	29 Mar 02	Arizona State University	Tempe, AZ	30	-	-
02 Apr 02	02 Apr 02	Arizona State University	Tempe, AZ	12	-	-
04 Apr 02	04 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	7	-	-
05 Apr 02	05 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	50	-	-
08 Apr 02	08 Apr 02	Arizona State University	Tempe, AZ	2	-	-
12 Apr 02	12 Apr 02	Arizona State University	Tempe, AZ	16	-	-
15 Apr 02	15 Apr 02	Arizona State University	Tempe, AZ	15	-	-
15 Apr 02	15 Apr 02	Arizona State University	Tempe, AZ	6	-	-
15 Apr 02	15 Apr 02	Arizona State University	Tempe, AZ	5	-	-
19 Apr 02	19 Apr 02	Arizona State University	Tempe, AZ	48	-	-
22 Apr 02	22 Apr 02	Arizona State University	Tempe, AZ	6	-	-
25 Apr 02	25 Apr 02	Arizona State University	Tempe, AZ	2	-	-
26 Apr 02	26 Apr 02	Arizona State University	Tempe, AZ	130	-	-
26 Apr 02	26 Apr 02	Arizona State University	Tempe, AZ	34	-	-
29 Apr 02	29 Apr 02	Arizona State University	Tempe, AZ	28	-	-
30 Apr 02	30 Apr 02	Arizona State University	Tempe, AZ	102	-	-
30 Apr 02	30 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	8	-	-
01 May 02	01 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	45	-	-
02 May 02	02 May 02	Arizona State University	Tempe, AZ	20	-	-
03 May 02	03 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	2	-	-
10 May 02	10 May 02	Arizona State University	Tempe, AZ	47	-	-
14 May 02	14 May 02	Arizona State University	Tempe, AZ	37	-	-
14 May 02	14 May 02	Arizona State University	Tempe, AZ	134	-	-
15 May 02	15 May 02	Arizona State University	Tempe, AZ	63	-	-
16 May 02	16 May 02	Arizona State University	Tempe, AZ	64	-	-
20 May 02	20 May 02	Arizona State University	Tempe, AZ	33	-	-
21 May 02	21 May 02	Arizona State University	Tempe, AZ	31	-	-
29 May 02	29 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	31	-	-
29 May 02	29 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	35	-	-
30 May 02	30 May 02	Arizona State University	Tempe, AZ	114	-	-
09 Jun 02	09 Jun 02	NASA Jet Propulsion Laboratory	Pasadena, CA	50	-	-
10 Jun 02	10 Jun 02	NASA Jet Propulsion Laboratory	Pasadena, CA	10	-	-
13 Jun 02	13 Jun 02	Arizona State University	Tempe, AZ	4	-	-

14 Jun 02	14 Jun 02	Arizona State University	Tempe, AZ	22		
19 Jun 02	19 Jun 02	Arizona State University	Tempe, AZ	20		
08 Jul 02	08 Jul 02	Arizona State University	Tempe, AZ	30	-	-
15 Jul 02	15 Jul 02	Arizona State University	Tempe, AZ	30	-	-
16 Jul 02	16 Jul 02	Arizona State University	Tempe, AZ	28	-	-
19 Jul 02	19 Jul 02	Arizona State University	Tempe, AZ	16	-	-
20 Jul 02	20 Jul 02	Arizona State University	Tempe, AZ	35	-	-
24 Jul 02	24 Jul 02	Arizona State University	Tempe, AZ	17	-	-
25 Jul 02	25 Jul 02	Arizona State University	Tempe, AZ	22	-	-
30 Jul 02	30 Jul 02	Arizona State University	Tempe, AZ	3	-	-
31 Jul 02	31 Jul 02	Arizona State University	Tempe, AZ	24	-	-
31 Jul 02	31 Jul 02	Arizona State University	Tempe, AZ	16	-	-
05 Aug 02	05 Aug 02	Arizona State University	Tempe, AZ	27	-	-
08 Aug 02	08 Aug 02	Arizona State University	Tempe, AZ	59	-	-
09 Aug 02	09 Aug 02	Arizona State University	Tempe, AZ	131	-	-
29 Aug 02	29 Aug 02	Arizona State University	Tempe, AZ	25	-	-
06 Sep 02	06 Sep 02	Arizona State University	Tempe, AZ	14	-	-
10 Sep 02	10 Sep 02	Arizona State University	Tempe, AZ	10	-	-
19 Sep 02	19 Sep 02	Arizona State University	Tempe, AZ	16	-	-
24 Sep 02	24 Sep 02	Arizona State University	Tempe, AZ	17	-	-

A345. Monthly Observatory Nights at the Harvard-Smithsonian Center for Astrophysics

Theme(s): SEU

Msn/Prgm(s): SEU Forum[B13]

Description: The Harvard-Smithsonian Center for Astrophysics in Cambridge sponsors free programs for the general public on the third Thursday of every month throughout the year. The Observatory Nights feature a nontechnical lecture and telescopic observing from the observatory roof, if weather permits. The lectures are intended for high school age students and older audiences, but children are also welcome. Seating is limited and available on a first-come, first-served basis. The doors open at 7:30 p.m., and the programs begin at 8 p.m.

Lead: Mr. David Aguilar, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *daguilar@cfa.harvard.edu.* Phone: 617-495-7461.

Primary URL: *http://cfa-www.harvard.edu/ep/obsnight.html*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 02	31 Oct 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	-	2,400	-

A346. NASA Astrobiology Institute (NAI) Lead Team Presentations and Lectures

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: In reaching out to the science community, the general public, and education audiences, scientists from NAI's lead teams gave over 250 presentations throughout the country over the past year. Most of the talks were an hour in length and all covered subjects relative to the Astrobiology Roadmap. Venues ranged from universities, public, and private schools to professional organizations, museums, science centers, planetariums, and community centers. Highlights included the Carnegie Institution's Capital Science Lectures, a presentation to local legislators, presentations to National Science Foundation, and a public lecture series at the University of Washington.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Scientist(s):			
	Dr. Louis Allamandola	NASA Ames Research Center	Moffett Field, CA
	Dr. Carlton Allen	NASA Johnson Space Center	Houston, TX
	Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
	Dr. Brad Bebout	NASA Ames Research Center	Moffett Field, CA
	Dr. Simon Clemett	Lockheed Martin Engineering and Sciences	Houston, TX
	Dr. David Des Marais	NASA Ames Research Center	Moffett Field, CA
	Dr. Everett Gibson	NASA Johnson Space Center	Houston, TX
	Dr. Tori Hoehler	NASA Ames Research Center	Moffett Field, CA
	Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX

	Dr. David McKay	NASA Johnson Space Center	Houston, TX
	Dr. Michael New	NASA Ames Research Center	Moffett Field, CA
	Dr. Lee Prufert-Bebout	NASA Ames Research Center	Moffett Field, CA
	Ms. Lynn Rothschild	NASA Ames Research Center	Moffett Field, CA
	Ms. Kathie Thomas-Keprta	Lockheed Martin Engineering and Sciences	Houston, TX
Partner(s):	Arizona State University		Tempe, AZ
	Harvard University		Cambridge, MA
	Marine Biological Laboratory		Woods Hole, MA
	Pennsylvania State University		University Park, PA
	University of California, Los Angeles		Los Angeles, CA
	University of Colorado at Boulder		Boulder, CO
	University of Rhode Island		Narragansett, RI
	University of Washington		Seattle, WA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	30 Sep 02	NASA Ames Research Center	Moffett Field, CA	1,010	5,435	-
01 Oct 01	30 Sep 02	NASA Johnson Space Center	Houston, TX	565	3,900	-

A347. National Conference for the National Council of Teachers of Mathematics (NCTM)

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): ASO Forum[B11], SSE Forum[B12], SEU Forum[B13], SECEF[B14], HST[B22], SIM[B32], Galileo[B38], Deep Impact[B43], Genesis[B44], NEAR[B46], Mars E/PO[B48], DSMS[B60], CXO[B67], Voyager[B97], TRACE[B106], SOHO[B112], ST-5[B120]

Description: The annual NCTM conference provides the opportunity for thousands of math teachers to come together and learn more about the new and various ways to teach mathematics. The NASA Office of Space Science attends the conference to highlight how math is used to conduct space science and to provide education and outreach materials to the teachers.

Contact: Ms. Ruth Netting, NASA Office of Space Science, Washington, DC 20546.
E-mail: *rnetting@hq.nasa.gov.* Phone: 202-358-0539.

Primary URL: *http://www.nctm.org/*

Scientist(s):	Mr. Troy Cline	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Doris Daou	SIRTF Science Center/ California Institute of Technology	Pasadena, CA
	Mr. Edward Gonzales	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Sheri Klug	Arizona State University	Tempe, AZ
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Ruth Netting	NASA Office of Space Science	Washington, DC
	Dr. Philip Plait	Sonoma State University	Rohnert Park, CA
	Ms. Carole Rest	Space Telescope Science Institute	Baltimore, MD
	Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
	Dr. Terry Teays	Space Telescope Science Institute	Baltimore, MD
	Dr. James Thieman	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Gilbert Yanow	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	NASA Goddard Space Flight Center		Greenbelt, MD
	Space Telescope Science Institute		Baltimore, MD
	University of California, Berkeley		Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
23 Apr 02	28 Apr 02	National Council for the Teachers of Mathematics (NCTM) Conference	Las Vegas, NV	-	5,000	-

A348. National Convention for the National Science Teachers Association (NSTA)

Msn/Prgm(s): OSS/Sci. Ctr. Dev.[B8], ASO Forum[B11], SSE Forum[B12], SEU Forum[B13], SECEF[B14], HST[B22], SIRTF[B24], SOFIA[B25], SIM[B32], Galileo[B38], Deep Impact[B43], Genesis[B44], NEAR[B46], Mars E/PO[B48], CXO[B67], Voyager[B97], SOHO[B112]

Description: The annual NSTA national convention provides the opportunity for thousands of science teachers to come together to learn about the latest discoveries in science. The NASA Office of Space Science attends the convention to provide the teachers with information about space science via posters, education briefs, hands-on activity packets, lithographs, CDs, brochures, and other educational materials. The convention also provided a venue for teachers to field-test the Space Science Education Resource Directory.

Contact: Ms. Ruth Netting, NASA Office of Space Science, Washington, DC 20546.
E-mail: *rnetting@hq.nasa.gov.* Phone: 202-358-0539.

Primary URL: *http://www.nsta.org*

Scientist(s):	Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	Houston, TX
	Dr. Ken Berry	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Michael Carlowicz	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Nicola Fox	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Roy Gould	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Isabel Hawkins	University of California, Berkeley	Berkeley, CA
	Dr. Steele Hill	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Diane Kisich	University of California, Berkeley	Berkeley, CA
	Ms. Sheri Klug	Arizona State University	Tempe, AZ
	Ms. Barbara Lambert	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Elaine Lewis	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Stephanie Lievense	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
	Dr. James Lochner	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Shannon McConnell	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Ruth Netting	NASA Office of Space Science	Washington, DC
	Ms. Carolyn Ng	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Sten Odenwald	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Philip Plait	Sonoma State University	Rohnert Park, CA
	Dr. Patricia Reiff	Rice University	Houston, TX
	Ms. Carole Rest	Space Telescope Science Institute	Baltimore, MD
	Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Denise Smith	Space Telescope Science Institute	Baltimore, MD
	Ms. Anita Sohus	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Terry Teays	Space Telescope Science Institute	Baltimore, MD
	Dr. James Thieman	NASA Goddard Space Flight Center	Greenbelt, MD
	Ms. Kay Tobola	Lockheed Martin Engineering and Sciences	Houston, TX
Partner(s):	NASA Goddard Space Flight Center		Greenbelt, MD
	National Science Teachers Association (NSTA)		Arlington, VA
	Sonoma State University		Rohnert Park, CA
	Space Telescope Science Institute		Baltimore, MD
	University of California, Berkeley		Berkeley, CA

A349. Navigator: Science Events

Theme(s): ASO

Msn/Prgm(s): Navigator[B27], MSC[B28], KECK[B29], SIM[B32], TPF[B34]

Description: The Navigator program was involved in eight different science events in six different cities, reaching over 7,500 people. It also reached over 4,000 educators at three regional conferences.

Lead: Ms. Jenny Tieu, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *jenny.tieu@jpl.nasa.gov.* Phone: 818-393-4765.

Scientist(s):	Ms. Rachel Akeson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Ms. Michelle Creech-Eakman	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Rudolf Danner	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Peter Lawson	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Oliver Lay	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Victoria Meadows	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Stuart Shaklan	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Michael Shao	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Karl Stapelfeldt	NASA Jet Propulsion Laboratory	Pasadena, CA

Mr. Gerard Van Belle NASA Jet Propulsion Laboratory Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
25 Oct 01	27 Oct 01	California Science Teachers Association Meeting	Palm Springs, CA	201	2,000	-
13 Nov 01	15 Nov 01	American Astronautical Society (AAS) Meeting	Pasadena, CA	50	-	-
07 Jan 02	11 Jan 02	American Astronomical Society (AAS) Meeting	Washington, DC	2,400	-	-
22 Feb 02	23 Feb 02	Mathematics, Science and Technology Conference	Bakersfield, CA	6	100	-
19 Mar 02	19 Mar 02	American Institute of Aeronautics and Astronautics	Lancaster, CA	20	-	-
05 Apr 02	07 Apr 02	Pasadena Cherry Blossom Festival	Pasadena, CA	-	250	-
22 Apr 02	22 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	203	-	-
11 May 02	11 May 02	Antelope Valley Mall	Palmdale, CA	-	500	-
04 Jun 02	08 Jun 02	American Astronomical Society (AAS) Meeting	Albuquerque, NM	-	2,000	-
24 Jul 02	28 Jul 02	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA	82	-	-
23 Aug 02	27 Aug 02	SPIE's Astronomical Telescopes and Instrumentation 2002	Waikoloa, HI	-	2,200	-
26 Sep 02	29 Sep 02	Society for Advancement of Native Americans and Chicanos in Science National Conference	Anaheim, CA	-	2,000	-

A350. Near-Earth Asteroid Rendevous (NEAR) Special Interest Groups

Theme(s): SEC

Msn/Prgm(s): NEAR[B46], TIMED[B118]

Description: The Education and Public Outreach (E/PO) office helped scientists, engineers, and other team members become involved in the E/PO efforts by providing outreach opportunities for senior citizens, boy and girl scouts, various clubs, and organizations. The E/PO office supported these events by providing the resources necessary for the team members to talk to these groups, present demonstrations, and to conduct activities related to the NASA missions that Johns Hopkins University Applied Physics Laboratory is supporting. These efforts included senior citizen communities in order to provide opportunities to learn about the various missions and in an effort to make the materials widely available and easily accessible to all age groups.

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099. E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099. E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.

Primary URL: *http://near.jhuapl.edu/*

2nd URL: *http://www.timed.jhuapl.edu/*

Scientist(s):

Ms. Kimberly Cooper	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Robert Gold	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Ms. Irene Greenberger	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Mr. Steven Offenbacher	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Louise Prockter	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Dr. Thomas Strikwerda	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Ms. Dina Tady	Johns Hopkins University Applied Physics Laboratory	Laurel, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Apr 02	05 Apr 02	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	17	-	-

09 Apr 02	09 Apr 02	Rockland United Methodist Church	Ellicott City, MD	16	-	-
26 Apr 02	26 Apr 02	Public Museum of Grand Rapids/ Roger B. Chaffee Planetarium	Grand Rapids, MI	-	250	-
12 Aug 02	12 Aug 02	Homewood Suites	Linthicum, MD	31	-	-

A351. Open Night at the Space Telescope Science Institute

Theme(s): ASO

Msn/Prgm(s): HST[B22]

Description: Open Night at the Space Telescope Science Institute (STScI) offers opportunities for the public to learn first-hand about the latest science results from the Hubble Space Telescope (HST). Each month, scientists deliver free public lectures on a variety of cosmic topics. Lectures are given at 8 p.m. on the first Tuesday of every month at STScI on the campus of Johns Hopkins University. Members of the audience also receive HST lithographs and posters that are related to the evening's topic.

Lead: Dr. Ian Griffin, Space Telescope Science Institute, Baltimore, MD 21218.
E-mail: *griffin@stsci.edu.* Phone: 410-338-4567.

Primary URL: *http://hubblesite.org/about_us/open-night.shtml*

Scientist(s):

Dr. Rodger Doxsey	Space Telescope Science Institute	Baltimore, MD
Dr. Andrew Fruchter	Space Telescope Science Institute	Baltimore, MD
Dr. Bruce Margon	Space Telescope Science Institute	Baltimore, MD
Dr. Keith Noll	Space Telescope Science Institute	Baltimore, MD
Dr. Kailash Sahu	Space Telescope Science Institute	Baltimore, MD
Dr. Peter Stockman	Space Telescope Science Institute	Baltimore, MD
Dr. Frank Summers	Space Telescope Science Institute	Baltimore, MD
Dr. Jill Tarter	SETI Institute	Mountain View, CA
Dr. Mark Voit	Space Telescope Science Institute	Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Oct 01	02 Oct 01	Space Telescope Science Institute	Baltimore, MD	-	78	-
06 Nov 01	06 Nov 01	Space Telescope Science Institute	Baltimore, MD	-	130	-
04 Dec 01	04 Dec 01	Space Telescope Science Institute	Baltimore, MD	-	86	-
05 Feb 02	05 Feb 02	Space Telescope Science Institute	Baltimore, MD	-	111	-
06 Mar 02	06 Mar 02	Space Telescope Science Institute	Baltimore, MD	-	80	-
02 Apr 02	02 Apr 02	Space Telescope Science Institute	Baltimore, MD	-	70	-
07 May 02	07 May 02	Space Telescope Science Institute	Baltimore, MD	-	100	-
04 Jun 02	04 Jun 02	Space Telescope Science Institute	Baltimore, MD	-	50	-
02 Jul 02	02 Jul 02	Space Telescope Science Institute	Baltimore, MD	-	60	-
06 Aug 02	06 Aug 02	Space Telescope Science Institute	Baltimore, MD	-	55	-
03 Sep 02	03 Sep 02	Space Telescope Science Institute	Baltimore, MD	-	75	-

A352. Public Education in Astronomy

Theme(s): ASO

Msn/Prgm(s): STARBASE[B10]

Description: Students Training for Achievement in Research Based on Analytical Space Science Experience (STARBASE) astronomers educate the general public about astronomy and NASA through events at public places, coinciding with publicized astronomical events. Events such as eclipses and comet apparitions, which are already publicized by the media and which attract the public's attention, provide great opportunities for astronomers to increase the understanding and appreciation of the general public for scientific research and the activities of NASA. Our general approach is to make a presentation at a public place that is specifically about the event. As often as possible, we will use NASA resources such as live broadcasts from observational sites or space-based instruments provided by NASA TV.

Lead: Dr. David Barnaby, Western Kentucky University, Bowling Green, KY 42101.
E-mail: *david.barnaby@wku.edu.* Phone: 270-745-4357.

Primary URL: *http://starbase.wku.edu*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
29 Jul 02	29 Jul 02	Western Kentucky University	Bowling Green, KY	6	5,000	-

A353. Public Outreach

Theme(s): SSE
Msn/Prgm(s): Genesis[B44]
Description: The public outreach team members reach and engage a large and varied public audience by talking with people about the mission and involving them in hands-on science activities.
Lead: Dr. Gilbert Yanow, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *gilbert.yanow@jpl.nasa.gov.* Phone: 818-354-8060.
Contact: Mr. Greg Rawls, Mid-continent Research for Education and Learning (McREL), Aurora, CO 80014.
E-mail: *grawls@mcrel.org.* Phone: 303-632-5583.
Primary URL: *http://genesismission.jpl.nasa.gov*
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
21 Sep 02	21 Sep 02	Albuquerque Astronomical Society	Albuquerque, NM	-	3,000	-

A354. Regional Planetary Image Facility (RPIF) Open Houses

Theme(s): SSE
Msn/Prgm(s): SRT[B3]
Description: The Regional Planetary Image Facilities (RPIFs) are semiarchival and reference libraries of planetary images, maps, digital data, and mission support information that are supported by the Planetary Geology and Geophysics Program. There are 10 domestic and 8 foreign RPIFs at present. Although the principal mission of the RPIF system is to serve the data reference needs of the planetary geoscience community, the RPIFs have pioneered education and public outreach (E/PO) efforts since their establishment over 25 years ago. Each RPIF holds an annual open house, allowing local students and the public to visit the data libraries, view the latest images and data from the current missions, and learn about planetary geology and scientific research from the staff, senior students, and scientists. The RPIFs also act as a reference for local media when space-related stories break in the news, and they offer printed, video, and commentary materials for media use. Finally, the RPIFs interact with the general public by offering informal tours, answering requests for data, and distributing educational and public outreach materials such as posters. The RPIF system fully supports NASA's E/PO activities through a variety of means.
Lead: Dr. Peter Schultz, Brown University, Providence, RI 02912.
E-mail: *Peter_Schultz@Brown.edu.* Phone: 401-863-2417.
Primary URL: *http://www.lpi.usra.edu/library/RPIF/RPIF.html*

A355. Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Public Outreach and Informal Education

Theme(s): SEC
Msn/Prgm(s): RHESSI[B101], Solar-B[B116], STEREO[B117]
Description: The RHESSI staff at the University of California, Berkeley, supports the efforts of science centers, museums, and planetariums by providing them with images, activities, programs, and scientific presentations. RHESSI mission scientists share the science of their mission with the general public and educators through specific programs that are developed by science centers. The missions also provide images and animations specifically for educators and for the general public to support programs that are developed by science centers.
Lead: Dr. Nahide Craig, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

Scientist(s):			
	Dr. Manfred Bester	University of California, Berkeley	Berkeley, CA
	Dr. Nahide Craig	University of California, Berkeley	Berkeley, CA
	Dr. Brian Dennis	NASA Goddard Space Flight Center	Greenbelt, MD
	Mr. Peter Harvey	University of California, Berkeley	Berkeley, CA
	Dr. Isabel Hawkins	University of California, Berkeley	Berkeley, CA
	Dr. Mark Hurwitz	University of California, Berkeley	Berkeley, CA
	Dr. Robert Lin	University of California, Berkeley	Berkeley, CA

	Ms. Ruth Paglierani	University of California, Berkeley	Berkeley, CA
	Mr. Igor Ruderman	University of California, Berkeley	Berkeley, CA
	Dr. Greg Schultz	University of California, Berkeley	Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
05 Feb 02	05 Feb 02	University of California, Berkeley	Berkeley, CA	120	7	-
20 Apr 02	20 Apr 02	University of California, Berkeley	Berkeley, CA	70	25,000	-

A356. Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Shares Sun-Earth Connection Science Through Conferences

Theme(s): SEC

Msn/Prgm(s): SECEF[B14], RHESSI[B101]

Description: RHESSI shares Sun-Earth connection science by presenting poster sessions at educational and professional conferences. The poster sessions include information about the type of education and public outreach that was designed through the mission. Scientists from the mission typically present these posters and answer questions in an informal setting.

Lead: Dr. Nahide Craig, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

Primary URL: *http://hesperia.gsfc.nasa.gov/hessi/*

Scientist(s):	Dr. Nahide Craig	University of California, Berkeley	Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
20 Jan 02	24 Jan 02	Multiwavelength Observations of Coronal Structure and Dynamics	Kailua-Kona, HI	-	100	-
24 Mar 02	29 Mar 02	National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) Conference	New Orleans, LA	-	200	-
12 Jun 02	14 Jun 02	Office of Space Science Education and Public Outreach Conference	Chicago, IL	-	250	-

A357. Sci-Fi Movie Nights at the Harvard-Smithsonian Center for Astrophysics

Theme(s): ASO

Msn/Prgm(s): SEU Forum[B13]

Description: Sci-Fi Movie Nights are held on the first Thursday of each month for the general public at the Harvard-Smithsonian Center for Astrophysics; each movie is presented by a scientist to explain the science behind the making of the movie. The series screens a classic science fiction film and explores the idea that "everything we learned about science, we learned from the movies."

Lead: Mr. David Aguilar, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *daguilar@cfa.harvard.edu.* Phone: 617-495-7461.

Primary URL: *http://cfa-www.harvard.edu/events.html*

A358. Science Education Gateway/National Virtual Observatory

Theme(s): SEC

Msn/Prgm(s): SRT[B3], FAST[B100], RHESSI[B101], STEREO[B117]

Description: The Science Education Gateway/National Virtual Observatory (SEGway/NVO) program, funded by the NASA Office of Space Science, is a national consortium of science museums, research institutions, and educators that are working together to present the latest space science research for students, teachers, and the general public. SEGway has developed education and public outreach (E/PO) materials for a number of NASA space science missions, including the HESSI, FAST, CHIPS, and STEREO/IMPACT satellite missions. The SEGway partnership model is founded through a community of educators, science museum personnel, scientists, and institutions such as museums and universities. This highly collaborative network allows partners to leverage their unique skills, resulting in high-quality educational resources that benefit teachers, students, the general public, and the science community.

Lead: Dr. Nahide Craig, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

Primary URL: *http://cse.ssl.berkeley.edu/segway/index.html*

Scientist(s):			
	Dr. John Beck	Stanford University	Stanford, CA
	Dr. Nahide Craig	University of California, Berkeley	Berkeley, CA
	Dr. Isabel Hawkins	University of California, Berkeley	Berkeley, CA
	Ms. Irene Hegarty	University of California, Berkeley	Berkeley, CA
	Dr. Steele Hill	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Bryan Mendez	University of California, Berkeley	Berkeley, CA
	Dr. Ellen Metzger	San Jose State University	San Jose, CA
	Dr. Greg Schultz	University of California, Berkeley	Berkeley, CA
	Dr. Rejane Spitz	University of California, Berkeley	Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
15 Nov 01	15 Nov 01	University of California, Berkeley	Berkeley, CA	110	-	-
28 Jun 02	28 Jun 02	University of California, Berkeley	Berkeley, CA	37	-	-
19 Jul 02	20 Jul 02	University of California, Davis	Davis, CA	-	4,000	-
31 Jul 02	31 Jul 02	University of California, Berkeley	Berkeley, CA	30	-	-
05 Sep 02	08 Sep 02	Artrain USA	Ann Arbor, MI	-	4,000	-
21 Sep 02	21 Sep 02	San Jose State University	San Jose, CA	12	-	-

A359. Science@NASA

Theme(s): ASO, SEC, SEU, SSE

Msn/Prgm(s): SRT[B3], ASO Forum[B11], SECEF[B14], HST[B22], FUSE[B26], NAI[B35], Galileo[B38], NEAR[B46], 2001 Mars Odyssey[B49], CXO[B67], GP-B[B71], Ulysses[B96], RHESSI[B101]

Description: Science@NASA is an Internet outreach activity consisting of six major Web sites focused on various audience segments (science-attentive adults, teens, middle-school-aged kids, and Hispanics). The sites have 350,000 subscribers (up 10 percent from 2001), and the main products are stories that describe NASA research from all Centers and Enterprises. The Web sites had over 66.8 million visitors in 2002 (up 24 percent over 2001). Content from the Science@NASA Web site was carried by several commercial Web sites, including cnn.com, space.com, bbc.co.uk, and others. In addition, Science@NASA sponsored the "Leonids Night" TV broadcast on NASA TV which included live reports from around the world, segments on astronomy and viewing the sky, and segments on NASA's Sun-Earth connection missions.

Lead: Mr. Ron Koczor, NASA Marshall Space Flight Center, Marshall Space Flight Center, AL 35812.
E-mail: *ron.koczor@msfc.nasa.gov.* Phone: 256-544-3078.

Primary URL: *http://science.nasa.gov*

Partner(s): University of Florida — Gainesville, FL

A360. See ASU 2002

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: This 2-day public event provided an opportunity for students and the general public to learn about the research that is being conducted at Arizona State University (ASU). The ASU Astrobiology Program display emphasized the goals of the NASA Astrobiology Institute and the research being conducted within the ASU Astrobiology Program. The ASU Space Photography Laboratory display featured Europa and the future exploration of this Jovian moon.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Dr. Jack Farmer, Arizona State University, Tempe, AZ 85287.
E-mail: *jack.farmer@asu.edu.* Phone: 480-965-6748.

A361. "SOFIA—Astronomy From 41,000 Feet"

Theme(s): ASO

Msn/Prgm(s): SOFIA[B25]

Description: "SOFIA—Astronomy From 41,000 Feet" was presented as a featured lecture to 145 amateur astronomers at the national conference for the Astronomical League. The talk introduced them to the Stratospheric Observatory for Infrared Astronomy (SOFIA). Late in 2004, the largest telescope ever built will begin making astronomical observations. SOFIA features a telescope with a 2.5-meter (nearly 100-inch) diameter, and it will view the

Universe from an open cavity that has been built into a highly modified Boeing 747. Four nights a week, from around 41,000 feet, SOFIA will make astronomical observations that are impossible for any other telescope, whether on a mountaintop or in space. In this interesting presentation, the audience learned about the nature of infrared energy, why astronomers want to study the infrared energy that many objects in space emit, and why they have to conduct their studies from a high-flying aircraft. They also discovered the fascinating story behind the technology that allows astronomers to overcome the effects of the aircraft's slipstream and vibrations to—as one astronomer put it—"use a telescope in an earthquake during a hurricane."

Lead: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.

Primary URL: *http://sofia.arc.nasa.gov/Edu/calendar/edu_calendar.html*

A362. Solar Eclipse Watch

Theme(s): SEC

Msn/Prgm(s): Solar-B[B116]

Description: Rare and captivating astronomical events draw the attention of a broad public audience and present the opportunity for public outreach institutions to increase public awareness of the Universe beyond their day-to-day lives. Chabot Space and Science Center takes advantage of these natural phenomena by holding special events and offering public visitors a range of related activities and materials. Solar eclipses, even partial eclipses, evoke strong public enthusiasm and are taken seriously by Chabot as a vehicle for public awareness of the Sun and the Sun-Earth connection. At these events, an array of different eclipse-viewing methods and media are provided to the public, from live Web site and closed-circuit video of the event imaged through a Chabot telescope to the myriad ways that simple pinhole projections can be used to safely view the Sun and the eclipse event. Hands-on Sun and eclipse-related activities for children are conducted and special showings of related films and planetarium demonstrations are offered. NASA materials and other educational materials are distributed to visiting teachers and children. Chabot science and education staff members are on hand to answer questions, give demonstrations, and run activities.

Lead: Mr. Benjamin Burress, Chabot Space and Science Center, Oakland, CA 94619.
E-mail: *bburress@chabotspace.org.* Phone: 510-336-7308.

Primary URL: *http://www.chabotspace.org/vsc/exhibits/solarb/newsheadlines/*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
14 Dec 01	14 Dec 01	Chabot Space and Science Center	Oakland, CA	-	400	-
10 Jul 02	10 Jul 02	Chabot Space and Science Center	Oakland, CA	-	1,000	-

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A363. Solar System Ambassadors Program

Theme(s): SSE

Msn/Prgm(s): SSE Forum[B12], SEU Forum[B13], SECEF[B14], DePaul B/F[B15], SIRTF[B24], Navigator[B27], KECK[B29], SIM[B32], TPF[B34], Cassini/Huygens Probe[B37], Galileo[B38], JPL SSE Theme[B39], DPSO[B40], CONTOUR[B41], Dawn[B42], Deep Impact[B43], Genesis[B44], MESSENGER[B45], NEAR[B46], Stardust[B47], Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], Mars Scout[B55], OP E/PO[B57], Europa Orbiter[B58], DSMS[B60], NEAT[B62], Ulysses[B96], Voyager[B97]

Description: The Solar System Ambassadors Program is a public outreach program that is designed to work with motivated volunteers across the Nation. These volunteers communicate exciting discoveries and plans for space exploration and technology to people in their local communities. Ambassadors participate in online (Web-based) training sessions that provide interaction with NASA scientists, engineers, and project team members. As such, each Ambassador's experience with the space program becomes personalized. Training sessions provide Ambassadors with a general background on each mission and educate them concerning specific mission milestones and key discoveries. Currently, 276 Ambassadors from all 50 States and Puerto Rico share the excitement of space science and exploration within their communities.

Lead: Ms. Kay Ferrari, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Kay.A.Ferrari@jpl.nasa.gov.* Phone: 818-354-7581.

Primary URL: *http://www.jpl.nasa.gov/ambassador/front.html*

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
20 Feb 00	20 Feb 00	Palm Beach County Library	Royal Palm Beach, FL	-	75	-

02 Jan 01	02 Jan 01	Casper Planetarium	Casper, WY	-	60	-
01 Oct 01	01 Oct 01	Discovery School	Lakewood, CO	-	52	-
01 Oct 01	01 Oct 01	Lewes Middle School	Lewes, DE	-	15	-
01 Oct 01	01 Oct 01	Palisade High School	Palisade, CO	-	51	-
01 Oct 01	31 Dec 01	Amateur Radio (Rocky Mountain Radio League 146.940 MHz and 449.825 MHz Repeaters)	Denver, CO	-	527	-
01 Oct 01	31 Dec 01	United States Air Force Academy	USAFA, CO	-	423	-
01 Oct 01	03 Jun 02	Muncie Community Schools' Planetarium	Muncie, IN	-	65	-
01 Oct 01	28 Sep 02	Museum of Science and History	Jacksonville, FL	-	15,000	-
01 Oct 01	28 Sep 02	Museum of Science and History	Jacksonville, FL	-	18	-
01 Oct 01	29 Sep 02	Amateur Radio (Rocky Mountain Radio League 146.940 MHz and 449.825 MHz Repeaters)	Denver, CO	-	310	-
01 Oct 01	30 Sep 02	Brownsville Herald	Brownsville, TX	-	884,000	-
01 Oct 01	30 Sep 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	8,135,535	-
01 Oct 01	30 Sep 02	San Benito News	San Benito, TX	-	260,000	-
01 Oct 01	01 Oct 02	WBD Accounting	Sunrise, FL	-	40	-
02 Oct 01	02 Oct 01	University of Wisconsin-Sheboygan	Sheboygan, WI	-	25	-
05 Oct 01	05 Oct 01	Mitchell Elementary School	Albuquerque, NM	-	75	-
05 Oct 01	05 Oct 01	Morrow Observatory	Bedford, IN	-	700	-
05 Oct 01	05 Oct 01	Rainwater Observatory and Planetarium	French Camp, MS	-	30	-
06 Oct 01	06 Oct 01	Rainwater Observatory and Planetarium	French Camp, MS	-	50	-
08 Oct 01	08 Oct 01	Lewes Middle School	Lewes, DE	-	15	-
09 Oct 01	09 Oct 01	Lockheed Martin Space Systems	Littleton, CO	-	120	-
10 Oct 01	10 Oct 01	Flounder Bay Cafe	Anacortes, WA	-	2	-
10 Oct 01	10 Oct 01	University of Redlands	Redlands, CA	-	24	-
10 Oct 01	11 Oct 01	USS Hornet	Alameda, CA	-	50	-
11 Oct 01	11 Oct 01	New Mexico State University at Carlsbad	Carlsbad, NM	-	100	-
11 Oct 01	14 Oct 01	Georgia College & State University	Milledgeville, GA	-	66	-
12 Oct 01	13 Oct 01	Seagrave Memorial Observatory	North Scituate, RI	-	150	-
13 Oct 01	13 Oct 01	Milford-Miami Township Library	Milford, OH	-	30	-
13 Oct 01	13 Oct 01	NASA Ames Research Center	Moffett Field, CA	-	50	-
13 Oct 01	13 Oct 01	Rainwater Observatory and Planetarium	French Camp, MS	-	150	-
13 Oct 01	14 Oct 01	USS Hornet	Alameda, CA	-	190	-
15 Oct 01	15 Oct 01	Mt. Bachelor Ski Area & Resort	Bend, OR	-	200	-
15 Oct 01	17 Oct 01	Boy Scouts of America-Mesa District	Mesa, AZ	-	50	-
16 Oct 01	16 Oct 01	Senior Health Foundation	Omaha, NE	-	65	-
16 Oct 01	16 Oct 01	Senior Health Foundation	Omaha, NE	-	62	-
17 Oct 01	17 Oct 01	Club Shoshone	Granada Hills, CA	-	8	-
17 Oct 01	17 Oct 01	Guemes Isle Community Church	Anacortes, WA	-	22	-
17 Oct 01	18 Oct 01	Arizona Western College	Yuma, AZ	-	575	-
17 Oct 01	18 Oct 01	Marine Corps Air Station	Yuma, AZ	-	100	-
17 Oct 01	18 Oct 01	The Retired Officers Association	Yuma, AZ	-	50	-
18 Oct 01	18 Oct 01	Barnes & Noble Cappuccino Academy	Jenkintown, PA	-	100	-
18 Oct 01	18 Oct 01	Engineering Society Joint Meeting (ASCE, ASPE, SAME)	Yuma, AZ	-	50	-
18 Oct 01	18 Oct 01	Post Auditorium	Yuma, AZ	-	250	-
18 Oct 01	18 Oct 01	University of Wisconsin-Sheboygan	Sheboygan, WI	-	25	-
18 Oct 01	18 Oct 01	Yuma Proving Grounds	Yuma, AZ	-	40	-
20 Oct 01	20 Oct 01	Cherry Hills Library	Albuquerque, NM	-	12	-
20 Oct 01	20 Oct 01	Ethical Society of Philadelphia	Philadelphia, PA	-	80	-
20 Oct 01	20 Oct 01	Mary Ann Mongan Library	Covington, KY	-	30	-
20 Oct 01	20 Oct 01	Punahou School	Honolulu, HI	-	100	-
20 Oct 01	21 Oct 01	Rainwater Observatory and Planetarium	French Camp, MS	-	25	-
21 Oct 01	21 Oct 01	Youngstown Vindicator	Youngstown, OH	-	200,000	-
22 Oct 01	22 Oct 01	Cosmopolitan Club	Omaha, NE	-	30	-
22 Oct 01	22 Oct 01	East San Jose Elementary School	San Jose, CA	-	52	-
23 Oct 01	23 Oct 01	Duke University	Durham, NC	-	50	-

23 Oct 01	23 Oct 01	Pembroke Academy	Pembroke, NH	-	50	-
24 Oct 01	24 Oct 01	Cosmopolitan Club	Omaha, NE	-	25	-
24 Oct 01	24 Oct 01	Greensboro Elementary School	Greensboro, GA	-	35	-
24 Oct 01	24 Oct 01	Rainwater Observatory and Planetarium	French Camp, MS	-	12	-
24 Oct 01	24 Oct 01	Reuben H. Fleet Science Center	San Diego, CA	-	78	-
24 Oct 01	24 Oct 01	The Albrook School	Basking Ridge, NJ	-	50	-
25 Oct 01	25 Oct 01	University of Wisconsin-Sheboygan	Sheboygan, WI	-	24	-
26 Oct 01	26 Oct 01	Arizona State University	Tempe, AZ	-	150	-
26 Oct 01	26 Oct 01	Maywood Park	Sheboygan, WI	-	25	-
26 Oct 01	26 Oct 01	Scottsdale Community College	Scottsdale, AZ	-	200	-
26 Oct 01	26 Oct 01	Seattle Waldorf School	Seattle, WA	-	51	-
27 Oct 01	27 Oct 01	Fairfield Lane Library	Fairfield, OH	-	30	-
27 Oct 01	17 Nov 01	American Museum of Natural History	New York, NY	-	31	-
30 Oct 01	30 Oct 01	Independence School District	Independence, MO	-	20	-
01 Nov 01	03 Nov 01	Kalkaska County Public Library	Kalkaska, MI	-	100	-
01 Nov 01	31 Dec 01	Schaumburg Township Library	Schaumburg, IL	-	1,200	-
02 Nov 01	02 Nov 01	Casper Planetarium	Casper, WY	-	28	-
02 Nov 01	02 Nov 01	Hudson River Museum	Yonkers, NY	-	50	-
02 Nov 01	02 Nov 01	U.S. Space and Rocket Center	Huntsville, AL	-	25	-
03 Nov 01	03 Nov 01	Cimarron Memorial High School	Las Vegas, NV	-	10	-
03 Nov 01	03 Nov 01	University of Delaware	Newark, DE	-	60	-
05 Nov 01	06 Nov 01	Miller Middle School	Houston, TX	-	531	-
05 Nov 01	04 Dec 01	American Museum of Natural History	New York, NY	-	28	-
06 Nov 01	06 Nov 01	Manatee Community College	Bradenton, FL	-	39	-
07 Nov 01	07 Nov 01	Noah's Home for Mentally Challenged Adults	San Diego, CA	-	62	-
07 Nov 01	07 Nov 01	Walnut Canyon School	Moorpark, CA	-	120	-
08 Nov 01	08 Nov 01	Shahala Middle School	Vancouver, WA	-	120	-
08 Nov 01	08 Nov 01	U.S. Space and Rocket Center	Huntsville, AL	-	35	-
09 Nov 01	13 Mar 02	Mark Smith Planetarium	Macon, GA	-	153	-
10 Nov 01	10 Nov 01	Hyatt Regency Woodfield	Schaumburg, IL	-	60	-
10 Nov 01	10 Nov 01	Hyatt Regency Woodfield	Schaumburg, IL	-	30	-
10 Nov 01	10 Nov 01	Palm Glades Girl Scout Council Camp Welaka	Hobe Sound, FL	-	77	-
11 Nov 01	11 Nov 01	Bismarck High School	Bismarck, ND	-	405	-
12 Nov 01	12 Nov 01	Independence School District	Independence, MO	-	100	-
13 Nov 01	13 Nov 01	Creator Lutheran Church	Clackamas, OR	-	40	-
13 Nov 01	13 Nov 01	Natchez Trace Parkway Environmental Center	Tupelo, MS	-	50	-
13 Nov 01	18 Nov 01	Grand Vue Park	Moundsville, WV	-	15,047	-
14 Nov 01	14 Nov 01	San Diego State University	San Diego, CA	-	40	-
14 Nov 01	14 Nov 01	Scottsdale Community College	Scottsdale, AZ	-	175	-
14 Nov 01	21 Mar 02	Mark Smith Planetarium	Macon, GA	-	1,144	-
15 Nov 01	15 Nov 01	Jenkintown Lyceum	Jenkintown, PA	-	42	-
15 Nov 01	15 Nov 01	Potsdam High School	Potsdam, NY	-	300	-
16 Nov 01	16 Nov 01	Friendship Village	Schaumburg, IL	-	35	-
17 Nov 01	17 Nov 01	Brazos Bend State Park	Needville, TX	-	12	-
17 Nov 01	17 Nov 01	Casper Planetarium	Casper, WY	-	18	-
17 Nov 01	17 Nov 01	Florida Fish & Wildlife Conservation Commission Everglades Youth Camp	West Palm Beach, FL	-	110	-
17 Nov 01	17 Nov 01	Institute for Astronomy	Hilo, HI	-	30	-
17 Nov 01	17 Nov 01	Reuben H. Fleet Science Center	San Diego, CA	-	150	-
18 Nov 01	19 Nov 01	Tampa Tribune	Tampa, FL	-	220,000	-
20 Nov 01	20 Nov 01	Living Savior Lutheran Church	Tualatin, OR	-	30	
21 Nov 01	21 Nov 01	Bismarck High School	Bismarck, ND	-	405	-
27 Nov 01	27 Nov 01	Lewes Middle School	Lewes, DE	-	70	-
30 Nov 01	30 Nov 01	Van der Veer Elementary School	Somerville, NJ	-	110	-
01 Dec 01	29 Jan 02	American Museum of Natural History	New York, NY	-	6	-
03 Dec 01	03 Dec 01	West Point Elementary School	West Point, MS	-	50	-
04 Dec 01	04 Dec 01	Environmental Science and Technology Center	Denton, TX	-	200	-

04 Dec 01	04 Dec 01	Schaumburg Township Library	Schaumburg, IL	-	55	-
06 Dec 01	06 Dec 01	San Bernardino Microwave Society	Corona, CA	-	50	-
07 Dec 01	07 Dec 01	Casper Planetarium	Casper, WY	-	136	-
07 Dec 01	07 Dec 01	Escondido High School	Escondido, CA	-	14	-
07 Dec 01	07 Dec 01	Martin Elementary School	Manchester, CT	-	45	-
07 Dec 01	07 Dec 01	Montana State University	Bozeman, MT	-	24	-
07 Dec 01	07 Dec 01	Trailblazer Elementary School	Colorado Springs, CO	-	100	-
07 Dec 01	08 Dec 01	Ward Beecher Planetarium	Youngstown, OH	-	100	-
08 Dec 01	08 Dec 01	Museum of Arts and Sciences	Macon, GA	-	71	-
08 Dec 01	08 Dec 01	Museum of Science and Industry	Chicago, IL	-	10	-
08 Dec 01	08 Dec 01	Rainwater Observatory and Planetarium	French Camp, MS	-	27	-
08 Dec 01	08 Dec 01	Wilderness Center Astronomy Club	Wilmot, OH	-	20	-
09 Dec 01	09 Dec 01	North Museum of Natural History and Science	Lancaster, PA	-	80	-
10 Dec 01	10 Dec 01	Greensboro Elementary School	Greensboro, GA	-	724	-
10 Dec 01	10 Dec 01	San Diego State University	San Diego, CA	-	43	-
10 Dec 01	11 Dec 01	Sand Creek High School	Colorado Springs, CO	-	75	-
12 Dec 01	12 Dec 01	Conch House Restaurant	St. Augustine, FL	-	40	-
13 Dec 01	13 Dec 01	Casper Planetarium	Casper, WY	-	52	-
14 Dec 01	14 Dec 01	Cockrell Hill Elementary School	DeSoto,TX	-	540	-
14 Dec 01	14 Dec 01	Hyatt Regency Coconut Point Resort & Spa	Bonita Springs, FL	-	45	-
16 Dec 01	16 Dec 01	Chabot Space and Science Center	Oakland, CA	-	157	-
17 Dec 01	17 Dec 01	Senior Health Foundation	Omaha, NE	-	50	-
18 Dec 01	18 Dec 01	Milledgeville Country Club	Milledgeville, GA	-	46	-
21 Dec 01	21 Dec 01	Chabot Space and Science Center	Oakland, CA	-	69	-
22 Dec 01	22 Dec 01	Chabot Space and Science Center	Oakland, CA	-	78	-
28 Dec 01	28 Dec 01	University of North Texas	Denton, TX	-	1,260	-
30 Dec 01	30 Dec 01	Owatonna People's Press	Owatonna, MN	-	20,000	-
31 Dec 01	31 Dec 01	Chabot Space and Science Center	Oakland, CA	-	73	-
01 Jan 02	01 Jan 02	Jason-1	Middletown, CA	-	2,000	-
01 Jan 02	30 Mar 02	Amateur Radio (Rocky Mountain Radio League 146.940 MHz and 449.825 MHz Repeaters)	Denver, CO	-	82	-
01 Jan 02	30 Sep 02	Central Florida Computer Society	Maitland, FL	-	27,000	-
01 Jan 02	30 Sep 02	Midland Independent School District	Midland, TX	-	2,700	-
01 Jan 02	30 Sep 02	NASA Kennedy Space Center Associates	Maitland, FL	-	1,485	-
01 Jan 02	30 Sep 02	Retirees Association of Lockheed Martin	Maitland. FL	-	2,700	-
01 Jan 02	31 Dec 02	The Bowie Blade News	Bowie, MD	-	33,000	-
03 Jan 02	03 Jan 02	Billings Gazette	Billings, MT	-	50,000	-
03 Jan 02	03 Jan 02	Boy Scouts	St. Augustine, FL	-	14	-
04 Jan 02	04 Jan 02	Northwest Suburban Astronomers	Hoffman Estates, IL	-	95	-
04 Jan 02	04 Jan 02	St. Augustine High School	St. Augustine, FL	-	17	-
05 Jan 02	02 Feb 02	American Museum of Natural History	New York, NY	-	29	-
07 Jan 02	07 Jan 02	Blue Ridge School	St. George, VA	-	30	-
07 Jan 02	07 Jan 02	The Saginaw News	Saginaw, MI	-	50,000	-
07 Jan 02	30 Dec 02	Fairfield/Sapphire Valley Community Center	Cashiers, NC	-	1,050	-
08 Jan 02	08 Jan 02	Civil Air Patrol Squadron 72	French Camp, CA	-	16	-
08 Jan 02	09 Jan 02	Ward Beecher Planetarium	Youngstown, OH	-	110	-
10 Jan 02	10 Jan 02	Brownsville Public Library	Brownsville, TX	-	65	-
10 Jan 02	10 Jan 02	Franklin High School	Franklin, NC	-	245	-
10 Jan 02	10 Jan 02	Franklin Pierce College	Concord, NH	-	25	-
10 Jan 02	10 Jan 02	McKinley Elementary School	Owatonna, MN	-	104	-
10 Jan 02	10 Jan 02	Shaker Heights High School	Shaker Heights, OH	-	25	-
11 Jan 02	11 Jan 02	Children's Museum of Edwardsville	Edwardsville, IL	-	100	-
11 Jan 02	11 Jun 02	New Mexico State University at Carlsbad	Carlsbad, NM	-	20	-
12 Jan 02	12 Jan 02	Wilderness Center Astronomy Club	Wilmot, OH	-	17	-
12 Jan 02	13 Jan 02	New Jersey State Museum	Trenton, NJ	-	12,200	-
13 Jan 02	13 Jan 02	New Jersey State Museum	Trenton, NJ	-	3,075	-
13 Jan 02	13 Jan 02	St. Andrew's Episcopal School	Jackson, MS	-	35	-

14 Jan 02	14 Jan 02	Onamia School District	Onamia, MN	-	28	-
14 Jan 02	14 Jan 02	Sacred Heart School	Topeka, KS	-	16	-
14 Jan 02	14 Jan 02	St. Augustine Shores Methodist Church	St. Augustine, FL	-	20	-
14 Jan 02	23 Jun 02	The New Detroit Science Center	Detroit, MI	-	13,123	-
15 Jan 02	15 Jan 02	Kalamazoo Gazette	Kalamazoo, MI	-	57,000	-
15 Jan 02	21 Mar 02	Sacred Heart School Astronomy Club	Gardner, MA	-	16	-
16 Jan 02	18 Jan 02	Pioneer Middle School	Tustin, CA	-	220	-
17 Jan 02	17 Jan 02	Astroclub/New York Hall of Science	New York, NY	-	30	-
17 Jan 02	17 Jan 02	Brownsville Park	Brownsville, TX	-	25	-
17 Jan 02	17 Jan 02	Civil Air Patrol	Billings, MT	-	50	-
17 Jan 02	17 Jan 02	Queen of Heaven School	Albuquerque, NM	-	25	-
17 Jan 02	17 Jan 02	Statesman Journal	Salem, OR	-	8,000	-
18 Jan 02	18 Jan 02	Dominican Sisters Community of the Holy Spirit	San Diego, CA	-	17	-
18 Jan 02	18 Jan 02	Jones County Community College	Ellisville, MS	-	90	-
18 Jan 02	18 Jan 02	Santa Clara University	Santa Clara, CA	-	50	-
18 Jan 02	18 Jan 02	WSGW-AM	Saginaw, MI	-	1,000	-
19 Jan 02	19 Jan 02	KPRA Radio-Family Radio Network-89.5 FM	Ukiah, CA	-	2,500,200	-
19 Jan 02	19 Jan 02	North Carolina Museum of Life and Science	Durham, NC	-	300	-
19 Jan 02	02 Feb 02	State University College at Fredonia	Fredonia, NY	-	13	-
20 Jan 02	20 Jan 02	First Baptist Church	Odessa, FL	-	75	-
22 Jan 02	22 Jan 02	Hinkley Middle School	Hinkley, CA	-	490	-
22 Jan 02	22 Jan 02	Sahara West Library	Las Vegas, NV	-	13	-
22 Jan 02	29 Jan 02	St. Anthony Claret School	Anaheim, CA	-	121	-
23 Jan 02	23 Jan 02	Elko Daily Free Press/Spring Creek Chronicle	Spring Creek, NV	-	4,000	-
23 Jan 02	23 Jan 02	Fort Irwin Elementary School	Fort Irwin, CA	-	22	-
23 Jan 02	23 Jan 02	Kodak Government Systems Division	Rochester, NY	-	20	-
24 Jan 02	24 Jan 02	Cortez Journal	Cortez, CO	-	5,000	-
24 Jan 02	24 Jan 02	Goddard Planetarium	Roswell, NM	-	42	-
24 Jan 02	24 Jan 02	Marco Forester Junior High School	San Juan Capistrano, CA	-	80	-
24 Jan 02	25 Jan 02	University of Mississippi	Oxford, MS	-	75	-
24 Jan 02	21 Mar 02	Sacred Heart School Astronomy Club	Gardner, MA	-	1,031	-
25 Jan 02	25 Jan 02	Discovery Center of the Ozarks	Springfield, MO	-	300	-
25 Jan 02	25 Jan 02	Gateway Elementary School	Fort Myers, FL	-	60	-
25 Jan 02	25 Jan 02	Independence Middle School	Independence, IA	-	608	-
25 Jan 02	25 Jan 02	Northwestern Michigan College	Traverse City, MI	-	23	-
25 Jan 02	25 Jan 02	Orange County Department of Education	Costa Mesa, CA	-	10	-
25 Jan 02	25 Jan 02	Red Oak Junior High School	Red Oak, TX	-	390	-
25 Jan 02	25 Jan 02	Red Oak Junior High School	Red Oak, TX	-	403	-
25 Jan 02	28 May 02	Shaker Heights High School	Shaker Heights, OH	-	60	-
26 Jan 02	26 Jan 02	Lockwood Park Observatory	Rockford, IL	-	100	-
26 Jan 02	26 Jan 02	University of Hawaii at Hilo	Hilo, HI	-	40	-
26 Jan 02	26 Jan 02	University of Hawaii at Hilo	Hilo, HI	-	550	-
28 Jan 02	28 Jan 02	Cub Scout Merit Training in Science	Las Vegas, NV	-	10	-
28 Jan 02	03 Feb 02	Woodinville Weekly Newspaper	Woodinville, WA	-	32,000	-
29 Jan 02	29 Jan 02	American Museum of Natural History	New York, NY	-	54	-
29 Jan 02	29 Jan 02	Camden County Toastmasters	Haddonfield, NJ	-	20	-
29 Jan 02	29 Jan 02	University of North Texas	Denton, TX	-	180	-
30 Jan 02	30 Jan 02	Jefferson Elementary School	Shady Side, PA	-	150	-
30 Jan 02	30 Jan 02	Quantum Controls, Inc.	Plymouth, MI	-	35,000	-
30 Jan 02	30 Jan 02	University of Colorado at Boulder	Boulder, CO	-	61	-
30 Jan 02	03 Apr 02	Northeast School	Stamford, CT	-	15	-
31 Jan 02	31 Jan 02	Denny's Restaurant	Carbondale, IL	-	30	-
31 Jan 02	31 Jan 02	Mediterra - Parque Celestial	Naples, FL	-	80	-
31 Jan 02	31 Jan 02	Ohlone Elementary School	Palo Alto, CA	-	27	-
31 Jan 02	01 Feb 02	Eader Elementary School	Huntington Beach, CA	-	180	-
01 Feb 02	30 Aug 02	Edgewood Women's Detention Center	Milpitas, CA	-	160	-
01 Feb 02	04 Dec 02	American Museum of Natural History	New York, NY	-	28	-

02 Feb 02	02 Feb 02	Hamilton County Public Library —Madeira Branch	Cincinnati, OH	-	115	-
04 Feb 02	04 Feb 02	Caledonia Middle School	Caledonia, MS	-	55	-
04 Feb 02	04 Feb 02	Chabot Space and Science Center	Oakland, CA	-	100	-
04 Feb 02	04 Feb 02	Hazel Dell Sewer District	Vancouver, WA	-	50	-
04 Feb 02	04 Feb 02	St. Lawrence Inn	Canton, NY	-	35	-
05 Feb 02	05 Feb 02	Archeoastronomy in the South Pacific	St. Paul, MN	-	1,930	-
05 Feb 02	05 Feb 02	Sunrise Elementary School	Veradale, WA	-	170	-
05 Feb 02	05 Feb 02	University of Chicago	Chicago, IL	-	23	-
05 Feb 02	05 Feb 02	University of Wisconsin-Marathon County	Wausau, WI	-	20	-
05 Feb 02	05 Feb 02	Utah State University	Logan, UT	-	5	-
05 Feb 02	06 Feb 02	Don Juan Avila Elementary School	Aliso Viejo, CA	-	180	-
05 Feb 02	13 Feb 02	College of the Sequoias Campus Newspaper	Visalia, CA	-	8,000	-
05 Feb 02	05 Mar 02	American Museum of Natural History	New York, NY	-	28	-
06 Feb 02	06 Feb 02	Spring Creek Chronicle	Spring Creek, NV	-	4,000	-
06 Feb 02	06 Feb 02	Study Middle School	Springfield, MO	-	400	-
06 Feb 02	06 Feb 02	Woodland Hills Montessori School	Colorado Springs, CO	-	20	-
07 Feb 02	07 Feb 02	Environmental Studies Center	Mobile, AL	-	25	-
07 Feb 02	07 Feb 02	Kimberly Crest Elementary School	Redlands, CA	-	600	-
07 Feb 02	07 Feb 02	Mark Sylvester Planetarium	Plymouth, NH	-	8	-
07 Feb 02	08 Feb 02	Shaker Heights High School	Shaker Heights, OH	-	64	-
08 Feb 02	08 Feb 02	Camp Dorothy Thomas	Riverview, FL	-	80	-
08 Feb 02	08 Feb 02	Museum of Science and Industry	Tampa, FL	-	22	-
08 Feb 02	08 Feb 02	WFUV 90.7 FM	New York, NY	-	100,000	-
09 Feb 02	09 Feb 02	Capricon Science Fiction Convention XXII	Arlington Heights, IL	-	16	-
09 Feb 02	09 Feb 02	Club Shoshone	Granada Hills, CA	-	12	-
09 Feb 02	09 Feb 02	Kenton County Public Library	Covington, KY	-	15	-
09 Feb 02	09 Feb 02	Kingsbury Elementary School	Redlands, CA	-	275	-
09 Feb 02	09 Feb 02	The Burgundy Basin	Pittsford, NY	-	70	-
10 Feb 02	10 Feb 02	Barnes & Noble Cappuccino Academy	Jenkintown, PA	-	45	-
11 Feb 02	11 Feb 02	Agewell Senior Group	Omaha, NE	-	26	-
11 Feb 02	11 Feb 02	Bellvue University, Southwest Campus	Omaha, NE	-	54	-
11 Feb 02	11 Feb 02	Fairfield/Sapphire Valley Community Center	Cashiers, NC	-	27	-
11 Feb 02	11 Feb 02	Glendale Public Library	Glendale, AZ	-	80	-
11 Feb 02	12 Feb 02	North East Community College	Booneville, MS	-	250	-
11 Feb 02	15 Feb 02	New York Hall of Science/Astronomy Kids Club	New York, NY	-	150	-
12 Feb 02	12 Feb 02	Campanelli Elementary School	Schaumburg, IL	-	65	-
12 Feb 02	12 Feb 02	Campanelli Elementary School	Schaumburg, IL	-	66	-
12 Feb 02	12 Feb 02	Eaton Elementary School	Lenoir City, TN	-	146	-
12 Feb 02	12 Feb 02	Mark Sylvester Planetarium	Plymouth, NH	-	14	-
12 Feb 02	12 Feb 02	Merrywood Retreat	Switzerland, FL	-	36	-
12 Feb 02	12 Feb 02	Siena College	Loudonville, NY	-	70	-
12 Feb 02	12 Feb 02	University of Wisconsin-Marathon County	Wausau, WI	-	20	-
13 Feb 02	13 Feb 02	McEachron Elementary School	Topeka, KS	-	51	-
13 Feb 02	13 Feb 02	NASA Ames Research Center	Moffett Field, CA	-	15	-
14 Feb 02	14 Feb 02	Brownsville Public Library	Brownsville, TX	-	72	-
14 Feb 02	14 Feb 02	Jekyll Island Convention Center	Jekyll Island, GA	-	65	-
14 Feb 02	14 Feb 02	Tampa Tribune	Tampa, FL	-	10,000	-
14 Feb 02	15 Feb 02	Rancho Santa Margarita Middle School	Rancho Santa Margarita, CA	-	850	-
15 Feb 02	15 Feb 02	Littleton Optimists Club	Littleton, CO	-	35	-
15 Feb 02	15 Feb 02	Marysville Co-op Elementary School	Marysville, WA	-	30	-
16 Feb 02	16 Feb 02	Cherry Hills Library	Albuquerque, NM	-	12	-
16 Feb 02	16 Feb 02	Horseless Carriage Club of America	Visalia, CA	-	102	-
16 Feb 02	16 Feb 02	Wagman Observatory	Russelton, PA	-	200	-
17 Feb 02	17 Feb 02	Kenosha Public Museum	Kenosha, WI	-	97	-
18 Feb 02	18 Feb 02	Casper Planetarium	Casper, WY	-	86	-

18 Feb 02	18 Feb 02	Fairfield/Sapphire Valley Community Center	Cashiers, NC	-	30	-
18 Feb 02	18 Feb 02	Medford High School	Medford, MN	-	25	-
18 Feb 02	18 Feb 02	The Daily Citizen	Searcy, AR	-	80,000	-
18 Feb 02	22 Feb 02	Northrop High School	Fort Wayne, IN	-	90	-
18 Feb 02	04 Apr 02	Jefferson Elementary School	Iola, KS	-	37	-
19 Feb 02	19 Feb 02	Girl Scout Troop 197	Durham, NC	-	10	-
19 Feb 02	19 Feb 02	Lancaster West Rotary	Lancaster, PA	-	15	-
19 Feb 02	19 Feb 02	Northeast Regional Public Library	Philadelphia, PA	-	23	-
19 Feb 02	19 Feb 02	The Daily Citizen	Searcy, AR	-	80,000	-
19 Feb 02	19 Feb 02	University of Wisconsin-Marathon County	Wausau, WI	-	20	-
19 Feb 02	27 Feb 02	Mark Smith Planetarium	Macon, GA	-	63	-
20 Feb 02	20 Feb 02	Florida Gulf Coast University	Fort Myers, FL	-	135	-
20 Feb 02	20 Feb 02	Museum of Science and History	Jacksonville, FL	-	200	-
20 Feb 02	20 Feb 02	Norwich Free Academy Television Station	Norwich, CT	-	1,000	-
20 Feb 02	20 Feb 02	Penn Manor Elementary School	Manor Township, PA	-	50	-
20 Feb 02	20 Feb 02	Spring Creek Chronicle	Spring Creek, NV	-	4,000	-
20 Feb 02	20 Feb 02	Summit Charter School	Cashiers, NC	-	185	-
20 Feb 02	20 Feb 02	Wilson Elementary School	Owatonna, MN	-	54	-
20 Feb 02	21 Feb 02	Douglas Grade School	Douglas, WY	-	235	-
21 Feb 02	21 Feb 02	Benicia Library	Benicia, CA	-	8	-
21 Feb 02	21 Feb 02	Brownsville Park	Brownsville, TX	-	30	-
21 Feb 02	21 Feb 02	City Hall	Ontario, CA	-	5	-
21 Feb 02	21 Feb 02	Lawrence Livermore National Laboratory	Livermore, CA	-	25	-
21 Feb 02	21 Feb 02	Sierra Club	St. Petersburg, FL	-	17	-
21 Feb 02	22 Feb 02	Tan-Tar-A Resort	Osage Beach, MO	-	40	-
22 Feb 02	22 Feb 02	Bank of America	Siesta Key, FL	-	22	-
22 Feb 02	22 Feb 02	Chabot Space and Science Center	Oakland, CA	-	52	-
22 Feb 02	22 Feb 02	Douglass Valley Elementary School	USAFA, CO	-	45	-
22 Feb 02	22 Feb 02	Eagle River Nature Center	Eagle River, AK	-	36	-
22 Feb 02	22 Feb 02	Florida Marine Research Institute (FMRI)	St. Petersburg, FL	-	650	-
22 Feb 02	22 Feb 02	Georgia Southern University	Statesboro, GA	-	118	-
22 Feb 02	22 Feb 02	Mar Vista School	Mar Vista, CA	-	75	-
22 Feb 02	22 Feb 02	Rainwater Observatory and Planetarium	French Camp, MS	-	47	-
22 Feb 02	22 Feb 02	Salvation Army Youth Center	Salem, OR	-	60	-
22 Feb 02	23 Feb 02	Mathematics, Science and Technology Conference	Bakersfield, CA	-	115	-
23 Feb 02	23 Feb 02	El Paso Zoo	El Paso, TX	-	25	-
23 Feb 02	23 Feb 02	Lake Park High School	Roselle, IL	-	996	-
23 Feb 02	23 Feb 02	North Carolina Museum of Life and Science	Durham, NC	-	175	-
23 Feb 02	23 Feb 02	Sacred Heart Academy	Honolulu, HI	-	44	-
24 Feb 02	24 Feb 02	Lehigh University	Bethlehem, PA	-	20	-
25 Feb 02	25 Feb 02	Fairfield/Sapphire Valley Community Center	Cashiers, NC	-	40	-
25 Feb 02	25 Feb 02	Oak Hill Middle School	Milledgeville, GA	-	54	-
25 Feb 02	01 Mar 02	New York Hall of Science/Astronomy Kids Club	New York, NY	-	150	-
26 Feb 02	26 Feb 02	Prospect Grade School	Redlands, CA	-	200	-
26 Feb 02	26 Feb 02	Sequoia Lions Club	Visalia, CA	-	55	-
26 Feb 02	26 Feb 02	Spokane Central Lions Club	Spokane, WA	-	37	-
26 Feb 02	26 Feb 02	Summit High School	Bend, OR	-	50	-
26 Feb 02	26 Feb 02	University of Wisconsin-Marathon County	Wausau, WI	-	20	-
27 Feb 02	27 Feb 02	KSER Radio	Lynnwood, WA	-	14,000	-
27 Feb 02	27 Feb 02	Mount Hope Redemption School	Bloomington, MN	-	25	-
27 Feb 02	27 Feb 02	Norwich Free Academy Television Station	Norwich, CT	-	1,000	-
27 Feb 02	27 Feb 02	Prairie Ridge High School	Crystal Lake, IL	-	54	-
27 Feb 02	27 Feb 02	Press Journal	Vero Beach, FL	-	40,000	-
27 Feb 02	27 Feb 02	Reuben H. Fleet Science Center	San Diego, CA	-	5	-
27 Feb 02	27 Feb 02	Sunset Elementary School	Airway Heights, WA	-	23	-
28 Feb 02	28 Feb 02	A.C. Middle School	Mesquite, TX	-	186	-

28 Feb 02	28 Feb 02	Cub Scout Den #7	Spokane, WA	-	18	-
28 Feb 02	28 Feb 02	Immaculata Catholic School	Durham, NC	-	280	-
28 Feb 02	28 Feb 02	Washburn Elementary School	Bloomington, MN	-	94	-
01 Mar 02	01 Mar 02	Illinois Technical Conference for Educators	St. Charles, IL	-	1,500	-
01 Mar 02	01 Mar 02	Kopernik Space Education Center	Vestal, NY	-	25	-
01 Mar 02	01 Mar 02	Norwich Free Academy Television Station	Norwich, CT	-	1,000	-
01 Mar 02	01 Mar 02	Owatonna People's Press	Owatonnam MN	-	9,500	-
01 Mar 02	01 Mar 02	Rochester Academy of Science	Hiltonm NY	-	82	-
01 Mar 02	01 Mar 02	Shaker Heights High School	Shaker Heights, OH	-	80	-
01 Mar 02	01 Mar 02	This is True, Inc.	Boulder, CO	-	107,750	-
01 Mar 02	02 Mar 02	Ward Beecher Planetarium	Youngstown, OH	-	130	-
01 Mar 02	31 May 02	University of Buffalo, North Campus	Buffalo, NY	-	35	-
01 Mar 02	15 Jun 02	Page School	San Mateo, CA	-	140	-
02 Mar 02	02 Mar 02	Arizona State University	Tempe, AZ	-	400	-
02 Mar 02	02 Mar 02	Ballard Firehouse	Seattle, WA	-	170	-
02 Mar 02	02 Mar 02	Georgia Southern University	Statesboro, GA	-	12	-
02 Mar 02	03 Mar 02	Arizona Science Center	Phoenix, AZ	-	75	-
02 Mar 02	23 Mar 02	American Museum of Natural History	New York, NY	-	29	-
03 Mar 02	03 Mar 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
03 Mar 02	03 Mar 02	Southwest Christian Academy	Fort Worth, TX	-	100	-
04 Mar 02	04 Mar 02	Bitterroot Elementary School	Billings, MT	-	130	-
04 Mar 02	04 Mar 02	Fairfield/Sapphire Valley Community Center	Cashiers, NC	-	28	-
04 Mar 02	04 Mar 02	Thompson Elementary School	San Bernardino, CA	-	560	-
05 Mar 02	05 Mar 02	Christ United Methodist Church	Lancaster, PA	-	16	-
05 Mar 02	05 Mar 02	Mars Desert Research Station	Hanksville, UT	-	5	-
05 Mar 02	05 Mar 02	Southwest Middle School	Searcy, AR	-	150	-
06 Mar 02	06 Mar 02	Harding University	Searcy, AR	-	16	-
06 Mar 02	06 Mar 02	Hobby Exchange Club	Houston, TX	-	16	-
06 Mar 02	06 Mar 02	Hot Springs High School	Hot Springs, SD	-	82	-
06 Mar 02	06 Mar 02	Lockwood Park Observatory	Rockford, IL	-	45	-
06 Mar 02	06 Mar 02	M.A.R.S. Club Newsletter	Tampa, FL	-	110	-
06 Mar 02	06 Mar 02	Santa Rita Elementary School	Midland, TX	-	31	-
06 Mar 02	06 Mar 02	Spring Creek Chronicle	Spring Creek, NV	-	4,000	-
06 Mar 02	06 Mar 02	Stargate Middle School	Thornton, CO	-	39	-
06 Mar 02	06 Mar 02	The DeKalb Neighbor	Tucker, GA	-	665,000	-
06 Mar 02	07 Mar 02	Youngblood Intermediate School	Houston, TX	-	480	-
07 Mar 02	07 Mar 02	Comanche Elementary School	Albuquerque, NM	-	25	-
07 Mar 02	07 Mar 02	Courage to Change	Exeter, CA	-	24	-
07 Mar 02	07 Mar 02	Lake Valley Elementary School	Prescott Valley, AZ	-	250	-
07 Mar 02	07 Mar 02	Rotary Club	Visalia, CA	-	108	-
07 Mar 02	07 Mar 02	Shaker Heights High School	Shaker Heights, OH	-	150	-
07 Mar 02	07 Mar 02	St. Mary's Academy	Portland, OR	-	56	-
07 Mar 02	08 Mar 02	Youngblood Intermediate School	Houston, TX	-	480	-
08 Mar 02	08 Mar 02	Clay Elementary School	Ephrata, PA	-	35	-
08 Mar 02	08 Mar 02	Ehprata School District	Ephrata, PA	-	33	-
08 Mar 02	08 Mar 02	Elks Club Building	Lancaster, PA	-	40	-
08 Mar 02	08 Mar 02	Green Valley Montessori School	Pembroke, NH	-	24	-
08 Mar 02	08 Mar 02	Green Valley Montessori School	Pembroke, NH	-	59	-
08 Mar 02	08 Mar 02	Hawthorne Elementary School	Beverly Hills, CA	-	30	-
08 Mar 02	08 Mar 02	Jefferson School	Charleston, IL	-	24	-
08 Mar 02	08 Mar 02	Orange Coast College	Costa Mesa, CA	-	22	-
08 Mar 02	08 Mar 02	Orange Coast College	Costa Mesa, CA	-	800	-
08 Mar 02	08 Mar 02	Orange Coast College	Costa Mesa, CA	-	22	-
08 Mar 02	08 Mar 02	Orange Coast College	Costa Mesa, CA	-	27	-
08 Mar 02	08 Mar 02	Orange Coast College	Costa Mesa, CA	-	10	-
08 Mar 02	08 Mar 02	Vero Beach Press Journal	Vero Beach, FL	-	40,000	-
09 Mar 02	09 Mar 02	Museum of Science and History	Jacksonville, FL	-	150	-

09 Mar 02	09 Mar 02	University of Puerto Rico	San Juan, PR	-	89	-
10 Mar 02	10 Mar 02	George Mason University	Fairfax, VA	-	60	-
10 Mar 02	10 Mar 02	James Madison School of Excellence Middle School	Rochester, NY	-	50	-
11 Mar 02	11 Mar 02	Hawthorne Elementary School	Beverly Hills, CA	-	30	-
11 Mar 02	11 Mar 02	Warren Hills Middle School	Washington, NJ	-	300	-
11 Mar 02	29 Mar 02	Mark Smith Planetarium	Macon, GA	-	387	-
12 Mar 02	12 Mar 02	Fort Davis State Park	Fort Davis, TX	-	12	-
12 Mar 02	12 Mar 02	Mark Sylvester Planetarium	Plymouth, NH	-	10	-
12 Mar 02	12 Mar 02	North Landing Elementary School	Virginia Beach, VA	-	500	-
12 Mar 02	12 Mar 02	Southwest Missouri State University	Springfield, MO	-	130	-
12 Mar 02	13 Mar 02	Ysleta Middle School	El Paso, TX	-	582	-
12 Mar 02	09 Apr 02	American Museum of Natural History	New York, NY	-	28	-
13 Mar 02	13 Mar 02	Hanford Breakfast Lions Club	Hanford, CA	-	22	-
13 Mar 02	13 Mar 02	Hobby Exchange Club	Houston, TX	-	25	-
13 Mar 02	13 Mar 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
13 Mar 02	13 Mar 02	Optimist Club	Sheboygan, WI	-	20	-
13 Mar 02	13 Mar 02	Spring Branch School of Choice	Houston, TX	-	48	-
14 Mar 02	14 Mar 02	Brownsville Public Library	Brownsville, TX	-	68	-
14 Mar 02	14 Mar 02	Cincinnati Observatory Center	Cincinnati, OH	-	15	-
14 Mar 02	14 Mar 02	Vance-Granville Community College	Creedmoor, NC	-	55	-
15 Mar 02	15 Mar 02	Fort Wayne Planetarium	Fort Wayne, IN	-	365	-
15 Mar 02	15 Mar 02	High Desert Museum	Bend, OR	-	110	-
15 Mar 02	15 Mar 02	Kenny Lake School	Copper Center, AK	-	50	-
15 Mar 02	15 Mar 02	Kopernik Space Education Center	Vestal, NY	-	6	-
15 Mar 02	15 Mar 02	Little Thompson Observatory	Berthoud, CO	-	50	-
15 Mar 02	15 Mar 02	Milledgeville Country Club	Milledgeville, GA	-	31	-
15 Mar 02	15 Mar 02	Oak Hill Middle School	Milledgeville, GA	-	81	-
15 Mar 02	15 Mar 02	Rainwater Observatory and Planetarium	French Camp, MS	-	70	-
15 Mar 02	15 Mar 02	Tulare Astronomical Association	Tulare, CA	-	29	-
16 Mar 02	16 Mar 02	Constellation Aerospace Newsletter	Huntsville, AL	-	751	-
16 Mar 02	17 Mar 02	Medina High School	Medina, OH	-	49	-
17 Mar 02	17 Mar 02	Haggart Astronomical Observatory	Oregon City, OR	-	20	-
17 Mar 02	17 Mar 02	Luis Munos Rivera High School	Lajas, PR	-	61	-
18 Mar 02	18 Mar 02	Fairfield/Sapphire Valley Community Center	Cashiers ,NC	-	28	-
18 Mar 02	18 Mar 02	Franklin Elementary School	Littleton, CO	-	300	-
18 Mar 02	18 Mar 02	Glendale Public Library	Glendale, AZ	-	65	-
19 Mar 02	19 Mar 02	Alfred Noble Public Library	Livonia, MI	-	17	-
19 Mar 02	19 Mar 02	Central Manor Elementary School	Manor Township, PA	-	30	-
19 Mar 02	19 Mar 02	Estevan Rosado Baez Junior High School	Mayagüez, PR	-	25	-
19 Mar 02	19 Mar 02	Haggart Astronomical Observatory	Oregon City, OR	-	20	-
19 Mar 02	19 Mar 02	Henderson State University	Arkadelphia, AR	-	3	-
19 Mar 02	19 Mar 02	South Lake Middle School	Irvine, CA	-	70	-
19 Mar 02	19 Mar 02	Spokane Daybreak Rotary Club	Spokane, WA	-	18	-
19 Mar 02	19 Mar 02	The Custer County Juvenile Correctional Facility	Custer, SD	-	60	-
19 Mar 02	19 Mar 02	Unitarian Universalist Congregation	Naples, FL	-	36	-
20 Mar 02	20 Mar 02	Florida Gulf Coast University	Fort Myers, FL	-	550	-
20 Mar 02	20 Mar 02	KSER Radio	Lynnwood, WA	-	14,000	-
20 Mar 02	20 Mar 02	NASA Ames Research Center	Moffett Field, CA	-	6	-
20 Mar 02	20 Mar 02	NASA Stennis Space Center	Stennis Space Center, MS	-	200	-
20 Mar 02	20 Mar 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
20 Mar 02	20 Mar 02	Rotary Club	Alvin, TX	-	52	-
20 Mar 02	20 Mar 02	Spring Creek Chronicle	Spring Creek, NV	-	4,000	-
20 Mar 02	20 Mar 02	The Retired Officers Association	Yuma, AZ	-	40	-
21 Mar 02	21 Mar 02	Ah-Tah-Thi-Ki Museum	Clewiston, FL	-	28	-
21 Mar 02	21 Mar 02	Astroclub/New York Hall of Science	New York, NY	-	31	-

21 Mar 02	21 Mar 02	Brownsville Park	Brownsville, TX	-	20	-
21 Mar 02	21 Mar 02	Chabot Space and Science Center	Oakland, CA	-	16	-
21 Mar 02	21 Mar 02	Horseless Carriage Club of America	Visalia, CA	-	23	-
21 Mar 02	21 Mar 02	Luis Munoz Marin High School	Yauco, PR	-	75	-
21 Mar 02	21 Mar 02	McKinley Elementary School	Owatonna, MN	-	500	-
21 Mar 02	21 Mar 02	Mount Vernon Senior Center	Mount Vernon, WA	-	18	-
21 Mar 02	21 Mar 02	Rotary Club	Pearland, TX	-	75	-
22 Mar 02	22 Mar 02	Ballard Firehouse	Seattle, WA	-	40	-
22 Mar 02	22 Mar 02	Eagle River Nature Center	Eagle River, AK	-	62	-
22 Mar 02	22 Mar 02	Gateway Elementary School	Fort Myers, FL	-	230	-
22 Mar 02	22 Mar 02	Lakeside Farms Elementary School	Lakeside, CA	-	75	-
22 Mar 02	22 Mar 02	Ward Beecher Planetarium	Youngstown, OH	-	100	-
22 Mar 02	22 Mar 02	Westview Middle School	Longmont, CO	-	122	-
23 Mar 02	23 Mar 02	Church of Jesus Christ of Latter Day Saints	Fayetteville, NY	-	60	-
23 Mar 02	23 Mar 02	Montana State University at Billings	Billings, MT	-	2,000	-
23 Mar 02	23 Mar 02	New Moon Public Star Party	Longmont, CO	-	17	-
23 Mar 02	24 Mar 02	Bishop Museum	Honolulu, HI	-	47	-
24 Mar 02	24 Mar 02	Trenton State Museum	Trenton, NJ	-	60	-
25 Mar 02	25 Mar 02	Christ the King School	Topeka, KS	-	52	-
25 Mar 02	25 Mar 02	Fort Wayne Planetarium	Fort Wayne, IN	-	365	-
25 Mar 02	25 Mar 02	Holmes Community College	Grenada, MS	-	90	-
25 Mar 02	27 Mar 02	West Liberty College	West Liberty, WV	-	10,040	-
26 Mar 02	26 Mar 02	California State University, Los Angeles	Los Angeles, CA	-	25	-
26 Mar 02	26 Mar 02	St. Patrick's Church	McEwen, TN	-	18	-
27 Mar 02	27 Mar 02	Mojave River Museum	Barstow, CA	-	40	-
27 Mar 02	27 Mar 02	Mojave River Museum	Barstow, CA	-	115	-
27 Mar 02	27 Mar 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
27 Mar 02	27 Mar 02	San Diego State University	San Diego, CA	-	50	-
27 Mar 02	27 Mar 02	Wilderness Center Astronomy Club	Wilmot, OH	-	17	-
28 Mar 02	28 Mar 02	East Indianola Elementary School	Topeka, KS	-	37	-
28 Mar 02	28 Mar 02	Meridian College	Meridian, MS	-	250	-
28 Mar 02	28 Mar 02	Riverwood Middle School	Kingwood, TX	-	539	-
28 Mar 02	04 Apr 02	Middletown Times Star Newspaper	Middletown, CA	-	2,000	-
29 Mar 02	29 Mar 02	Blackhawk Community Center	Hoffman Estates, IL	-	80	-
29 Mar 02	29 Mar 02	Rotary Club	Broomall, PA	-	24	-
29 Mar 02	29 Mar 02	Wilderness Center Astronomy Club	Wilmot, OH	-	7	-
01 Apr 02	01 Apr 02	Fairfield/Sapphire Valley Community Center	Cashiers, NC	-	60	-
01 Apr 02	01 Apr 02	Glendale Public Library	Glendale, AZ	-	75	-
01 Apr 02	01 Apr 02	Greeley Homeschoolers Newsletter	Greeley, CO	-	100	-
01 Apr 02	01 Apr 02	Motorola, Inc.	Schaumburg, IL	-	20	-
01 Apr 02	05 Apr 02	McKee Intermediate School	Bakersfield, CA	-	622	-
01 Apr 02	30 Apr 02	Eric County Library	Erie, PA	-	55	-
01 Apr 02	30 Apr 02	The Tucker Times	Tucker, GA	-	17,500	-
01 Apr 02	05 May 02	Junction School	Livermore, CA	-	40	-
01 Apr 02	11 May 02	White Cliff Elementary School	Ketchikan, AK	-	180	-
01 Apr 02	28 May 02	Independence School District	Independence, MO	-	40	-
01 Apr 02	16 Sep 02	Wesley Woods Camp	Townsend, TN	-	150	-
02 Apr 02	02 Apr 02	Casper Planetarium	Casper, WY	-	63	-
02 Apr 02	02 Apr 02	Grafton Middle School	Grafton, MA	-	125	-
02 Apr 02	02 Apr 02	Little Thompson Observatory	Berthoud, CO	-	10	-
02 Apr 02	02 Apr 02	Owatonna Public Library	Owatonna, MN	-	23	-
02 Apr 02	10 Apr 02	Casper Planetarium	Casper, WY	-	924	-
02 Apr 02	30 Sep 02	Big South Fork National River	Oneida, TN	-	500	-
03 Apr 02	03 Apr 02	Girl Scouts Space Day Camp	Spokane, WA	-	12	-
03 Apr 02	03 Apr 02	Medford Planetarium	Medford, OR	-	80	-
03 Apr 02	03 Apr 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
04 Apr 02	04 Apr 02	Astroclub/New York Hall of Science	New York, NY	-	35	-

04 Apr 02	04 Apr 02	Buena Vista University	Storm Lake, IA	-	214	-
04 Apr 02	04 Apr 02	Buena Vista University	Storm Lake, IA	-	380	-
04 Apr 02	04 Apr 02	Medtronics	Tempe, AZ	-	120	-
04 Apr 02	04 Apr 02	NASA Ames Research Center	Moffett Field, CA	-	30	-
04 Apr 02	04 Apr 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
04 Apr 02	04 Apr 02	Reuben H. Fleet Science Center	San Diego, CA	-	50	-
04 Apr 02	04 Apr 02	Valley Forward Earth Fest Day, 2002	Phoenix, AZ	-	5,000	-
04 Apr 02	04 Apr 02	White Cliff Elementary School	Ketchikan, AK	-	400	-
05 Apr 02	05 Apr 02	Ancient City Astronomy Club	St. Augustine, FL	-	28	-
05 Apr 02	05 Apr 02	Gateway Elementary School	Fort Myers, FL	-	320	-
05 Apr 02	05 Apr 02	South Dakota Space Grant Consortium	Rapid City, SD	-	1,000	-
05 Apr 02	05 Apr 02	Spokane Astronomical Society	Spokane, WA	-	67	-
05 Apr 02	05 Apr 02	Spring Creek Chronicle	Spring Creek, NV	-	4,000	-
05 Apr 02	05 Apr 02	Tecumseh North Elementary School	Topeka, KS	-	39	-
05 Apr 02	05 Apr 02	The Bison	Searcy, AR	-	6,000	-
05 Apr 02	05 Apr 02	University of New Orleans	New Orleans, LA	-	72	-
05 Apr 02	05 Apr 02	Visalia Lions Club	Visalia, CA	-	58	-
05 Apr 02	05 Apr 02	Washington Elementary School	Owatonna, MN	-	26	-
06 Apr 02	06 Apr 02	Georgia Southern University	Statesboro, GA	-	250	-
06 Apr 02	06 Apr 02	Vero Beach Press Journal	Vero Beach, FL	-	40,000	-
06 Apr 02	06 Apr 02	Warwick School Department	Warwick, RI	-	25	-
07 Apr 02	11 Apr 02	NASA Ames Research Center	Moffett Field, CA	-	800	-
08 Apr 02	08 Apr 02	Hope Lutheran School	Glendora, CA	-	90	-
08 Apr 02	14 Apr 02	Kenosha Public Museum	Kenosha, WI	-	2,600	-
08 Apr 02	14 Apr 02	Princeton Community Television, Channel 30	Princeton, NJ	-	600	-
09 Apr 02	09 Apr 02	Dona Ana Elementary School	Dona Ana, NM	-	130	-
09 Apr 02	09 Apr 02	Greenbriar	Lakewood, NJ	-	50	-
09 Apr 02	09 Apr 02	Mark Sylvester Planetarium	Plymouth, NH	-	8	-
09 Apr 02	09 Apr 02	Massanutten Regional Library	Harrisonburg, VA	-	60	-
09 Apr 02	09 Apr 02	Thatcher Montessori School	Canton, MA	-	24	-
09 Apr 02	09 Apr 02	Tomasita Elementary School	Albuquerque, NM	-	10	-
09 Apr 02	05 May 02	Trailblazer Elementary School	Colorado Springs, CO	-	500	-
10 Apr 02	10 Apr 02	Best Western Conference Center	Mount Vernon, WA	-	41	-
10 Apr 02	10 Apr 02	Brett Harte Elementary School	Long Beach, CA	-	175	-
10 Apr 02	10 Apr 02	Isabel Suarez Junior High School	Anasco, PR	-	48	-
10 Apr 02	10 Apr 02	J.F. Kennedy Library	Piscataway, NJ	-	35	-
10 Apr 02	10 Apr 02	Manatee County Public Library	Bradenton, FL	-	33	-
10 Apr 02	10 Apr 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
10 Apr 02	10 Apr 02	Southwest Missouri State University	Springfield, MO	-	20	-
11 Apr 02	11 Apr 02	Abraham Lincoln High School	Council Bluffs, IA	-	100	-
11 Apr 02	11 Apr 02	Ana M. Javaris Elementary School	Aguadilla, PR	-	110	-
11 Apr 02	11 Apr 02	Brownsville Public Library	Brownsville, TX	-	74	-
11 Apr 02	11 Apr 02	Marietta Lions Club	Marietta, PA	-	18	-
11 Apr 02	11 Apr 02	Moreland Ridge Middle School	Blue Springs, MO	-	150	-
11 Apr 02	11 Apr 02	Tulare County Exchange Club 7:00am	Visalia, CA	-	24	-
11 Apr 02	11 Apr 02	Ysleta Middle School	El Paso, TX	-	450	-
12 Apr 02	12 Apr 02	Children's Science Center	Rapid City, SD	-	26	-
12 Apr 02	12 Apr 02	Copperwood Elementary School	Glendale, AZ	-	230	-
12 Apr 02	12 Apr 02	Council Public Library	Council, ID	-	20	-
12 Apr 02	12 Apr 02	Edison Community College	Fort Myers, FL	-	24	-
12 Apr 02	12 Apr 02	Museum of Arts and Sciences	Macon, GA	-	158	-
12 Apr 02	12 Apr 02	NASA Ames Research Center	Moffett Field, CA	-	1	-
13 Apr 02	02 Apr 02	North Hills Junior High School	Pittsburgh, PA	-	30	-
13 Apr 02	13 Apr 02	Arizona State University	Tempe, AZ	-	75	-
13 Apr 02	13 Apr 02	Fernbank Science Center	Atlanta, GA	-	100	-
13 Apr 02	13 Apr 02	Freeport McMoRan Observatory and Planetarium	Kenner, LA	-	60	-

13 Apr 02	13 Apr 02	Northampton Park	Ogden, NY	-	6	-
13 Apr 02	13 Apr 02	Ukiah Valley Medical Center	Ukiah, CA	-	37	-
13 Apr 02	14 Apr 02	Carnegie Science Center	Pittsburgh, PA	-	500	-
15 Apr 02	15 Apr 02	Black Hills Astronomical Society	Rapid City, SD	-	17	-
15 Apr 02	16 Apr 02	University of California, Santa Barbara	Santa Barbara, CA	-	50	-
15 Apr 02	21 Apr 02	Princeton Community Television, Channel 30	Princeton, NJ	-	600	-
16 Apr 02	16 Apr 02	Lane Education Service District	Eugene, OR	-	12	-
16 Apr 02	16 Apr 02	Optimists Club	Visalia, CA	-	16	-
16 Apr 02	16 Apr 02	Oxford Middle School	Shawnee, KS	-	112	-
16 Apr 02	21 May 02	Iola Middle School	Iola, KS	-	20	-
17 Apr 02	17 Apr 02	Children's Museum of Maine	Portland, ME	-	45	-
17 Apr 02	17 Apr 02	Environmental Studies Center	Mobile, AL	-	35	-
17 Apr 02	17 Apr 02	Fairfield High School	Fairfield, CT	-	425	-
17 Apr 02	17 Apr 02	Heights Exchange Club	Houston, TX	-	30	-
17 Apr 02	17 Apr 02	North Medford High School	Medford, OR	-	57	-
17 Apr 02	17 Apr 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
17 Apr 02	18 Apr 02	Worland Middle School	Worland, WY	-	350	-
18 Apr 02	18 Apr 02	Brownsville Park	Brownsville, TX	-	24	-
18 Apr 02	18 Apr 02	Holy Infancy School	Bethlehem, PA	-	25	-
18 Apr 02	18 Apr 02	Lake Magdalene Elementary School	Tampa, FL	-	200	-
18 Apr 02	18 Apr 02	Rosehills Recreational Center	Los Angeles, CA	-	70	-
18 Apr 02	18 Apr 02	Willow Street United Church of Christ	Willow Street, PA	-	60	-
18 Apr 02	18 Apr 02	Woodlake Rotary Club	Woodlake, CA	-	37	-
18 Apr 02	18 Apr 02	Coquina crossing Clubhouse	Elkton, FL	-	35	-
19 Apr 02	19 Apr 02	Albany Visitors Center and Planetarium	Albany, NY	-	5	-
19 Apr 02	19 Apr 02	Chester Elementary School	Spokane, WA	-	230	-
19 Apr 02	19 Apr 02	Cortez Middle School	Cortez, CO	-	80	-
19 Apr 02	19 Apr 02	First Baptist Church	Odessa, FL	-	50	-
19 Apr 02	19 Apr 02	Georgia Southern University	Statesboro, GA	-	110	-
19 Apr 02	19 Apr 02	Girl Scout Senior Troop 258	Barnegat, NJ	-	20	-
19 Apr 02	19 Apr 02	Kalamazoo Aviation History Museum	Portage, MI	-	40	-
19 Apr 02	19 Apr 02	Little Thompson Observatory	Berthoud, CO	-	20	-
19 Apr 02	19 Apr 02	Madison Avenue Elementary School	Madison, MS	-	180	-
19 Apr 02	19 Apr 02	Retired Officers' Association (MACTROA)	Milledgeville, GA	-	63	-
19 Apr 02	19 Apr 02	Shaker Heights High School	Shaker Heights, OH	-	52	-
19 Apr 02	19 Apr 02	Woods Learning Center	Casper, WY	-	35	-
20 Apr 02	20 Apr 02	Bays Mountain Park and Planetarium	Kingsport, TN	-	200	-
20 Apr 02	20 Apr 02	California Academy of Science	San Francisco, CA	-	550	-
20 Apr 02	20 Apr 02	Calusa Nature Center and Planetarium	Fort Myers, FL	-	22	-
20 Apr 02	20 Apr 02	Chartiers-Houston Community Library	Houston, PA	-	25	-
20 Apr 02	20 Apr 02	Cortez Public Library	Cortez, CO	-	3	-
20 Apr 02	20 Apr 02	Evelyn L. Egan Observatory	Fort Myers, FL	-	150	-
20 Apr 02	20 Apr 02	Fernbank Science Center	Atlanta, GA	-	100	-
20 Apr 02	20 Apr 02	Geneseo Airport	Geneseo, NY	-	70	-
20 Apr 02	20 Apr 02	Grand Vue Park	Moundsville, WV	-	80	-
20 Apr 02	20 Apr 02	Guemes Island Community Center	Anacortes, WA	-	43	-
20 Apr 02	20 Apr 02	Harper College	Palatine, IL	-	110	-
20 Apr 02	20 Apr 02	Lawrence County Courthouse	Bedford, IN	-	250	-
20 Apr 02	20 Apr 02	Museum of Science and History	Jacksonville, FL	-	300	-
20 Apr 02	20 Apr 02	Museum of Science and Industry	Tampa, FL	-	148	-
20 Apr 02	20 Apr 02	Museum of Science and Industry	Tampa, FL	-	900	-
20 Apr 02	20 Apr 02	North Eugene High School	Eugene, OR	-	970	-
20 Apr 02	20 Apr 02	North High School	Denver, CO	-	2,000	-
20 Apr 02	20 Apr 02	Triton College Cernan Space Center	River Grove, IA	-	5	-
20 Apr 02	20 Apr 02	Twin Peaks Mall	Longmont, CO	-	1,000	-
20 Apr 02	20 Apr 02	Virginia Beach Central Library	Virginia Beach, VA	-	250	-
20 Apr 02	21 Apr 02	The New Detroit Science Center	Detroit, MI	-	3,200	-

21 Apr 02	21 Apr 02	Immanuel Baptist Church	Independence, MO	-	75	-
21 Apr 02	21 Apr 02	Peninsula Shopping Center	Rancho Palos Verdes, CA	-	100	-
22 Apr 02	22 Apr 02	Sheila Tarr Elementary School	Las Vegas, NV	-	240	-
22 Apr 02	22 Apr 02	Wellsburg Primary School	Wellsburg, WV	-	120	-
23 Apr 02	23 Apr 02	Egypt Lake Elementary School	Tampa, FL	-	120	-
23 Apr 02	23 Apr 02	Senior Health Foundation	Omaha, NE	-	30	-
23 Apr 02	23 Apr 02	Senior Health Foundation	Omaha, NE	-	45	-
23 Apr 02	23 Apr 02	The Boeing Company	Everett, WA	-	400	-
23 Apr 02	23 Apr 02	University of Nevada, Las Vegas	Las Vegas, NV	-	30	-
23 Apr 02	23 Apr 02	WFUV 90.7 FM	New York, NY	-	100,000	-
24 Apr 02	24 Apr 02	Black Hawk Elementary School	Black Hawk, SD	-	26	-
24 Apr 02	24 Apr 02	Maple Grove Middle School	Battle Ground, WA	-	43	-
24 Apr 02	24 Apr 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-
24 Apr 02	24 Apr 02	Rensselaer Polytechnic Institute	Troy, NY	-	260	-
24 Apr 02	29 May 02	Stark School	Stamford, CT	-	10	-
25 Apr 02	25 Apr 02	32nd Street Naval Base	San Diego, CA	-	39	-
25 Apr 02	25 Apr 02	Ballard Firehouse	Seattle, WA	-	40	-
25 Apr 02	25 Apr 02	Buena Park High School	Buena Park, CA	-	70	-
25 Apr 02	25 Apr 02	Don Bonjour Elementary School	Lenexa, KS	-	61	-
25 Apr 02	25 Apr 02	Glenville State College	Glenville, WV	-	23	-
25 Apr 02	25 Apr 02	Keswick Pines	Whiting, NJ	-	20	-
25 Apr 02	25 Apr 02	Scott Computer Technology Magnet School	Topeka, KS	-	30	-
25 Apr 02	25 Apr 02	Spring Creek Chronicle	Spring Creek, NV	-	4,000	-
25 Apr 02	26 Apr 02	Mata Intermediate School	Houston, TX	-	540	-
26 Apr 02	26 Apr 02	Arkansas State University at Jonesboro	Jonesboro, AR	-	110	-
26 Apr 02	26 Apr 02	Berryville Elementary School	Berryville, AR	-	124	-
26 Apr 02	26 Apr 02	Broukal Fieldhouse	Blue Island, IL	-	11	-
26 Apr 02	26 Apr 02	Cortez Middle School	Cortez, CO	-	75	-
26 Apr 02	26 Apr 02	NASA Ames Research Center	Moffett Field, CA	-	29	-
26 Apr 02	26 Apr 02	Utah State University	Logan, UT	-	190	-
26 Apr 02	26 Apr 02	Visalia Lions Club	Visalia, CA	-	31	-
26 Apr 02	26 Apr 02	Washington Math Science Magnet School	Midland, TX	-	160	-
26 Apr 02	26 Apr 02	Washington Math Science Magnet School	Midland, TX	-	140	-
27 Apr 02	27 Apr 02	Albany Visitors Center and Planetarium	Albany, NY	-	120	-
27 Apr 02	27 Apr 02	Albany Visitors Center and Planetarium	Albany, NY	-	120	-
27 Apr 02	27 Apr 02	Denver National Western Stock Show Complex	Denver, CO	-	1,000	-
27 Apr 02	27 Apr 02	Georgia College & State University	Milledgeville, GA	-	5	-
27 Apr 02	27 Apr 02	IMAX Theatre at Arizona Mills	Tempe, AZ	-	220	-
27 Apr 02	27 Apr 02	Impresson 5 Science Center	Lansing, MI	-	100	-
27 Apr 02	27 Apr 02	St. Joseph's Parochial School	Herndon, VA	-	80	-
27 Apr 02	27 Apr 02	Wilderness Center Astronomy Club	Wilmot, OH	-	8	-
27 Apr 02	18 May 02	American Museum of Natural History	New York, NY	-	29	-
28 Apr 02	28 Apr 02	Arkansas Democrat Gazette Three Rivers Edition	Searcy, AR	-	250,000	-
28 Apr 02	28 Apr 02	Buena Park High School	Buena Park, CA	-	60	-
28 Apr 02	28 Apr 02	Hudson River Museum	Yonkers, NY	-	50	-
28 Apr 02	28 Apr 02	Woodinville Library	Woodinville, WA	-	20	-
29 Apr 02	29 Apr 02	Atholton Elementary School	Columbia, MD	-	90	-
29 Apr 02	29 Apr 02	San Diego State University	San Diego, CA	-	19	-
29 Apr 02	29 Apr 02	Vance-Granville Community College	Creedmoor, NC	-	14	-
29 Apr 02	03 May 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	825	-
29 Apr 02	17 May 02	New York Hall of Science/Astronomy Kids Club	New York, NY	-	140	-
30 Apr 02	30 Apr 02	Girl Scout Council of Middle Mississippi	Jackson, MS	-	70	-
30 Apr 02	30 Apr 02	Los Altos High School	Los Altos, CA	-	40	-
30 Apr 02	30 Apr 02	Visalia Kiwanis Club	Visalia, CA	-	62	-
01 May 02	01 May 02	Kiwanis Club	Virginia Beach, VA	-	28	-
01 May 02	01 May 02	Michigan State University	East Lansing, MI	-	40	-
01 May 02	01 May 02	Norwich Free Academy Television Station	Norwich, CT	-	5,000	-

01 May 02	01 May 02	Trailblazer Elementary School	Colorado Springs, CO	-	52	-
01 May 02	01 May 02	Wired Magazine	San Francisco, CA	-	500,000	-
01 May 02	07 May 02	Austin High School	El Paso, TX	-	86	-
01 May 02	30 Jun 02	American Teacher (May/June 2002)	Washington, DC	-	1,016,000	-
02 May 02	02 May 02	Arlington Independent School District	Arlington, TX	-	90	-
02 May 02	02 May 02	Bastyr University	Kenmore, WA	-	12	-
02 May 02	02 May 02	Camelot Academy	Durham, NC	-	86	-
02 May 02	02 May 02	Central Elementary School	Artesia, NM	-	40,030	-
02 May 02	02 May 02	Chabot Space and Science Center	Oakland, CA	-	70	-
02 May 02	02 May 02	Chabot Space and Science Center	Oakland, CA	-	3	-
02 May 02	02 May 02	Environmental Studies Center	Mobile, AL	-	20	-
02 May 02	02 May 02	Euclid Middle School	Littleton, CO	-	300	-
02 May 02	02 May 02	Flint Hill Elementary School	Vienna, VA	-	30	-
02 May 02	02 May 02	Mark Twain Elementary School	Littleton, CO	-	70	-
02 May 02	02 May 02	Mark Twain Elementary School	Littleton, CO	-	72	-
02 May 02	02 May 02	Maureen Joy Charter School	Durham, NC	-	176	-
02 May 02	02 May 02	Museum of Flight	Seattle, WA	-	9	-
02 May 02	02 May 02	National Atomic Museum	Albuquerque, NM	-	200	-
02 May 02	02 May 02	Pioneer Elementary School	Parker, CO	-	600	-
02 May 02	02 May 02	Sheila Tarr Elementary School	Las Vegas, NV	-	180	-
02 May 02	02 May 02	Title V Outreach Center	Loving, NM	-	40,030	-
02 May 02	02 May 02	Virgil Grissom School Number 7	Rochester, NY	-	150	-
02 May 02	03 May 02	North Bay Elementary School	North Bend, OR	-	260	-
03 May 02	03 May 02	Andrews Independent School District	Andrews, TX	-	25	-
03 May 02	03 May 02	College of the Sequoias	Visalia, CA	-	27	-
03 May 02	03 May 02	Governor's Mansion	Jefferson City, MO	-	50	-
03 May 02	03 May 02	Pennsylvania State University	University Park, PA	-	500	-
03 May 02	03 May 02	St. Augustine High School	St. Augustine, FL	-	19	-
03 May 02	03 May 02	The Northeast Academy	Los Angeles, CA	-	30	-
03 May 02	03 May 02	Windom Open School	Minneapolis, MN	-	58	-
04 May 02	04 May 02	Boonshoft Museum of Discovery	Dayton, OH	-	50	-
04 May 02	04 May 02	Howard County Public Library	Ellicott City, MD	-	5	-
04 May 02	04 May 02	New Jersey State Museum	Trenton, NJ	-	525	-
04 May 02	04 May 02	Sky Meadows State Park	Delaplane/Paris, VA	-	6	-
04 May 02	05 May 02	Arizona Science Center	Phoenix, AZ	-	25	-
04 May 02	05 May 02	Pacific Science Center	Seattle, WA	-	100	-
04 May 02	05 May 02	Pacific Science Center	Seattle, WA	-	133	-
05 May 02	05 May 02	Edgewood Men's Detention Center	Milpitas, CA	-	56	-
05 May 02	05 May 02	Fort Wayne Planetarium	Fort Wayne, IN	-	365	-
05 May 02	05 May 02	New Jersey State Museum	Trenton, NJ	-	105	
05 May 02	05 May 02	New Jersey State Museum	Trenton, NJ	-	15	-
05 May 02	05 May 02	Vero Beach Press Journal	Vero Beach, FL	-	40,000	-
05 May 02	24 May 02	Golden Valley Middle School	San Bernardino, CA	-	250	-
06 May 02	06 May 02	Killeen Public Library	Killeen, TX	-	5	-
06 May 02	06 May 02	Williamson County Public Library	Franklin, TN	-	25	-
06 May 02	12 May 02	Princeton Community Television, Channel 30	Princeton, NJ	-	600	-
07 May 02	07 May 02	Abington High School	Abington, PA	-	40	-
07 May 02	07 May 02	Mount Joy Rotary Club	Mount Joy, PA	-	25	-
07 May 02	07 May 02	North Medford High School	Medford, OR	-	90	-
07 May 02	07 May 02	SUNY Plattsburgh Hudson 106 Lecture Hall	Plattsburgh, NY	-	45	-
07 May 02	07 May 02	The International School of Minnesota	Eden Prairie, MN	-	20	-
07 May 02	24 May 02	Casper Planetarium	Casper, WY	-	337	-
08 May 02	08 May 02	Community Day School	Santa Ana, CA	-	30	-
08 May 02	08 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	84	-
08 May 02	09 May 02	Northrop High School	Fort Wayne, IN	-	92	-
09 May 02	09 May 02	Brownsville Public Library	Brownsville, TX	-	67	-
09 May 02	09 May 02	SUNY Plattsburgh Hudson 106 Lecture Hall	Plattsburgh, NY	-	45	-

10 May 02	10 May 02	Ayersville High School	Defiance, OH	-	210	-
10 May 02	10 May 02	Ryerson Nature Center	Deerfield, IL0	-	40	-
10 May 02	10 May 02	University of Rochester	Rochester, NY	-	85,200	-
10 May 02	10 May 02	Westview Junior High School	Longmont, CO	-	112	-
11 May 02	11 May 02	Cape Henlopen State Park	Lewes, DE	-	120	-
11 May 02	11 May 02	Gateway Elementary School	Borger, TX	-	50	-
11 May 02	11 May 02	Southwest Missouri State University	Springfield, MO	-	400	-
11 May 02	11 May 02	Wal-Mart	Medford, OR	-	240	-
13 May 02	13 May 02	Glendale Public Library	Glendale, AZ	-	110	-
13 May 02	13 May 02	Newmann High School	Wausau, WI	-	24	-
13 May 02	13 May 02	Parkwood Library (Durham County)	Durham, NC	-	30	-
13 May 02	13 May 02	Saginaw Valley State University	Chesterfield Township, MI	-	12	-
13 May 02	13 May 02	Sowers Middle School	Huntington Beach, CA	-	200	-
13 May 02	13 May 02	View Acres Elementary School	Milwaukie, OR	-	30	-
13 May 02	06 Jun 02	Goleta Valley Junior High School	Goleta, CA	-	62	-
14 May 02	14 May 02	Comanche Elementary School	Albuquerque, NM	-	75	-
14 May 02	14 May 02	Public School 360 Bronx	Bronx, NY	-	20	-
14 May 02	14 May 02	Tarbut V'Torah Elementary School	Irvine, CA	-	120	-
14 May 02	14 May 02	Terra Bella Lions Club	Terra Bella, CA	-	26	-
14 May 02	16 May 02	Northrop High School	Fort Wayne, IN	-	366	-
15 May 02	15 May 02	Bancroft School	Worcester, MA	-	150	-
15 May 02	15 May 02	Duke University	Durham, NC	-	25	-
15 May 02	15 May 02	Francesca's Dog Ranch	Dixon, CA	-	12	-
15 May 02	15 May 02	Reuben H. Fleet Science Center	San Diego, CA	-	80	-
15 May 02	15 May 02	Risk and Insurance Management Society	Houston, TX	-	78	-
15 May 02	15 May 02	Windom Open School	Minneapolis, MN	-	350	-
16 May 02	16 May 02	Brownsville Park	Brownsville, TX	-	15	-
16 May 02	16 May 02	Horseless Carriage Club of America	Visalia, CA	-	31	-
16 May 02	16 May 02	Maple Grove Middle School	Battle Ground, WA	-	40	-
16 May 02	16 May 02	Park Ridge Public Library	Park Ridge, IL	-	30	-
17 May 02	17 May 02	Black Hawk Elementary School	Black Hawk, SD	-	62	-
17 May 02	17 May 02	Camp Celebrate	Chapel Hill, NC	-	155	
17 May 02	17 May 02	Hugh Middle School	Long Beach, CA	-	400	-
17 May 02	17 May 02	Illusionz Entertainment Center	Issaquah, WA	-	40	-
17 May 02	17 May 02	Kohlmier Lake Park	Owatonna, MN	-	175	-
17 May 02	17 May 02	Redwing Park	Virginia Beach, VA	-	500	-
17 May 02	17 May 02	The Rotary Club of Vero Beach	Vero Beach, FL	-	50	-
17 May 02	19 May 02	Camp Celebrate	Chapel Hill, NC	-	160	-
18 May 02	18 May 02	Exploration Science Center and Children's Museum of Albuquerque	Albuquerque, NM	-	40	-
18 May 02	18 May 02	Global Awareness Society	Rapid City, SD	-	7	-
18 May 02	18 May 02	Maywood Park	Sheboygan, WI	-	20	-
18 May 02	18 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	15	-
18 May 02	18 May 02	Pasadena Town and Country School	Pasadena, CA	-	21	-
18 May 02	18 May 02	Rancho Simi Park	Simi Valley, CA	-	1,000	-
18 May 02	18 May 02	Red Rock Canyon National Conservation Area	Las Vegas, NV	-	120	-
18 May 02	18 May 02	Riverside Astronomical Society	Riverside, CA	-	83	-
18 May 02	18 May 02	Solar System Walk/Dedication of Obelisks	Gainesville, FL	-	20,200	-
19 May 02	19 May 02	Northwestern Michigan College	Traverse City, MI	-	4,000	-
20 May 02	20 May 02	Elks Lodge	Cortez, CO	-	12	-
20 May 02	20 May 02	Fort Wayne Planetarium	Fort Wayne, IN	-	365	-
20 May 02	20 May 02	Saginaw Valley State University	Chesterfield Township, MI	-	12	-
20 May 02	20 May 02	Sowers Middle School	Huntington Beach, CA	-	200	-
20 May 02	20 May 02	University of Nevada, Las Vegas	Las Vegas, NV	-	50	-
21 May 02	21 May 02	Amateur Radio (Rocky Mountain Radio League 146.940 MHz and 449.825 MHz Repeaters)	Denver, CO	-	6	-
21 May 02	21 May 02	Christian Medical Foundation	Tampa, FL	-	65	-

21 May 02	21 May 02	Orange County Department of Education	Costa Mesa, CA	-	25	-
21 May 02	21 May 02	The Golden Lamb Restaurant	Lebanon, OH	-	40	-
22 May 02	22 May 02	4-H Aerospace Forum	Farmington, MN	-	1,900	-
22 May 02	22 May 02	Albany Visitors Center and Planetarium	Albany, NY	-	79	-
22 May 02	23 May 02	Hofstra University	Hempstead, NY	-	115	-
23 May 02	23 May 02	Crawford School	Kalkaska, MI	-	28	-
23 May 02	23 May 02	NASA Ames Research Center	Moffett Field, CA	-	20	-
23 May 02	23 May 02	Presbyterian Manor	Topeka, KS	-	30	-
23 May 02	23 May 02	Riverside Park	Iola, KS	-	4,300	-
24 May 02	24 May 02	Juan de Fuca Festival	Port Angeles, WA	-	1,500	-
24 May 02	24 May 02	Northwestern Michigan College	Traverse City, MI	-	255	-
24 May 02	27 May 02	DoubleTree Hotel	San Jose, CA	-	5,400	-
24 May 02	27 May 02	Juan de Fuca Festival	Port Angeles, WA	-	120	-
25 May 02	25 May 02	California Science Center	Los Angeles, CA	-	10	-
25 May 02	25 May 02	Olympic National Park	Port Angeles,WA	-	30	-
25 May 02	25 May 02	Rice Lake State Park	Owatonna, MN	-	86	-
27 May 02	27 May 02	IAPPP Western Wing Meeting	Big Bear, CA	-	620	-
28 May 02	28 May 02	NASA Ames Research Center	Moffett Field, CA	-	12	-
28 May 02	28 May 02	Tulare Lions Club	Tulare, CA	-	27	-
28 May 02	29 May 02	Kansas Cosmosphere and Space Museum	Hutchinson, KS	-	12	-
28 May 02	11 Jun 02	Rutland Central Street School	Rutland, MA	-	150	-
29 May 02	29 May 02	Liberty Lake Elementary School	Liberty Lake, WA	-	31	-
29 May 02	29 May 02	Onamia School District	Onamia, MN	-	30	-
30 May 02	30 May 02	Archbold Biological Station	Lake Placid, FL	-	35	-
30 May 02	30 May 02	Avonworth Elementary School	Sewickley, PA	-	180	-
30 May 02	30 May 02	IHOP	Santa Ana, CA	-	15	-
30 May 02	30 May 02	Lockheed Martin	Fairfax, VA	-	120	-
30 May 02	30 May 02	Union Terrace Elementary School	Allentown, PA	-	15	-
31 May 02	31 May 02	Firestar 4-H Club	Northglenn, CO	-	30	-
31 May 02	31 May 02	KLAV Radio	Las Vegas, NV	-	3,000	-
31 May 02	31 May 02	Persell Middle School	Jamestown, NY	-	60	-
01 Jun 02	01 Jun 02	Albany Visitors Center and Planetarium	Albany, NY	-	30	-
01 Jun 02	01 Jun 02	Albany Visitors Center and Planetarium	Albany, NY	-	45	-
01 Jun 02	01 Jun 02	Albuquerque Astronomical Society	Albuquerque, NM	-	50	-
01 Jun 02	01 Jun 02	Sky Meadows State Park	Delaplane/Paris, VA	-	145	-
01 Jun 02	12 Dec 02	The Parsons Advocate	Parsons, WV	-	120	--
01 Jun 02	02 Jun 02	Sanderling Nature Center	Sheboygan, WI	-	35	-
04 Jun 02	04 Jun 02	Florida Gulf Coast University	Fort Myers, FL	-	40	-
04 Jun 02	04 Jun 02	Porterville Rotary	Porterville, CA	-	77	-
05 Jun 02	05 Jun 02	Civil Air Patrol Squad	Stockton, CA	-	36	-
05 Jun 02	05 Jun 02	Jetty Park	Cocoa Beach, FL	-	200	-
05 Jun 02	05 Jun 02	Little Thompson Observatory	Berthoud, CO	-	10	-
05 Jun 02	05 Jun 02	Orange County Transportation Authority	Orange, CA	-	25	-
05 Jun 02	04 Dec 02	Parsons Public Library	Parsons, WV	-	500	-
05 Jun 02	05 Jun 03	University of North Texas	Denton, TX	-	10,000	-
06 Jun 02	06 Jun 02	Archbold Biological Station	Lake Placid, FL	-	27	-
06 Jun 02	06 Jun 02	Four Hills Country Club	Albuquerque, NM	-	75	-
06 Jun 02	06 Jun 02	Henry County Library System	McDonough, GA	-	65	-
06 Jun 02	06 Jun 02	Ocean View Elementary School	Whittier, CA	-	31	-
06 Jun 02	06 Jun 02	Radisson Berkeley Marina Conference Center	Berkeley, CA	-	100	-
06 Jun 02	06 Jun 02	Wild Rivers Annex	Grants Pass, OR	-	177	-
06 Jun 02	06 Jun 02	Willamette Lutheran Homes	Keizer, OR	-	45	-
07 Jun 02	07 Jun 02	Keewaydin Elementary School	Minneapolis, MN	-	38	-
07 Jun 02	07 Jun 02	Whittier Elementary School for the Arts	Minneapolis, MN	-	48	-
07 Jun 02	09 Jun 02	DucKon 11 Science Fiction Convention	Schaumburg, IL	-	22	-
07 Jun 02	09 Jun 02	DucKon 11 Science Fiction Convention	Schaumburg, IL	-	18	-
07 Jun 02	09 Jun 02	Mount Laguna Observatory	Mount Laguna, CA	-	85	-

08 Jun 02	08 Jun 02	Powder Mills Park	Pittsford, NY	-	100	-
08 Jun 02	08 Jun 02	Wilderness Center Astronomy Club	Wilmot, OH	-	6	-
09 Jun 02	09 Jun 02	Searcy High School	Searcy, AR	-	25	-
09 Jun 02	12 Jun 02	Tecate Elementary School	Tecate, Mexico	-	140	-
10 Jun 02	10 Jun 02	Berkshire Trail Elementary School	Cummington, MA	-	30	-
10 Jun 02	10 Jun 02	Lake Pleasant Desert Outdoor Center	Peoria, AZ	-	800	-
10 Jun 02	10 Jun 02	North Medford High School	Medford, OR	-	300	-
10 Jun 02	10 Jun 02	University of Houston	Houston, TX	-	30	-
10 Jun 02	13 Jun 02	Grand Canyon National Park	Grand Canyon, AZ	-	2,300	-
10 Jun 02	14 Jun 02	University of Wisconsin-Marathon County	Wausau, WI	-	60	-
10 Jun 02	21 Jun 02	Chico State University	Chico, CA	-	500	-
10 Jun 02	02 Jul 02	Visalia Public Library	Visalia, CA	-	500	-
11 Jun 02	11 Jun 02	Belle Terre Library	Marrero, LA	-	56	-
11 Jun 02	11 Jun 02	Hamilton County Public Library —Madeira Branch	Cincinnati, OH	-	70	-
11 Jun 02	11 Jun 02	High Springs Branch, Alachua County Library District	High Springs, FL	-	75	-
11 Jun 02	11 Jun 02	New Mexico State University at Carlsbad	Carlsbad, NM	-	40	-
11 Jun 02	11 Jun 02	Omaha Golden Key Kiwanis Club	Omaha, NE	-	105	-
11 Jun 02	25 Jun 02	Georgia Southern University	Statesboro, GA	-	75	-
11 Jun 02	22 Jul 02	Jackson Area Libraries	Jackson, MS	-	375	-
12 Jun 02	12 Jun 02	Hamilton County Public Library —Harrison Branch	Harrison, OH	-	30	-
12 Jun 02	12 Jun 02	Paintsville Lake State Park	Staffordsville, KY	-	25	-
12 Jun 02	12 Jun 02	Westport Astronomical Society	Westport, CT	-	8	-
13 Jun 02	13 Jun 02	Boeing Astronomy Club	Seattle, WA	-	30	-
13 Jun 02	13 Jun 02	Boeing Space Systems	Huntington Beach, CA	-	20	-
13 Jun 02	13 Jun 02	Brownsville Public Library	Brownsville, TX	-	64	-
13 Jun 02	13 Jun 02	New Mexico State University at Carlsbad	Carlsbad, NM	-	40	-
13 Jun 02	13 Jun 02	Rochester Institute of Technology	Rochester, NY	-	25	-
13 Jun 02	13 Jun 02	Somerset County Library	Bridgewater, NJ	-	35	-
14 Jun 02	14 Jun 02	Kennedy Space Center Visitor Center	Kennedy Space Center, FL	-	10	-
14 Jun 02	14 Jun 02	Museum of Science and Industry	Tampa, FL	-	25	-
14 Jun 02	14 Jun 02	Rivera High School	Brownsville, TX	-	24	-
14 Jun 02	02 Sep 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	49,750	-
15 Jun 02	15 Jun 02	Battle Ground Lake State Park	Battle Ground, WA	-	36	-
15 Jun 02	15 Jun 02	Exploration Science Center and Children's Museum of Albuquerque	Albuquerque, NM	-	40	-
15 Jun 02	15 Jun 02	Maywood Park	Sheboygan, WI	-	24	-
15 Jun 02	01 Jul 02	Rancho Palos Verdes Main Library	Palos Verdes, CA	-	1,600	-
17 Jun 02	17 Jun 02	Glendale Public Library	Glendale, AZ	-	80	-
17 Jun 02	17 Jun 02	Martin Elementary School	Manchester, CT	-	45	-
17 Jun 02	20 Jun 02	Youth Workshop	Morehead, KY	-	45	-
17 Jun 02	21 Jun 02	Rivera High School	Brownsville, TX	-	200	-
17 Jun 02	21 Jun 02	Shaker Heights High School	Shaker Heights, OH	-	14	-
17 Jun 02	21 Jun 02	Spokane Falls Community College	Spokane, WA	-	3	-
18 Jun 02	18 Jun 02	Amateur Radio (Rocky Mountain Radio League 146.940 MHz and 449.825 MHz Repeaters)	Denver, CO	-	7	-
18 Jun 02	18 Jun 02	Fort Rucker	Fort Rucker, AL	-	13	-
18 Jun 02	18 Jun 02	Memorial Exchange Club	Houston, TX	-	14	-
18 Jun 02	18 Jun 02	The Boeing Company	Everett, WA	-	43	-
19 Jun 02	19 Jun 02	4-H Texas	Dallas, TX	-	120	-
19 Jun 02	19 Jun 02	Kalamazoo Valley Museum	Kalamazoo, MI	-	53	-
19 Jun 02	19 Jun 02	KSER Radio	Lynnwood, WA	-	14,000	-
19 Jun 02	19 Jun 02	Tarbut V'Torah Elementary School	Irvine, CA	-	133	-
20 Jun 02	20 Jun 02	Archbold Biological Station	Lake Placid, FL	-	35	-
20 Jun 02	20 Jun 02	Longmont Christian School	Longmont, CO	-	50	-

20 Jun 02	21 Jun 02	Spencer Park	Belvidere, IL	-	100	-
20 Jun 02	02 Sep 02	Sunriver Nature Center and Observatory	Sunriver, OR	-	5,000	-
21 Jun 02	21 Jun 02	Boeing Space Systems	Huntington Beach, CA	-	50	-
21 Jun 02	21 Jun 02	Republican Women	Tulare, CA	-	31	-
22 Jun 02	22 Jun 02	Anchorage Town Square	Anchorage, AK	-	300	-
22 Jun 02	22 Jun 02	Clarke Memorial Gym	Winchendon, MA	-	300	-
22 Jun 02	22 Jun 02	Rochester International Airport	Rochester, NY	-	20	-
22 Jun 02	22 Jun 02	Tech Museum of Innovation	San Jose, CA	-	50	-
23 Jun 02	23 Jun 02	Norwalk Elks Lodge	Norwalk, CA	-	40	-
23 Jun 02	23 Jun 02	Village Pizza	Anacortes, WA	-	27	-
24 Jun 02	24 Jun 02	4-H Aerospace Forum	Stanton Airport, MN	-	50	-
24 Jun 02	24 Jun 02	Georgia Southern University	Statesboro, GA	-	20	-
24 Jun 02	24 Jun 02	University of New Orleans at Slidell	Slidell, LA	-	27	-
24 Jun 02	24 Jun 02	West Middle School	Colorado Springs, CO	-	10	-
24 Jun 02	28 Jun 02	Washington State University	Spokane, WA	-	6	-
24 Jun 02	28 Jun 02	Washington State University	Spokane, WA	-	5	-
24 Jun 02	28 Jun 02	West Middle School	Colorado Springs, CO	-	10	-
24 Jun 02	23 Aug 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	1,500	-
25 Jun 02	25 Jun 02	Bragtown Library (Durham County)	Durham, NC	-	16	-
25 Jun 02	25 Jun 02	Mills College	Oakland, CA	-	40	-
25 Jun 02	25 Jun 02	Vero Beach Press Journal	Vero Beach, FL	-	40,000	-
26 Jun 02	26 Jun 02	Clayton County Library	Forest Park, GA	-	73	-
26 Jun 02	26 Jun 02	Kalamazoo Valley Museum	Kalamazoo, MI	-	70	-
26 Jun 02	26 Jun 02	Lajas Posada Porlamar	Lajas, PR	-	8	-
27 Jun 02	27 Jun 02	Archbold Biological Station	Lake Placid, FL	-	25	-
27 Jun 02	27 Jun 02	Division 30 Council	La Habra, CA	-	45	-
27 Jun 02	27 Jun 02	Exchange Club of 1960	Houston, TX	-	12	-
27 Jun 02	27 Jun 02	Pennsylvania State University	University Park, PA	-	24	-
27 Jun 02	27 Jun 02	Spring Lake Rotary Club	Spring Lake, NJ	-	37	-
28 Jun 02	28 Jun 02	NASA Ames Research Center	Moffett Field, CA	-	15	-
28 Jun 02	28 Jun 02	Pensacola Junior College	Pensacola, FL	-	75	-
29 Jun 02	29 Jun 02	Seward Bluffs State Park	Pecatonica, IL	-	12	-
30 Jun 02	30 Jun 02	Strategic Air and Space Museum	Ashland, NE	-	140	-
01 Jul 02	01 Jul 02	Mt. Vernon Baptist Church	Rochester, NY	-	4	-
01 Jul 02	01 Aug 02	American Museum of Natural History	New York, NY	-	28	-
02 Jul 02	02 Jul 02	Lancaster Youth Bureau	Lancaster, NY	-	25	-
02 Jul 02	02 Jul 02	Taix Restaurant	Los Angeles, CA	-	30	-
03 Jul 02	03 Jul 02	Jetty Park	Cocoa Beach, FL	-	900	-
03 Jul 02	03 Jul 02	Vero Beach Press Journal	Vero Beach, FL	-	40,000	-
03 Jul 02	19 Jul 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	6,000	-
05 Jul 02	05 Jul 02	LeConte Memorial, Yosemite National Park	Yosemite, CA	-	17	-
06 Jul 02	06 Jul 02	Rice Lake State Park	Owatonna, MN	-	30	-
07 Jul 02	07 Jul 02	Haggart Astronomical Observatory	Oregon City, OR	-	40	-
08 Jul 02	12 Jul 02	New York Hall of Science/Astronomy Kids Club	New York, NY	-	120	-
10 Jul 02	10 Jul 02	Deerfield Public Library	Deerfield, NH	-	8	-
10 Jul 02	10 Jul 02	Parsons Public Library	Parsons, WV	-	32	-
11 Jul 02	11 Jul 02	Brownsville Public Library	Brownsville, TX	-	75	-
11 Jul 02	11 Jul 02	Camp Kee Tov	Silex, MO	-	51	-
11 Jul 02	11 Jul 02	Environmental Studies Center	Mobile, AL	-	20	-
11 Jul 02	11 Jul 02	Onamia School District	Onamia, MN	-	65	-
12 Jul 02	12 Jul 02	Friendly Hills Country Club	Whittier, CA	-	35	-
12 Jul 02	12 Jul 02	Museum of Science and Industry	Tampa, FL	-	20	-
12 Jul 02	14 Jul 02	Arunah Hill Natural Science Center	Cummington, MA	-	40	-
13 Jul 02	13 Jul 02	Ice Age Nature Center	Sheboygan, WI	-	30	-
13 Jul 02	13 Jul 02	Orlando Science Center	Orlando, FL	-	203	-
13 Jul 02	13 Jul 02	Sky Meadows State Park	Delaplane/Paris, VA	-	68	-
14 Jul 02	14 Jul 02	Morning Journal	Lisbon, OH	-	13,500	-

14 Jul 02	19 Jul 02	Camp Kate	Eveleth, MN	-	1,200	-
14 Jul 02	19 Jul 02	Plymouth State College	Plymouth, NH	-	19	-
15 Jul 02	15 Jul 02	Bishop Museum	Honolulu, HI	-	20	-
15 Jul 02	15 Jul 02	Camp Onamia	Onamia, MN	-	160	-
15 Jul 02	15 Jul 02	Glendale Public Library	Glendale, AZ	-	45	-
15 Jul 02	15 Jul 02	Montana State University	Bozeman, MT	-	15	-
15 Jul 02	15 Jul 02	New Mexico State University at Carlsbad	Carlsbad, NM	-	70	-
15 Jul 02	17 Jul 02	Westin Galleria & Oaks Hotels	Houston, TX	-	14	-
15 Jul 02	19 Jul 02	Walnut Creek Motel	Des Moines, IA	-	21	-
15 Jul 02	21 Jul 02	Princeton Community Television, Channel 30	Princeton, NJ	-	600	-
16 Jul 02	16 Jul 02	Astronomy Net 146.940 MHz	Denver, CO	-	4	-
16 Jul 02	16 Jul 02	Colstrip Bicentennial Library	Colstrip, MT	-	25	-
16 Jul 02	16 Jul 02	Harding University	Searcy, AR	-	40	-
17 Jul 02	17 Jul 02	The Boeing Company	Everett, WA	-	12	-
18 Jul 02	18 Jul 02	Brownsville Park	Brownsville, TX	-	23	-
18 Jul 02	18 Jul 02	Longmont Astronomical Society	Longmont, CO	-	30	-
18 Jul 02	18 Jul 02	Rotary Club	Harrison, AR	-	63	-
18 Jul 02	18 Jul 02	Westbank Regional Library	Harvey, LA	-	12	-
18 Jul 02	19 Jul 02	Tesomas Scout Ranch	Rhinelander, WI	-	15	-
18 Jul 02	27 Jul 02	University of California, Santa Cruz	Santa Cruz, CA	-	45	-
19 Jul 02	19 Jul 02	Cincinnati Observatory Center	Cincinnati, OH	-	40	-
19 Jul 02	19 Jul 02	Pittsburg State University/Greenbush Astrophysical Observatory	Girard, KS	-	60	-
20 Jul 02	20 Jul 02	Battle Ground Lake State Park	Battle Ground, WA	-	40	-
20 Jul 02	20 Jul 02	Camp Kee Tov	Silex, MO	-	47	-
20 Jul 02	20 Jul 02	Conestoga 6	Tulsa, OK	-	25	-
20 Jul 02	20 Jul 02	Exploration Science Center and Children's Museum of Albuquerque	Albuquerque, NM	-	40	-
20 Jul 02	20 Jul 02	Kenton County Public Library	Covington, KY	-	40	-
20 Jul 02	20 Jul 02	Museum of Science and History	Jacksonville, FL	-	300	-
20 Jul 02	20 Jul 02	Spring Mill State Park	Mitchell, IN	-	700	-
20 Jul 02	22 Jul 02	Loews Philadelphia Hotel	Philadelphia, PA	-	75	-
21 Jul 02	21 Jul 02	Morning Journal	Lisbon, OH	-	13,500	-
22 Jul 02	22 Jul 02	Franklin Institute Science Museum	Philadelphia, PA	-	80	-
22 Jul 02	22 Jul 02	Jay B. Starkey State Park	Land O' Lakes, FL	-	136	-
22 Jul 02	22 Jul 02	Scottsdale Community College	Scottsdale, AZ	-	200	-
22 Jul 02	24 Jul 02	University of Alabama at Huntsville	Huntsville, AL	-	40	-
22 Jul 02	25 Jul 02	Jamestown Community College-Cattaraugus County Campus	Olean, NY	-	14	-
22 Jul 02	26 Jul 02	Jefferson High School	San Antonio, TX	-	25	-
22 Jul 02	28 Jul 02	Princeton Community Television, Channel 30	Princeton, NJ	-	500	-
23 Jul 02	23 Jul 02	Astronomy Net 146.940 MHz	Denver, CO	-	5	-
24 Jul 02	24 Jul 02	Forbush Memorial Library	Westminster, MA	-	20	-
24 Jul 02	24 Jul 02	Michigan Space Center	Jackson, MI	-	60	-
24 Jul 02	24 Jul 02	Pennsylvania State University	University Park, PA	-	22	-
24 Jul 02	24 Jul 02	Rensselaer Polytechnic Institute	Troy, NY	-	30	-
24 Jul 02	24 Jul 02	Tri Creek Service Unit, Great Valley Girl Scout Council	Macungie, PA	-	150	-
24 Jul 02	25 Jul 02	Bank Street College of Education	New York, NY	-	5	-
25 Jul 02	25 Jul 02	Camp Kee Tov	Silex, MO	-	51	-
25 Jul 02	25 Jul 02	Nichols College	Dudley, MA	-	81	-
26 Jul 02	26 Jul 02	Georgia College & State University	Milledgeville, GA	-	15	-
26 Jul 02	26 Jul 02	Grace Church of Christ	Ephrata, PA	-	20	-
26 Jul 02	26 Jul 02	NASA Ames Research Center	Moffett Field, CA	-	45	-
26 Jul 02	26 Jul 02	Victoria Children's Museum	Victoria, TX	-	14	-
26 Jul 02	27 Jul 02	International Science Discovery & Learning Center	Inglewood, CA	-	75	-

27 Jul 02	27 Jul 02	NASA Ames Research Center	Moffett Field, CA	-	150,000	-
28 Jul 02	28 Jul 02	Annunciata Church	Chicago, IL	-	50	-
29 Jul 02	29 Jul 02	NASA Ames Research Center	Moffett Field, CA	-	4	-
29 Jul 02	29 Jul 02	Scottsdale Community College	Scottsdale, AZ	-	200	-
29 Jul 02	04 Aug 02	Princeton Community Television, Channel 30	Princeton, NJ	-	700	-
30 Jul 02	30 Jul 02	Alliance Senior Day Services	Kalamazoo, MI	-	11	-
30 Jul 02	30 Jul 02	Pennsylvania State University	University Park, PA	-	18	-
31 Jul 02	31 Jul 02	North Georgia College & State University	Dahlonega, GA	-	30	24
31 Jul 02	31 Jul 02	Phoenix Astronomical Society	Phoenix, AZ	-	150	-
31 Jul 02	31 Jul 02	Valley Academy Charter School	Phoenix, AZ	-	200	-
01 Aug 02	01 Aug 02	Brownsville Public Library	Brownsville, TX	-	60	-
01 Aug 02	01 Aug 02	Owatonna Public Library	Owatonna, MN	-	25	-
01 Aug 02	01 Aug 02	Tucker Valley Elementary/Middle School	Hambleton, WV	-	24	-
02 Aug 02	02 Aug 02	American Museum of Natural History	New York, NY	-	50	-
02 Aug 02	02 Aug 02	Dimension Technologies	Rochester, NY	-	4	-
03 Aug 02	03 Aug 02	Arizona Science Center	Phoenix, AZ	-	120	-
03 Aug 02	03 Aug 02	Sunriver Nature Center and Observatory	Sunriver, OR	-	75	-
03 Aug 02	04 Aug 02	Arizona Science Center	Phoenix, AZ	-	110	-
03 Aug 02	04 Aug 02	Arizona Science Center	Phoenix, AZ	-	25	-
05 Aug 02	11 Aug 02	Princeton Community Television, Channel 30	Princeton, NJ	-	700	-
06 Aug 02	06 Aug 02	Francisco Vazquez Pueyo Junior High School	Sabana Grande, PR	-	86	-
06 Aug 02	06 Aug 02	M.A.R.S. Club Newsletter	Tampa, FL	-	110	-
06 Aug 02	06 Aug 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	11	-
07 Aug 02	07 Aug 02	Elementary Institute of Science	San Diego, CA	-	46	-
08 Aug 02	08 Aug 02	Brownsville Public Library	Brownsville, TX	-	72	-
08 Aug 02	08 Aug 02	Quail Valley Exchange Club	Missouri City, TX	-	25	-
09 Aug 02	09 Aug 02	Cedar River Watershed Education Center	North Bend, WA	-	21	-
09 Aug 02	09 Aug 02	Northshore Pool	Bothell, WA	-	17	-
10 Aug 02	10 Aug 02	Bryce Canyon National Park	Bryce Canyon, UT	-	160	-
10 Aug 02	10 Aug 02	Hardware Ranch	Hyrum, UT	-	30	-
10 Aug 02	10 Aug 02	Historic Rugby Community Center	Rugby, TN	-	20	-
10 Aug 02	10 Aug 02	Imerman Park	Saginaw, MI	-	300	-
10 Aug 02	10 Aug 02	Maywood Park	Sheboygan, WI	-	35	-
10 Aug 02	10 Aug 02	Orlando Science Center	Orlando, FL	-	88	-
10 Aug 02	10 Aug 02	Sky Meadows State Park	Delaplane/Paris, VA	-	412	-
10 Aug 02	10 Aug 02	Skyscrapers, Amateur Astronomical Society of Rhode Island	North Scituate, RI	-	30	-
10 Aug 02	10 Nov 02	The New Detroit Science Center	Detroit, MI	-	4,000	-
11 Aug 02	11 Aug 02	Geneseo Airport	Geneseo, NY	-	50	-
11 Aug 02	12 Aug 02	Haggart Astronomical Observatory	Oregon City, OR	-	100	-
12 Aug 02	12 Aug 02	Big Bear Solar Observatory	Big Bear, CA	-	38	-
12 Aug 02	12 Aug 02	Journey Museum	Rapid City, SD	-	65	-
12 Aug 02	12 Aug 02	Onamia School District	Onamia, MN	-	22	-
12 Aug 02	12 Aug 02	University of North Texas	Denton, TX	-	600	-
12 Aug 02	18 Aug 02	Princeton Community Television, Channel 30	Princeton, NJ	-	700	-
13 Aug 02	13 Aug 02	Rancho Palos Verdes Main Library	Palos Verdes, CA	-	50	-
13 Aug 02	13 Aug 02	The Mueller Civic Center	Hot Springs, SD	-	7	-
13 Aug 02	14 Aug 02	Starlight Park Elementary School	Phoenix, AZ	-	160	-
14 Aug 02	14 Aug 02	Arlington Independent School District	Arlington, TX	-	30	-
14 Aug 02	14 Aug 02	Killeen Independent School District	Killeen, TX	-	5	-
14 Aug 02	14 Aug 02	Little Thompson Observatory	Berthoud, CO	-	8	-
14 Aug 02	14 Aug 02	Sanderling Nature Center	Sheboygan, WI	-	50	-
14 Aug 02	14 Aug 02	Scottsdale Community College	Scottsdale, AZ	-	120	-
15 Aug 02	15 Aug 02	Brownsville Park	Brownsville, TX	-	18	-
15 Aug 02	15 Aug 02	North Shore Retirement Hotel	Evanston, IL	-	40	-
15 Aug 02	03 Sep 02	University of California, Santa Cruz	Santa Cruz, CA	-	20	-
16 Aug 02	16 Aug 02	Friendship Village	Schaumburg, IL	-	50	-

16 Aug 02	16 Aug 02	NASA Ames Research Center	Moffett Field, CA	-	55	-
16 Aug 02	16 Aug 02	WFUV 90.7 FM	New York, NY	-	100,000	-
17 Aug 02	17 Aug 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	22	-
17 Aug 02	17 Aug 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	14	-
17 Aug 02	17 Aug 02	Battle Ground Lake State Park	Battle Ground, WA	-	35	-
17 Aug 02	17 Aug 02	Coleto Creek Reservoir Park	Fannin, TX	-	15	-
17 Aug 02	17 Aug 02	Exploration Science Center and Children's Museum of Albuquerque	Albuquerque, NM	-	40	-
17 Aug 02	17 Aug 02	University of Florida	Gainesville, FL	-	70	-
17 Aug 02	18 Aug 02	Young Amateur Astronomers Club	Fairfield, WA	-	12	-
19 Aug 02	19 Aug 02	Glendale Public Library	Glendale, AZ	-	90	-
19 Aug 02	19 Aug 02	Senior Health Foundation	Omaha, NE	-	15	-
19 Aug 02	25 Aug 02	Princeton Community Television, Channel 30	Princeton, NJ	-	700	-
20 Aug 02	20 Aug 02	Astronomy Net 146.940 MHz	Denver, CO	-	6	-
20 Aug 02	20 Aug 02	NASA Educator Resource Center	Chicago, IL	-	18	-
21 Aug 02	21 Aug 02	Lockwood Park Observatory	Rockford, IL	-	30	-
21 Aug 02	21 Aug 02	University of California, Irvine	Irvine, CA	-	82	-
22 Aug 02	22 Aug 02	Casper Planetarium	Casper, WY	-	145	-
22 Aug 02	22 Aug 02	Freeport Recreation Center	Freeport, NY	-	55	-
22 Aug 02	22 Aug 02	NASA Ames Research Center	Moffett Field, CA	-	15	-
22 Aug 02	22 Aug 02	Smithsonian National Air and Space Museum	Washington, DC	-	9	-
22 Aug 02	02 Sep 02	Ewa Beach Public Library	Ewa Beach, HI	-	7,200	-
24 Aug 02	24 Aug 02	Museum of Science and Industry	Tampa, FL	-	50	-
24 Aug 02	31 Aug 02	Maryville-Alcoa Daily Times	Maryville, TN	-	22,000	-
25 Aug 02	25 Aug 02	LeConte Memorial, Yosemite National Park	Yosemite, CA	-	47	-
26 Aug 02	26 Aug 02	Blind Support Group—Veterans Health Administration Clinic	Youngstown, OH	-	23	-
28 Aug 02	28 Aug 02	Iowa State University	Ames, IA	-	382	-
28 Aug 02	28 Aug 02	Rockford Register Star	Rockford, IL	-	75,000	-
28 Aug 02	28 Aug 02	University of Colorado at Boulder	Boulder, CO	-	58	-
29 Aug 02	29 Aug 02	Barnes & Noble (Southpoint)	Durham, NC	-	13	-
29 Aug 02	29 Aug 02	Freeport Recreation Center	Freeport, NY	-	47	-
29 Aug 02	29 Aug 02	Puerto Rico Department of Education	Hato Rey, PR	-	2	-
29 Aug 02	02 Sep 02	World Con	San Jose, CA	-	16,000	-
30 Aug 02	30 Aug 02	Long Island Museum of Science & Technology	Garden City, NY	-	9	-
30 Aug 02	30 Aug 02	Mahoning County Fair	Canfield, OH	-	350	-
30 Aug 02	01 Sep 02	ConJose	San Jose, CA	-	351	-
31 Aug 02	31 Aug 02	Saddleback Youth Club	Mission Viejo, CA	-	18	-
31 Aug 02	31 Aug 02	Seaquest State Park	Castle Rock, WA	-	35	-
31 Aug 02	30 Sep 02	Torrance Public Library	Torrance, CA	-	6,200	
01 Sep 02	30 Sep 02	All That JAZZ Magazine	Olean, NY	-	10,000	-
02 Sep 02	02 Sep 02	Morrow Observatory	Bedford, IN	-	700	-
02 Sep 02	02 Sep 02	Spring Mill State Park	Mitchell, IN	-	700	-
03 Sep 02	03 Sep 02	Digital Rochester Information Technology Group	Rochester, NY	-	400	-
03 Sep 02	03 Sep 02	Los Angeles Pierce College	Woodland Hills, CA	-	30	-
03 Sep 02	03 Sep 02	Mt. Olivet Baptist Church	Rochester, NY	-	6	-
03 Sep 02	30 Sep 02	Palisade High School	Palisade, CO	-	21	-
04 Sep 02	04 Sep 02	KSER Radio 90.7 FM	Lynnwood, WA	-	14,000	-
04 Sep 02	04 Sep 02	Vero Beach Press Journal	Vero Beach, FL	-	40,000	-
04 Sep 02	02 Dec 02	Fernbank Science Center	Atlanta, GA	-	4,000	-
05 Sep 02	05 Sep 02	Harding University	Searcy, AR	-	6,500	-
05 Sep 02	08 Sep 02	Mt. Bachelor Ski Area & Resort	Bend, OR	-	100	-
06 Sep 02	06 Sep 02	Francisco Vazquez Pueyo Junior High School	Sabana Grande, PR	-	86	-
06 Sep 02	06 Sep 02	University of North Dakota	Grand Forks, ND	-	30	-
06 Sep 02	06 Sep 02	University of North Dakota	Grand Forks, ND	-	30	-
07 Sep 02	07 Sep 02	El Paso Zoo	El Paso, TX	-	93	-
07 Sep 02	07 Sep 02	Francisco Vazquez Pueyo Junior High School	Sabana Grande, PR	-	88	-

07 Sep 02	07 Sep 02	Public Star Party	Staffordsville, KY	-	10	-
07 Sep 02	07 Sep 02	Sky Meadows State Park	Delaplane/Paris, VA	-	321	-
08 Sep 02	08 Sep 02	Arms Family Museum	Youngstown, OH	-	80	-
08 Sep 02	08 Sep 02	Morning Journal	Lisbon, OH	-	13,500	-
09 Sep 02	09 Sep 02	Blakemore Planetarium	Midland, TX	-	87	-
09 Sep 02	09 Sep 02	Clack Mountain Star Party	Morehead, KY	-	45	-
10 Sep 02	10 Sep 02	Big Bear Solar Observatory	Big Bear, CA	-	27	-
10 Sep 02	10 Sep 02	Evelyn L. Egan Observatory	Fort Myers, FL	-	150	-
10 Sep 02	10 Sep 02	Florida Gulf Coast University	Fort Myers, FL	-	150	-
10 Sep 02	24 Sep 02	Senior Adult Services Center	Carbondale, IL	-	31	-
11 Sep 02	11 Sep 02	Interamerican University of Puerto Rico	San German, PR	-	22	-
11 Sep 02	11 Sep 02	KSER Radio 90.7 FM	Lynnwood, WA	-	14,000	-
11 Sep 02	11 Sep 02	The Albrook School	Basking Ridge, NJ	-	53	-
12 Sep 02	12 Sep 02	Beeckwood Elementary School	Vicksburg, MS	-	220	-
12 Sep 02	12 Sep 02	Brownsville Public Library	Brownsville, TX	-	64	-
12 Sep 02	12 Sep 02	Desert Marigold Elementary School	Phoenix, AZ	-	21	-
12 Sep 02	12 Sep 02	Germantown Academy	Fort Washington, PA	-	380	-
12 Sep 02	12 Sep 02	Henderson State University	Arkadelphia, AR	-	7	-
12 Sep 02	12 Sep 02	Mt. Olivet Baptist Church	Rochester, NY	-	10	-
12 Sep 02	12 Sep 02	Southampton Kiwanis Club	Southampton, NY	-	40	-
12 Sep 02	12 Sep 02	The Center at High Falls	Rochester, NY	-	240	-
13 Sep 02	13 Sep 02	Bryce Canyon National Park	Bryce Canyon, UT	-	110	-
13 Sep 02	13 Sep 02	Charter School	Princeton, MA	-	50	-
13 Sep 02	13 Sep 02	Georgia Southern University	Statesboro, GA	-	151	-
13 Sep 02	13 Sep 02	NASA Ames Research Center	Moffett Field, CA	-	3	-
13 Sep 02	13 Sep 02	San Antonio Amateur Astronomical Association	San Antonio, TX	-	35	-
13 Sep 02	13 Sep 02	Vandergrift Elementary School	Fayetteville, AR	-	271	-
13 Sep 02	13 Sep 02	Vandergrift Elementary School	Fayetteville, AR	-	130	-
13 Sep 02	14 Sep 02	Palomar Observatory	Mount Palomar, CA	-	75	-
14 Sep 02	14 Sep 02	Island Park Public Library	Island Park, NY	-	22	-
14 Sep 02	14 Sep 02	Southwest Missouri State University	Springfield, MO	-	50	-
15 Sep 02	15 Sep 02	Delta College Planetarium	Bay City, MI	-	50	-
15 Sep 02	15 Sep 02	Morning Journal	Lisbon, OH	-	13,500	-
16 Sep 02	16 Sep 02	Andrews Middle School	Andrews, TX	-	315	-
16 Sep 02	16 Sep 02	Rust College	Holly Springs, MS	-	50	-
16 Sep 02	16 Sep 02	University of North Carolina at Pembroke	Pembroke, NC	-	28	-
17 Sep 02	17 Sep 02	Barnes & Noble Cappuccino Academy	Jenkintown, PA	-	35	-
17 Sep 02	17 Sep 02	Camden County Toastmasters	Haddonfield, NJ	-	20	-
17 Sep 02	17 Sep 02	Colorado Astronomy Net 146.940 MHz	Denver, CO	-	11	-
17 Sep 02	17 Sep 02	Delta College Planetarium	Bay City, MI	-	50	-
17 Sep 02	17 Sep 02	First Congregational Church	Western Springs, IL	-	100	-
17 Sep 02	17 Sep 02	Poudre High School	Fort Collins, CO	-	20	-
17 Sep 02	17 Sep 02	Rochester Museum & Science Center	Rochester, NY	-	200	-
18 Sep 02	18 Sep 02	Martin Elementary School	Santa Ana, CA	-	81	-
18 Sep 02	18 Sep 02	Yeshiva Shearis Yisroel	Chicago, IL	-	40	-
19 Sep 02	19 Sep 02	Cub Scout Meeting	Orlando, FL	-	12	-
19 Sep 02	19 Sep 02	Longmont Christian School	Longmont, CO	-	30	-
19 Sep 02	19 Sep 02	Shawnee Mission Park	Shawnee Mission, KS	-	200	-
20 Sep 02	20 Sep 02	Lockwood Park Observatory	Rockford, IL	-	19	-
20 Sep 02	20 Sep 02	Neale Woods Observatory	Omaha, NE	-	60	-
21 Sep 02	21 Sep 02	Elmont Public Library	Elmont, NY	-	24	-
21 Sep 02	21 Sep 02	Exploration Science Center and Children's Museum of Albuquerque	Albuquerque, NM	-	40	-
21 Sep 02	21 Sep 02	Fairbanks Public Library	Fairbanks, AK	-	30	-
21 Sep 02	21 Sep 02	Fort Mason Community Garden	San Francisco, CA	-	30	-
21 Sep 02	21 Sep 02	Geneseo Airport	Geneseo, NY	-	30	-
21 Sep 02	21 Sep 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	500	-

21 Sep 02	21 Sep 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	1,000	-
21 Sep 02	15 Jan 03	University of North Texas	Denton, TX	-	5,000	-
23 Sep 02	23 Sep 02	Deer Creek Elementary School	Tigard, OR	-	50	-
23 Sep 02	23 Sep 02	East Valley Astronomy Club	Scottsdale, AZ	-	250	-
23 Sep 02	23 Sep 02	Greater Hartford Academy of Mathematics and Science	Hartford, CT	-	6	-
23 Sep 02	23 Sep 02	Long Beach Public Library	Long Beach, NY	-	46	-
23 Sep 02	23 Sep 02	Long Beach Public Library	Long Beach, NY	-	39	-
23 Sep 02	23 Sep 02	Phoenix Astronomical Society	Phoenix, AZ	-	200	-
23 Sep 02	23 Sep 02	Trinity Presbyterian Church	Santa Ana, CA	-	30	-
24 Sep 02	24 Sep 02	University of North Carolina at Pembroke	Pembroke, NC	-	34	-
25 Sep 02	25 Sep 02	Brockett Elementary School - Media Center	Tucker, GA	-	200	-
25 Sep 02	25 Sep 02	Buchanan Street School	Los Angeles, CA	-	45	-
25 Sep 02	25 Sep 02	Davis Elementary School	Milledgeville, GA	-	94	-
25 Sep 02	25 Sep 02	Motorola, Inc.	Schaumburg, IL	-	20	-
25 Sep 02	25 Sep 02	Rochester Convention Center	Rochester, NY	-	1,000	-
26 Sep 02	26 Sep 02	Antonia Martinez Elementary School	San German, PR	-	70	-
26 Sep 02	26 Sep 02	Green Meadow Country Club	Maryville, TN	-	45	-
26 Sep 02	26 Sep 02	Los Serranos Elementary School	Chino Hills, CA	-	80	-
26 Sep 02	26 Sep 02	Vance-Granville Community College	Creedmoor, NC	-	16	-
27 Sep 02	27 Sep 02	Arizona State University	Tempe, AZ	-	500	-
27 Sep 02	27 Sep 02	Arizona State University	Tempe, AZ	-	20	-
27 Sep 02	27 Sep 02	Fleming Middle School	Grants Pass, OR	-	152	-
27 Sep 02	27 Sep 02	Metropolitan State College	Denver, CO	-	60	-
27 Sep 02	27 Sep 02	UniverCity	Muncie, IN	-	1,000	-
27 Sep 02	30 Sep 02	Convention Center	Pasadena, CA	-	1,000	-
28 Sep 02	28 Sep 02	Karankawa Boy Scout Camp	Mathis, TX	-	37	-
28 Sep 02	28 Sep 02	Seagrave Memorial Observatory	North Scituate, RI	-	25	-
28 Sep 02	29 Sep 02	Bays Mountain Park and Planetarium	Kingsport, TN	-	100	-
30 Sep 02	30 Sep 02	Boy Scouts	Virginia Beach, VA	-	80	-

A364. Solar System Ambassadors Training

Theme(s): SSE

Msn/Prgm(s): SSE Forum[B12], SEU Forum[B13], SECEF[B14], DePaul B/F[B15], SIRTF[B24], Navigator[B27], KECK[B29], SIM[B32], TPF[B34], Cassini/Huygens Probe[B37], Galileo[B38], JPL SSE Theme[B39], DPSO[B40], CONTOUR[B41], Dawn[B42], Deep Impact[B43], Genesis[B44], MESSENGER[B45], NEAR[B46], Stardust[B47], Mars E/PO[B48], 2001 Mars Odyssey[B49], MER[B50], MGS[B51], Mars Pathfinder[B52], MRO[B53], Mars Scout[B55], OP E/PO[B57], Europa Orbiter[B58], DSMS[B60], NEAT[B62], Ulysses[B96], Voyager[B97]

Description: The Solar System Ambassadors (SSA) Training allows Ambassadors to participate in online (Web-based) training sessions that provide interaction with NASA scientists, engineers, and project team members. As such, each Ambassador's experience with the space program becomes personalized; training sessions provide the Ambassadors with a general background on each mission and educate them about specific mission milestones and key discoveries. The training sessions are archived on the "SSA Only" Web site for future reference and review.

Lead: Ms. Kay Ferrari, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
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Primary URL: *http://www.jpl.nasa.gov/ambassador/ambassadorsonlysection/front.html*

Scientist(s):			
	Ms. Andrea Angrum	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Richard August	Mt. Wilson Institute	Mt. Wilson, CA
	Mr. Ron Baalke	NASA Jet Propulsion Laboratory	Pasadena, CA
	Mr. Ron Boain	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Bill Boynton	University of Arizona	Tucson, AZ
	Dr. Donald Brownlee	University of Washington	Seattle, WA
	Mr. Gilbert Clark	NASA Jet Propulsion Laboratory	Pasadena, CA
	Dr. Anita Cochran	University of Texas at Austin	Austin, TX
	Dr. Guy Consolmagno	University of Arizona	Tucson, AZ
	Dr. Frank Cucinotta	NASA Johnson Space Center	Houston, TX

Mr. Alan Cummings	California Institute of Technology	Pasadena, CA
Ms. Sandra Dawson	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Rob Decker	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Heather Enos	University of Arizona	Tucson, AZ
Mr. Paul Feldman	Johns Hopkins University Applied Physics Laboratory	Laurel, MD
Ms. Kay Ferrari	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Edward Gonzales	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. John Grunsfield	NASA Johnson Space Center	Houston, TX
Mr. Roy Harris	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Mona Jasnow	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Christine Johnson	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Corinne Karpinski	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Sheri Klug	Arizona State University	Tempe, AZ
Ms. Laura Lautz	Cornell University	Ithaca, NY
Dr. Paul Mahaffy	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Rob Manning	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Greg Mehall	Arizona State University	Tempe, AZ
Mr. Richard Miller	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. William Patzert	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. William Pickering	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Jeffrey Plaut	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Patti Rhee	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Annie Richardson	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Steve Saunders	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Daniel Sedlacko	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Richard Shop	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Margaret Sipple-Srinivasan	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Joseph Statman	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Edward Stone	California Institute of Technology	Pasadena, CA
Dr. Michelle Thaller	SIRTF Science Center/ California Institute of Technology	Pasadena, CA
Dr. Peter Thomas	Cornell University	Ithaca, NY
Ms. Jose Urech	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Joseph Veverka	Cornell University	Ithaca, NY
Mr. Joseph Wackley	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Guy Webster	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Aimee Whalen	NASA Jet Propulsion Laboratory	Pasadena, CA
Ms. Shirley Wolff	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Donald Yeomans	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
18 Oct 01	23 Oct 01	NASA Jet Propulsion Laboratory	Pasadena, CA	-	41	-
27 Nov 01	27 Nov 01	NASA Jet Propulsion Laboratory	Pasadena, CA	-	24	-
10 Dec 01	14 Dec 01	American Geophysical Union (AGU) Meeting	San Francisco, CA	-	50	-
22 Jan 02	24 Jan 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	73	-
27 Feb 02	27 Feb 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	59	-
22 Mar 02	22 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	73	-
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	38	-	-
10 Apr 02	10 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	41	-
17 Apr 02	17 Apr 02	NASA Jet Propulsion Laboratory	Pasadena,CA	-	66	-
23 Apr 02	23 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	42	-
18 May 02	18 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	18	-
30 May 02	30 May 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	67	-

19 Jul 02	19 Jul 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	50	-
20 Sep 02	20 Sep 02	NASA Jet Propulsion Laboratory	Pasadena, CA	-	9	-
21 Sep 02	21 Sep 02	Mt. Wilson Institute	Mt. Wilson, CA	-	10	-

A365. Solar Terrestrial Probes (STP) Outreach

Theme(s): SEC

Msn/Prgm(s): STP[B114]

Description: Through presentations that are both on site and off site, the Solar Terrestrial Probes scientists, engineers, and education staff share the excitement of the STP missions by using inquiry-based presentations and hands-on activities.

Lead: Ms. Barbara Lambert, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
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Primary URL: *http://lws-edu.gsfc.nasa.gov*

Scientist(s):

Dr. Bruce Campbell	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Carol Crannell	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Fred Herrero	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Willis Jenkins	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Barbara Lambert	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. John Robinson	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Richard Ryan	NASA Goddard Space Flight Center	Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
04 Jan 02	04 Jan 02	Keystone Oaks High School	Pittsburgh, PA	21	-	-
27 Feb 02	27 Feb 02	NASA Goddard Space Flight Center	Greenbelt, MD	24	-	-
14 Mar 02	14 Mar 02	Kent Island Elementary School	Stevensville, MD	70	-	-
20 Mar 02	20 Mar 02	Keystone Oaks High School	Pittsburgh, PA	29	-	-
10 Apr 02	10 Apr 02	Keystone Oaks High School	Pittsburgh, PA	289	-	-
09 Jun 02	09 Jun 02	Hope Christian Church - Kids Crusade	Bowie, MD	38	-	-
12 Jun 02	12 Jun 02	Jericho Christian Academy-Elementary School	Landover, MD	120	-	-
12 Jun 02	12 Jun 02	Jericho Christian Academy-High School	Landover, MD	62	-	-
23 Oct 02	29 Oct 02	Grace Christian School	Bowie, MD	28	-	-

A366. Space Day 2002 at Penn State

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: During Space Day 2002 at Penn State, scientists, engineers, and students shared presentations and hands-on activities with more than 1,200 adults and children as they explored Earth, air, and space research at Penn State, including research on the origin, evolution, distribution, and destiny of life in the Universe. Six faculty members and 12 students associated with the Penn State Astrobiology Research Center (PSARC) participated in the event. Eight science education students partnered with three PSARC teams to develop activities and lesson plans that were aligned with the national science education standards and the Pennsylvania Academic Standards for Science and Technology. Space Day 2002 at Penn State was chosen as an official NASA Signatures in Space site and included presentations by former astronaut Jim Pawelczyk and Jet Propulsion Laboratory Solar System Ambassador Brock Pronko, NASA Lunar Rock Certification training, exhibits by fifth and sixth grade students who participated in the official Space Day Design Challenges, a "How to Access" NASA education booth, and STARLAB planetarium tours.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
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Contact: Ms. Angela Phelps, Pennsylvania State University, University Park, PA 16802.
E-mail: *axp41@psu.edu.* Phone: 814-863-3608.

Primary URL: *http://www.psu.edu/spacegrant/spaceday/*

A367. Space Infrared Telescope Facility (SIRTF) Large Public Presentations

Theme(s): ASO

Msn/Prgm(s): SIRTF[B24]

Description: This category covers large, single-event public lectures and demonstrations that the SIRTF education and public

outreach team participated in.

Lead: Dr. Michelle Thaller, SIRTF Science Center/California Institute of Technology, Pasadena, CA 91125.
E-mail: *thaller@ipac.caltech.edu.* Phone: 626-395-8670.

Primary URL: *http://www.jpl.nasa.gov/events/lectures/apr01.html*

Scientist(s):

Dr. Michael Bicay	California Institute of Technology	Pasadena, CA
Mr. Nick Gautier	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Robert Hurt	California Institute of Technology	Pasadena, CA
Dr. Luisa Ruebel	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Michelle Thaller	SIRTF Science Center/ California Institute of Technology	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
02 Nov 01	02 Nov 01	Santa Monica College	Santa Monica, CA	-	300	-
10 Nov 01	11 Nov 01	El Monte Air Show	El Monte, CA	-	8,000	-
12 Nov 01	12 Nov 01	Chapman University	Orange, CA	-	200	-
03 Dec 01	03 Dec 01	Chapman University	Orange, CA	-	200	-
18 Mar 02	19 Mar 02	Geoff Haines-Stiles Productions	Morristown, NJ	-	2,000,000	5,000,000
22 Mar 02	22 Mar 02	Boy Scouts of America, Troop 110	Sierra Madre, CA	75	-	-
03 Apr 02	03 Apr 02	California Institute of Technology	Pasadena, CA	53	-	-
26 May 02	26 May 02	Lockheed Martin	Sunnyvale, CA	-	300	-

A368. Space Place Contributions to ITEA's "Technology and Children"

Theme(s): SEC

Msn/Prgm(s): DS-1[B61], LISA[B72], ST-5[B120]

Description: Space Place submits articles to "Technology and Children" magazine four times a year. Each article refers to a particular mission and is published under a Space Place header. The article presents complicated science concepts in simple terms that children can understand. Each publication reaches an estimated 1,400 teachers and their students (up to 42,000 children). Each article also appears on the International Technology Education Association (ITEA) Web site which reaches an even wider audience.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
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Contact: Ms. Liliana Novati, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Liliana.Novati@jpl.nasa.gov.* Phone: 818-354-1486.

Primary URL: *http://spaceplace.jpl.nasa.gov*

2nd URL: *http://www.iteawww.org*

Scientist(s): Ms. Diane Fisher — NASA Jet Propulsion Laboratory — Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Dec 01	31 Dec 01	Technology and Children Magazine	Reston, VA	-	43,400	-
01 Mar 02	31 Mar 02	Technology and Children Magazine	Reston, VA	-	43,400	-
01 May 02	31 May 02	Technology and Children Magazine	Reston, VA	-	43,400	-

A369. Space Place Contributions to ITEA's "The Technology Teacher"

Theme(s): SEC

Msn/Prgm(s): SIRTF[B24], Mars E/PO[B48], LISA[B72], ST-5[B120]

Description: Space Place submits articles to "The Technology Teacher" magazine eight times a year. Each article refers to a particular mission and is published under a Space Place header. The articles present complicated science concepts in simple terms that children can understand. Each publication reaches an estimated 8,000 teachers and their approximately 224,000 students. Each article also appears on The International Technology Education Association (ITEA) Web site which reaches an even wider audience.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
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Primary URL: *http://spaceplace.jpl.nasa.gov*

2nd URL: *http://www.iteawww.org*

Scientist(s): Ms. Diane Fisher — NASA Jet Propulsion Laboratory — Pasadena, CA
Mr. Richard Shope — NASA Jet Propulsion Laboratory — Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Oct 01	31 Oct 01	The Technology Teacher	Reston, VA	-	232,000	-
01 Nov 01	30 Nov 01	The Technology Teacher	Reston, VA	-	232,000	-
01 Dec 01	31 Jan 02	The Technology Teacher	Reston, VA	-	232,000	-
01 Feb 02	28 Feb 02	The Technology Teacher	Reston, VA	-	232,000	-
01 Mar 02	31 Mar 02	The Technology Teacher	Reston, VA	-	232,000	-
01 Apr 02	30 Apr 02	The Technology Teacher	Reston, VA	-	232,000	-
01 May 02	30 Jun 02	The Technology Teacher	Reston, VA	-	232,000	-

A370. Space Place Museum and Library Partnerships

Theme(s): SEC

Msn/Prgm(s): ST-5[B120]

Description: Libraries, science museums, planetariums, zoos, and aquariums across the United States have formed Club Space Place outreach partnerships with NASA. In addition to display materials provided by Space Place, each quarter the partners receive an activity guide and handouts for an original group activity. The activities are interdisciplinary, blurring the customary boundaries separating science, technology, design, math, art, music, literature, geography, and history. Through these partnerships, we have found a unique and inexpensive way to promote "The Space Place" Web site and NASA Jet Propulsion Laboratory missions. "The Space Place" is supported by the New Millennium Program (NMP). NMP includes the following spacecraft and satellites: DeepSpace 1, Earth Observing 1, Earth Observing 3/GIFTS, Space Technology 5, Space Technology 6, and Space Technology 7.

Contact: Ms. Liliana Novati, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
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Primary URL: *http://spaceplace.jpl.nasa.gov*

2nd URL: *http://spaceplace.nasa.gov*

Partner(s):

A. C. Gilbert's Discovery Village	Salem, OR
Air Victory Museum	Medford, NJ
Andrews Air Force Base Youth Center	Andrews Air Force Base, MD
Arizona Library Association	Tempe, AZ
Arkansas Air Museum	Fayetteville, AR
Arts and Science Center for Southeast Arkansas	Pine Bluff, AR
Barksdale Air Force Base Youth Center	Bossier, LA
Bassett Planetarium	Amherst, MA
Bays Mountain Park and Planetarium	Kingsport, TN
Billings Public Library	Billings, MT
Bootheel Youth Museum	Malden, MO
Brazos Valley Family Museum	Bryan, TX
Brooks Air Force Base Youth Center	Brooks AirForce Base, TX
Buehler Planetarium & Observatory	Davie, FL
Cable Natural History Museum	Cable, WI
Calusa Nature Center and Planetarium	Fort Myers, FL
Camp Lejeune Marine Corps Base Youth Center	Camp Lejeune, NC
Carbondale Public Library	Carbondale, IL
Casper Planetarium	Casper, WY
Cayce-West Columbia Jaycees	West Columbia, SC
Central Wisconsin's Children's Museum	Stevens Point, WI
Challenger Center	Chattanooga, TN
Charleston Community Library	Charleston, SC
Chesapeake Planetarium	Chesapeake, VA
Children's Metamorphosis Museum	Londonderry, NH

Children's Museum	Boca Raton, FL
Children's Museum	Egg Harbor Township, NJ
Children's Museum at Yunker Farm	Fargo, ND
Children's Museum of La Crosse	La Crosse, WI
Children's Museum of New Braunfels	New Braunfels, TX
Children's Museum of Northern Nevada	Carson City, NV
Children's Museum of Portsmouth	Portsmouth, NH
Children's Museum of South Carolina	Myrtle Beach, SC
Children's Museum of Stockton	Stockton, CA
Cincinnati Museum Center	Cincinnati, OH
City of Riverside Public Library	Riverside, CA
Coca-Cola Space Science Center	Columbus, GA
Coeur d'Alene Public Library	Coeur d'Alene, ID
Combat Air Museum	Topeka, KS
Community College of Southern Nevad	North Las Vegas, NV
Cumberland Science Museum	Nashville, TN
Curious Kids Museum	Saint Joseph, MI
Daniel Boone Regional Library	Columbia, MO
Delta College Planetarium	Bay City, MI
Discovery Center	Rockford, IL
Discovery Center of Springfield	Springfield, MO
Discovery Museum	Sacramento, CA
Discovery Science Place	Tyler, TX
Dodge City Public Library	Dodge City, KS
Don Harrington Discovery Center	Amarillo, TX
Dover Public Library	Dover, DE
El Paso Independent School District	El Paso, TX
Elgin Air Force Base Youth Center	Elgin Air Force Base, FL
Ellsworth Air Force Base Youth Center	Ellsworth Air Force Base, SD
Erie Historical Museum and Planetarium	Erie, PA
Estrella Squadron, Warbird Museum	Paso Robles, CA
Ethyl Universe Planetarium	Richmond, VA
Eugene Field Accelerated School	Mexico, MO
Evansville Museum of Arts, History and Science	Evansville, IN
Evergreen Airventure	McMinnville, OR
Ewa Beach Public Library	Ewa Beach, HI
Exploration Station	Bourbonnais, IL
Fairchild Air Force Base Youth Center	Fairchild Air Force Base, WA
Family Museum	Bettendorf, IA
Farmington Public Library	Farmington, NM
Fascinate-U Children's Museum	Fayetteville, NC
Fleischmann Planetarium	Reno, NV
Fletcher Free Library	Burlington, VT
Flint Cultural Center-Longway Planetarium	Flint, MI
Fort Benning Youth Services	Fort Benning, GA
Fort Bliss Youth Center	Fort Bliss, TX
Fort Campbell Child and Youth Services	Fort Campbell, KY
Fort Drum Youth Services	Fort Drum, NY
Fort Gordon Youth Center	Fort Gordon, GA
Fort Hood Youth Center	Fort Hood Army Base, TX
Fort Jackson Youth Center	Fort Jackson, SC
Fort Knox Youth Center	Fort Knox, KY
Fort Lewis Youth Services	Fort Lewis, WA

Fort Meade Youth Center	Fort Meade, MD
Fort Polk Siegfried Youth Center	Fort Polk, LA
Fort Sill Youth Center	Fort Sill, OK
Fort Smith Public Library	Fort Smith, AR
Gadsden Public Library	Gadsden, AL
Gayle Planetarium	Montgomery, AL
Gheens Science Center and Rauch Planetarium	Louisville, KY
Golden Pond Planetarium	Golden Pond, KY
Grand Junction Public Library	Grand Junction, CO
Great Lakes Aquarium	Duluth, MN
Hands-On Science Central Museum	Fort Wayne, IN
Highlands Museum and Discovery Center	Ashland, KY
Holloman Air Force Base Youth Center	Holloman Air Force Base, NM
Hoover Price Planetarium	Canton, OH
Hummel Planetarium, Eastern Kentucky University	Richmond, KY
Illinois State University Planetarium	Normal, IL
Imaginarium Science Discovery Center	Anchorage, AK
John May Museum Center	Colorado Springs, CO
Johnson County Library	Buffalo, WY
Joplin Public Library	Joplin, MO
Judith W. Freeman Astronomy Center	New Orleans, LA
Junior Museum of Bay County	Panama City, FL
Kansas Aviation Museum	Wichita, KS
Kent District Library	Wyoming, MI
Lafayette Natural History Museum and Planetarium	Lafayette, LA
Lakeview Museum	Peoria, IL
Laredo Children's Museum	Laredo, TX
Las Cruces Museum of Natural History	Las Cruces, NM
Little Rock Zoo	Little Rock, AR
Living Science Center	Arlington, TX
Lower Hudson Valley Challenger Center	Suffern, NY
Lutz Children's Museum	Manchester, CT
Mallory Kountze Planetarium	Omaha, NE
March Field Museum	Riverside, CA
Maxwell-Gunter Air Force Base Youth Center	Montgomery, AL
McClellan Aviation Museum	North Highlands, CA
McConnell Air Force Base Youth Center	McConnell Air Force Base, KS
McGuire Air Force Base	McGuire Air Force Base, NJ
Meridian Public Library	Meridian, MS
Mesa Union School Library	Somis, CA
Mid-America Air Museum	Liberal, KS
Minnesota Valley Regional Library	Mankato, MN
Minot Public Library	Minot, ND
Montgomery Zoo	Montgomery, AL
Morehead Planetarium	Chapel Hill, NC
Morgantown Public Library	Morgantown, WV
Mountain Home Air Force Base Youth Center	Mountain Home, ID
Museo del Nino	San Juan, PR
Museum of Arts and Sciences	Macon, GA
Museum of Southwest/Blakemore Planetarium	Midland, TX
Museum of the Rockies	Bozeman, MT
National Soaring Museum	Elmira, NY
New England Air Museum	Windsor Locks, CT
Newport Aquarium	Newport, KY

Niagara Aerospace Museum	Niagara Falls, NY
Norfolk Public Library	Norfolk, NE
North Museum of Natural History and Science	Lancaster, PA
Northern Stars Planetarium	Fairfield, ME
Northside Branch Library	Chillicothe, OH
Novins Planetarium	Toms River, NJ
Oglebay's Good Zoo & Benedum Planetarium	Wheeling, WV
Oregon Coast Aquarium	Newport, OR
Ouachita Public Library	Monroe, LA
Owls Head Transportation Museum	Owls Head, ME
Parker Public Library	Parker, AZ
Parkersburg Public Library	Parkersburg, WV
Patrick Air Force Base Youth Center	Satellite Beach, FL
Paulucci Space Theater	Hibbing, MN
Pensacola Public Library	Pensacola, FL
Perkins Observatory	Delaware, OH
Peter White Public Library	Marquette, MI
Peterson Air Force Base Youth Center	Peterson Air Force Base, CO
Pima Air and Space Museum	Tucson, AZ
Port Defiance Zoo and Aquarium	Tacoma, WA
Portsmouth Museums	Portsmouth, VA
Provo Library	Provo, UT
Public Library of Enid and Garfield County	Enid, OK
Putnam County Library System	Cookeville, TN
Raritan Valley Community College	Somerville, NJ
Rawlins Municipal Library	Pierre, SD
Riverside Zoo	Scottsbluff, NE
Roberson Museum & Science Center	Binghamton, NY
Rock Springs Public Library	Rock Springs, WY
Rocky Mount Children's Museum	Rocky Mount, NC
Russell C. Davis Planetarium	Jackson, MS
Sanford Museum and Planetarium	Cherokee, IA
Santa Maria Museum of Flight	Santa Maria, CA
Science Station	Cedar Rapids, IA
Scott Air Force Base Youth Center	Scott Air Force Base, IL
Selfridge Air National Guard Base	Sang, MI
Sharpe Planetarium/Memphis Pink Palace Museum	Memphis, TN
Shaw Youth Center	Shaw Air Force Base, SC
Shenandoah Valley Discovery Museum	Winchester, VA
Sheridan County Public Library	Sheridan, WY
South Florida Science Museum	West Palm Beach, FL
South Shore Natural Science Center	Norwell, MA
Southern Forest World	Waycross, GA
Southworth Planetarium	Portland, ME
Springfield Children's Museum	Springfield, IL
Staerkel Planetarium	Champaign, IL
Stanbank Planetarium	Orangeburg, SC
State Library of Iowa	Des Moines, IA
Storer Planetarium	Prince Frederick, MD
Subase Youth Center	Groton, CT
Texas Air Museum	Rio Hondo, TX
Tinker Air Force Base Youth Services	Tinker Air Force Base, OK
To'Hajiilee Community School Library	Canoncito, NM
Tulsa Central Public Library	Tulsa, OK

Turkey Run State Park Planetarium	Marshall, IN
Turtle Bay Museum	Redding, CA
Tuzzy Consortium Library	Barrow, AK
Universe Theater and Planetarium	Kalamazoo, MI
University of Guam Planetarium	Mangilao, GU
Utica Zoo	Utica, NY
Venango Museum of Art, Science, and Industry	Oil City, PA
Victor Valley College Planetarium	Victorville, CA
Wallace Planetarium	Fitchburg, MA
Warhawk Air Museum	Nampa, ID
Washington County Free Library	Hagerstown, MD
Western Aerospace Museum	Oakland, CA
Western Museum of Flight	Hawthorne, CA
Willamette Science and Transportation Museum	Eugene, OR
Wilmington Public Library	Wilmington, DE
Wonderscope Children's Museum	Shawnee, KS
Zoo Atlanta	Atlanta, GA

A371. Space Place Newspaper Contributions

Theme(s): SEC

Msn/Prgm(s): SIRTF[B24], CXO[B67], LISA[B72], ST-5[B120]

Description: Every month Space Place provides articles for 20 newspapers around the country—both English and Spanish. The combined readership for that one day a month adds up to more than 2.5 million readers. The articles cover technology, missions, astronaut food, and much, much more. The purpose of these articles is to educate children and interest their parents. The articles always end with information on activities and a link to "The Space Place" Web site.

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Contact: Ms. Liliana Novati, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Liliana.Novati@jpl.nasa.gov.* Phone: 818-354-1486.

Primary URL: *http://spaceplace.jpl.nasa.gov*

2nd URL: *http://spaceplace.nasa.gov*

Scientist(s):	Ms. Diane Fisher	NASA Jet Propulsion Laboratory	Pasadena, CA
Partner(s):	Al Dia		Philadelphia, PA
	Brownsville Herald		Brownsville, TX
	Chronicle Telegram		Elyria, OH
	Daily Courier		Kelowna, Canada
	Daily Herald		Elgin, IL
	Denver Post		Denver, CO
	El Tiempo Latino		Arlington, VA
	Herald-Standard		Uniontown, PA
	La Noticia		Charlotte, NC
	La Oferta		San Jose, CA
	La Opinion		Los Angeles, CA
	Los Angeles Times		Los Angeles, CA
	Noticias del Mundo		Long Island City, NY
	Sentinal		Seabrook, MD
	South Bend Tribune		South Bend, IN
	Stillwater News Press		Stillwater, OK
	Times Record		Brunswick, ME
	Vistazo		San Jose, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
09 Oct 01	09 Oct 01	Denver Post	Denver, CO	-	377,000	-
21 Oct 01	21 Oct 01	La Opinion	Los Angeles, CA	-	102,000	-
22 Oct 01	22 Oct 01	Los Angeles Times	Los Angeles, CA	-	1,300,000	-

02 Nov 01	02 Nov 01	La Noticia	Charlotte, NC	-	26,000	-
11 Nov 01	11 Nov 01	La Opinion	Los Angeles, CA	-	102,000	-
13 Nov 01	13 Nov 01	Denver Post	Denver, CO	-	377,000	-
15 Nov 01	15 Nov 01	Sentinal	Seabrook, MD	-	200,000	-
19 Nov 01	19 Nov 01	Los Angeles Times	Los Angeles, CA	-	1,300,000	-
07 Dec 01	07 Dec 01	La Noticia	Charlotte, NC	-	26,000	-
13 Dec 01	13 Dec 01	Sentinal	Seabrook, MD	-	200,000	-
16 Dec 01	16 Dec 01	La Opinion	Los Angeles, CA	-	102,000	-
26 Dec 01	26 Dec 01	Los Angeles Times	Los Angeles, CA	-	1,300,000	-
11 Jan 02	11 Jan 02	El Tiempo Latino	Arlington, VA	-	27,500	-
12 Jan 02	12 Jan 02	Stillwater News Press	Stillwater, OK	-	150,000	-
13 Jan 02	19 Jan 02	Al Dia	Philadelphia, PA	-	25,000	-
14 Jan 02	14 Jan 02	Daily Herald	Elgin, IL	-	144,000	-
15 Jan 02	15 Jan 02	Denver Post	Denver, CO	-	377,000	-
17 Jan 02	17 Jan 02	Sentinal	Seabrook, MD	-	200,000	-
22 Jan 02	22 Jan 02	Daily Courier	Kelowna, Canada	-	145,000	-
23 Jan 02	23 Jan 02	Los Angeles Times	Los Angeles, CA	-	1,300,000	-
01 Feb 02	01 Feb 02	La Noticia	Charlotte, NC	-	26,000	-
08 Feb 02	08 Feb 02	El Tiempo Latino	Arlington, VA	-	27,500	-
10 Feb 02	10 Feb 02	La Opinion	Los Angeles, CA	-	102,000	-
10 Feb 02	16 Feb 02	Al Dia	Philadelphia, PA	-	25,000	-
11 Feb 02	11 Feb 02	Daily Herald	Elgin, IL	-	143,961	-
12 Feb 02	12 Feb 02	Denver Post	Denver, CO	-	377,000	-
16 Feb 02	16 Feb 02	Stillwater News Press	Stillwater, OK	-	150,000	-
21 Feb 02	21 Feb 02	Sentinal	Seabrook, MD	-	200,000	-
21 Feb 02	21 Feb 02	Times Record	Brunswick, ME	-	140,000	-
27 Feb 02	27 Feb 02	Los Angeles Times	Los Angeles, CA	-	1,300,000	-
10 Mar 02	10 Mar 02	La Opinion	Los Angeles, CA	-	102,000	-
11 Mar 02	11 Mar 02	Daily Herald	Elgin, IL	-	144,000	-
11 Mar 02	11 Mar 02	Times Record	Brunswick, ME	-	140,000	-
15 Mar 02	15 Mar 02	El Tiempo Latino	Arlington, VA	-	27,500	-
16 Mar 02	16 Mar 02	Stillwater News Press	Stillwater, OK	-	150,000	-
26 Mar 02	26 Mar 02	Denver Post	Denver, CO	-	376,549	-
27 Mar 02	27 Mar 02	Los Angeles Times	Los Angeles, CA	-	1,300,000	-
31 Mar 02	31 Mar 02	La Opinion	Los Angeles, CA	-	102,000	-
04 Apr 02	04 Apr 02	Sentinal	Seabrook, MD	-	200,000	-
06 Apr 02	06 Apr 02	Stillwater News Press	Stillwater, OK	-	150,000	-
09 Apr 02	09 Apr 02	Noticias del Mundo	Long Island City, NY	-	25,000	-
14 Apr 02	20 Apr 02	Al Dia	Philadelphia, PA	-	25,000	-
16 Apr 02	16 Apr 02	Daily Courier	Kelowna, Canada	-	145,000	-
18 Apr 02	18 Apr 02	Sentinal	Seabrook, MD	-	200,000	-
19 Apr 02	19 Apr 02	El Tiempo Latino	Arlington, VA	-	27,500	-
24 Apr 02	24 Apr 02	Los Angeles Times	Los Angeles, CA	-	2,386,293	-
07 May 02	07 May 02	Chronicle Telegram	Elyria, OH	-	125,000	-
07 May 02	07 May 02	Noticias del Mundo	Long Island City, NY	-	25,000	-
10 May 02	10 May 02	El Tiempo Latino	Arlington, VA	-	27,500	-
11 May 02	11 May 02	Stillwater News Press	Stillwater, OK	-	150,000	-
22 May 02	22 May 02	Los Angeles Times	Los Angeles, CA	-	2,386,293	-
02 Jun 02	08 Jun 02	Al Dia	Philadelphia, PA	-	25,000	-
07 Jun 02	07 Jun 02	El Tiempo Latino	Arlington, VA	-	27,500	-
07 Jun 02	07 Jun 02	La Oferta	San Jose, CA	-	25,000	-
07 Jun 02	07 Jun 02	Vistazo	San Jose, CA	-	25,000	-
11 Jun 02	11 Jun 02	Noticias del Mundo	Long Island City, NY	-	25,000	-
13 Jun 02	13 Jun 02	Sentinal	Seabrook, MD	-	200,000	-
15 Jun 02	15 Jun 02	Stillwater News Press	Stillwater, OK	-	150,000	-
26 Jun 02	26 Jun 02	Los Angeles Times	Los Angeles, CA	-	1,300,000	-
02 Jul 02	02 Jul 02	Denver Post	Denver, CO	-	377,000	-

03 Jul 02	03 Jul 02	Vistazo	San Jose, CA	-	25,000	-
07 Jul 02	07 Jul 02	La Opinion	Los Angeles, CA	-	102,000	-
09 Jul 02	09 Jul 02	Noticias del Mundo	Long Island City, NY	-	25,000	-
12 Jul 02	12 Jul 02	El Tiempo Latino	Arlington, VA	-	27,500	-
12 Jul 02	12 Jul 02	South Bend Tribune	South Bend, IN	-	78,000	-
13 Jul 02	13 Jul 02	Stillwater News Press	Stillwater, OK	-	150,000	-
09 Aug 02	09 Aug 02	La Oferta	San Jose, CA	-	25,000	-
09 Aug 02	09 Aug 02	Vistazo	San Jose, CA	-	25,000	-
11 Aug 02	11 Aug 02	La Opinion	Los Angeles, CA	-	102,000	-
11 Aug 02	17 Aug 02	Al Dia	Philadelphia, PA	-	25,000	-
12 Aug 02	12 Aug 02	Times Record	Brunswick, ME	-	140,000	-
13 Aug 02	13 Aug 02	Noticias del Mundo	Long Island City, NY	-	25,000	-
14 Aug 02	14 Aug 02	Brownsville Herald	Brownsville, TX	-	13,000	-
17 Aug 02	17 Aug 02	Stillwater News Press	Stillwater, OK	-	150,000	-
20 Aug 02	20 Aug 02	Denver Post	Denver, CO	-	377,000	-
23 Aug 02	23 Aug 02	El Tiempo Latino	Arlington, VA	-	27,500	-
28 Aug 02	28 Aug 02	Los Angeles Times	Los Angeles, CA	-	1,300,000	-
29 Aug 02	29 Aug 02	Sentinal	Seabrook, MD	-	200,000	-
06 Sep 02	06 Sep 02	La Oferta	San Jose, CA	-	25,000	-
06 Sep 02	06 Sep 02	Vistazo	San Jose, CA	-	25,000	-
08 Sep 02	08 Sep 02	La Opinion	Los Angeles, CA	-	102,000	-
09 Sep 02	09 Sep 02	Times Record	Brunswick, ME	-	140,000	-
10 Sep 02	10 Sep 02	Denver Post	Denver, CO	-	377,000	-
10 Sep 02	10 Sep 02	Noticias del Mundo	Long Island City, NY	-	25,000	-
13 Sep 02	13 Sep 02	El Tiempo Latino	Arlington, VA	-	27,500	-
14 Sep 02	14 Sep 02	Stillwater News Press	Stillwater, OK	-	150,000	-
24 Sep 02	24 Sep 02	Herald-Standard	Uniontown, PA	-	9,000	-
25 Sep 02	25 Sep 02	Los Angeles Times	Los Angeles, CA	-	1,300,000	-

A372. Stardust Amateur Astronomical Societies

Theme(s): SSE
Msn/Prgm(s): Stardust[B47]
Description: Stardust Space Place partnerships make up the large majority of our involvement with amateur astronomers societies.
Lead: Ms. Aimee Whalen, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *aimee.l.whalen@jpl.nasa.gov.* Phone: 818-354-3245.
Primary URL: *http://stardust.jpl.nasa.gov*
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
22 Sep 01	22 Sep 01	Aerospace Summit and Constellation Club	Springfield, MO	75	-	-
21 Sep 02	21 Sep 02	Albuquerque Astronomical Society	Albuquerque, NM	-	3,000	-
28 Sep 02	28 Sep 02	Cockermouth Astronomical Society	Cumbria, United Kingdom	-	350	-

A373. Stardust Public Outreach

Theme(s): SSE
Msn/Prgm(s): Stardust[B47]
Description: The public events include star parties, rotary club meetings, Ambassador events, and/or nontraditional event venues (i.e., Boy Scouts).
Lead: Ms. Aimee Whalen, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *aimee.l.whalen@jpl.nasa.gov.* Phone: 818-354-3245.
Primary URL: *http://stardust.jpl.nasa.gov*
Scientist(s):

Dr. Pat Beauchamp	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Allan Cheuvront	Lockheed Martin Space Systems	Littleton, CO
Ms. Charlayne Fliege	NASA Jet Propulsion Laboratory	Pasadena, CA
Mr. Ray Newburn	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Mar 01	07 Mar 01	California State University, Los Angeles	Los Angeles, CA	32	4	-
16 May 01	16 May 01	Park Ridge Public Library	Park Ridge, IL	-	100	-
03 May 02	03 May 02	Skyline High School	Salt Lake City, UT	154	-	-
07 Jun 02	07 Jun 02	Bartlett Elementary School	San Bernardino, CA	507	-	-
13 Jun 02	13 Jun 02	University of Hawaii at Hilo	Hilo, HI	31	-	-

A374. Stratospheric Observatory for Infrared Astronomy (SOFIA) Visitors' Center Exhibit

Theme(s): ASO

Msn/Prgm(s): SOFIA[B25]

Description: The SOFIA education and public outreach program worked closely with the SOFIA Project Office and the NASA Ames Research Center (ARC) Office of Public Affairs to develop an interactive exhibit on SOFIA for the NASA ARC visitors' center. The exhibit features the wind-tunnel model of SOFIA that was used to test the cavity-door designs during the development of SOFIA. Visitors are able to operate the door and to learn more about the technology, engineering, and science of SOFIA from the wall panels that accompany the exhibit. The exhibit opened in December 2001 and is available to the public and school groups during normal hours at the ARC visitors' center.

Lead: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.

Contact: Ms. Edna DeVore, SETI Institute, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.

Primary URL: *http://sofia.arc.nasa.gov/*

Scientist(s): Dr. Michael Bennett — Astronomical Society of the Pacific (ASP) — San Francisco, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
13 Dec 01	13 Dec 01	NASA Ames Research Center	Moffett Field, CA	-	40	-

A375. Structure and Evolution of the Universe (SEU) Forum Informal Science Education Programs

Theme(s): ASO

Msn/Prgm(s): SEU Forum[B13]

Description: The SEU Forum coordinates, contributes to, and facilitates educational programs for broad public audiences in informal science education settings such as museums, planetariums, visitor centers, etc. From 1-day events to ongoing programming, these programs bring the excitement of space science discoveries to family audiences in accessible ways.

Lead: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

Scientist(s): Mr. Adam Contos — Harvard-Smithsonian Center for Astrophysics — Cambridge, MA
Dr. Stephen Murray — Harvard-Smithsonian Center for Astrophysics — Cambridge, MA

Partner(s): Museum of Science — Boston, MA
W.M. Keck Observatory — Kamuela, HI

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
20 Apr 02	20 Apr 02	Museum of Science	Boston, MA	-	3,000	-
20 Apr 02	20 Apr 02	Prince Kuhio Mall	Hilo, HI	-	12,000	-

A376. Students Acquiring Real Science

Theme(s): ASO

Msn/Prgm(s): SERCH B/F[B19]

Description: Students Acquiring Real Science (STARS) was first developed by the Virginia Air and Space Center (VASC) as an afterschool program for at-risk students. It was developed into a 3-year project to enrich sixth graders from the Newport News school system with science programming. STARS used programs and resources at the Virginia Air and Space Center to engage students in learning about space sciences. The sessions included information sharing, hands-on science experiments, and interactive team-building and problem-solving activi-

ties that were supervised by VASC professional educators with support from consulting scientists and technologists. The Virginia Standards of Learning objectives are addressed in the selection of the integrated programming, including force, energy and motion, states of matter, robotic technology, community planning, and plotting/mapping and their effects on the progress of Solar System exploration. Also, the sessions included an IMAX film, a guided tour of Solar System exhibits, a supervised activity in the NASA Aeronautic Education Laboratory, and a career-awareness encounter with professional volunteers from a variety of science and technical jobs, including NASA mentors.

Lead: Ms. Anne Garland, Virginia Air and Space Museum, Hampton, VA 23669.
E-mail: *garland@visi.net.* Phone: 757-727-0900.

Partner(s): College of Charleston — Charleston, SC
Virginia Space Grant Consortium — Hampton, VA

A377. Studies of Solar Magnetic Fields and Solar Activity

Theme(s): SEC
Msn/Prgm(s): SRT[B3]
Description: We operate Big Bear Solar Observatory in California. We have public tours in the summer every Saturday that attract 200-300 people each week. In addition, we have public school visits throughout the year. These tours take place one to two times per month and typically involve about 30 students. We also have tours for various public groups. In addition, we give talks at various schools that are within a day's drive of the observatory. We also have one local high school student who works at the observatory each summer. The student is selected by the high school science teacher.
Lead: Dr. Philip Goode, New Jersey Institute of Technology, Newark, NJ 07102.
E-mail: *pgoode@bbso.njit.edu.* Phone: 973-596-2565.

A378. Summer Solstice Celebration

Theme(s): SEC
Msn/Prgm(s): SSE Forum[B12], S2N2 B/F[B21]
Description: On June 21-22, 2002, the Imaginarium participated in Anchorage's Summer Solstice Celebration (attended by 4,000 visitors) by providing a giant sundial, solar telescopes, solar interpretative information and NASA Office of Space Science materials. Solar System Ambassador Scott Girard (trained by the Solar System Exploration Forum) helped with activities and questions.
Lead: Mr. Greg Danner, Imaginarium Science Discovery Center, Anchorage, AK 99501-2117.
E-mail: *Greg@Imaginarium.Org.* Phone: 907-276-3179.

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
21 Jun 02	22 Jun 02	Imaginarium Science Discovery Center	Anchorage, AK	-	4,000	-

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A379. Sun-Earth Connection Education and Public Outreach Electronic Newsletter

Theme(s): SEC
Msn/Prgm(s): SECEF[B14]
Description: "The Sun-Earth CONNECTION" is an education and public outreach (E/PO) newsletter for the Sun-Earth connection science community and others who are interested in E/PO. It is in an electronic format and is issued approximately every 6 weeks. The goal is to keep the Sun-Earth Connection Education Forum community informed about the latest events and activities for educators and the public and to provide a chance to contribute notices about accomplishments in the realm of education and public outreach.
Lead: Ms. Karin Hauck, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *karin@ssl.berkeley.edu.* Phone: 510-643-5660.
Primary URL: *http://sunearth.ssl.berkeley.edu/SECNews*

Scientist(s): Dr. Isabel Hawkins — University of California, Berkeley — Berkeley, CA
Ms. Carolyn Ng — NASA Goddard Space Flight Center — Greenbelt, MD
Dr. Sten Odenwald — NASA Goddard Space Flight Center — Greenbelt, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
10 Oct 01	30 Sep 02	University of California, Berkeley	Berkeley, CA	-	300	-

A380. Sun-Earth Connection Education Forum (SECEF) Outreach Workshops: Science of the Sun

Theme(s): SEC

Msn/Prgm(s): SECEF[B14]

Description: As part of its eduction and public outreach efforts, the Sun-Earth Connection Education Forum (SECEF) presents short workshops at schools, museums, or science centers in order to share Sun-Earth connection science and/or demonstrate/train educators, students, or the general public in how to use Sun-Earth connection products and programs.

Lead: Dr. Isabel Hawkins, University of California, Berkeley, Berkeley, CA 94720.
E-mail: *isabelh@ssl.berkeley.edu.* Phone: 510-643-5662.

Primary URL: *http://sunearth.ssl.berkeley.edu*

2nd URL: *http://sunearth.gsfc.nasa.gov*

Scientist(s): Dr. Isabel Hawkins — University of California, Berkeley — Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
28 Mar 02	28 Mar 02	University of California, Berkeley	Berkeley, CA	57	-	-

A381. Sun-Earth Day

Theme(s): SEC

Msn/Prgm(s): SECEF[B14], Ulysses[B96], ACE[B98], FAST[B100], RHESSI[B101], IMAGE[B102], TRACE[B106], Cluster II[B109], SOHO[B112], STP[B114], STEREO[B117], TIMED[B118], Yohkoh[B121]

Description: The Sun-Earth Connection Education Forum (SECEF) created Sun-Earth Day as an annual national event to provide opportunities and unique ways of sharing the science of the Sun with educators, students, and the general public. Webcast technology is used to bring the science into the classroom and to the general public in real time. Support materials are available through the NASA Central Operation of Resources for Educators (CORE), NASA Centers, and NASA Educator Resource Centers (ERCs). The theme is new each year, as are the featured activities. Activities include telescopes on the Web, Webcasts, Web chats, teacher training workshops, museum activities, and sharing data through the featured activities. Scientists are involved through classroom and museum presentations, answering questions during the Webcast and Web chats. There is also a cultural connection shared with students and the general public to provide scientific parallels between cultural traditions and science.

Lead: Ms. Elaine Lewis, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *lewis@mail630.gsfc.nasa.gov.* Phone: 301-286-3337.

Contact: Mr. Troy Cline, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *cline@mail630.gsfc.nasa.gov.* Phone: 301-286-6606.

Primary URL: *http://sunearth.gsfc.nasa.gov*

Scientist(s):

Ms. Andrea Angrum	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. John Beck	Stanford University	Stanford, CA
Dr. Eric Christian	NASA Goddard Space Flight Center	Greenbelt, MD
Mr. Troy Cline	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Richard Crowe	University of Hawaii at Hilo	Hilo, HI
Dr. Michael Fauerbach	Florida Gulf Coast University	Fort Myers, FL
Dr. Nicola Fox	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Isabel Hawkins	University of California, Berkeley	Berkeley, CA
Dr. Steele Hill	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Therese Kucera	NASA Goddard Space Flight Center	Greenbelt, MD
Ms. Barbara Lambert	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Michelle Larson	University of California, Berkeley	Berkeley, CA
Ms. Elaine Lewis	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Marilyn Lindstrom	NASA Johnson Space Center	Houston, TX
Dr. Ramon Lopez	University of Texas at El Paso	El Paso, TX
Dr. Thomas Metcalf	Lockheed Martin Advanced Technology Center	Palo Alto, CA
Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
Dr. Paul Mortfield	Stanford University	Stanford, CA
Ms. Carolyn Ng	NASA Goddard Space Flight Center	Greenbelt, MD
Dr. Sten Odenwald	NASA Goddard Space Flight Center	Greenbelt, MD

	Dr. Patricia Reiff	Rice University	Houston, TX
	Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	Greenbelt, MD
	Dr. Greg Schultz	University of California, Berkeley	Berkeley, CA
	Dr. Peter Smith	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Leonard Strachan	Harvard-Smithsonian Center for Astrophysics	Cambridge, MA
	Dr. Niescja Turner	University of Texas at El Paso	El Paso, TX
Partner(s):	NASA Ames Research Center		Moffett Field, CA
	NASA Jet Propulsion Laboratory		Pasadena, CA
	NASA Johnson Space Center		Houston, TX
	NASA Langley Research Center		Hampton, VA
	NASA Marshall Space Flight Center		Marshall Space Flight Center, AL
	NASA Stennis Space Center		Stennis Space Center, MS
	Raytheon Company		Lanham, MD
	Stanford University		Stanford, CA
	World Hope Foundation		Boulder, CO

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
24 Oct 01	24 Oct 01	NASA Office of Space Science	Washington, DC	20	-	-
01 Nov 01	20 Mar 02	NASA Goddard Space Flight Center	Greenbelt, MD	2,550	-	-
22 Feb 02	01 Mar 02	Florida Gulf Coast University	Fort Myers, FL	-	1,000	-
01 Mar 02	31 Mar 02	NASA Goddard Space Flight Center	Greenbelt, MD	4,381	-	-
01 Mar 02	03 Apr 02	NASA Goddard Space Flight Center	Greenbelt, MD	-	16,450	-
01 Mar 02	24 Apr 02	West Virginia University	Morgantown, WV	154	-	-
06 Mar 02	06 Mar 02	NASA Goddard Space Flight Center	Greenbelt, MD	25	70	-
14 Mar 02	16 Mar 02	NASA Langley Research Center	Hampton, VA	35	-	-
14 Mar 02	21 Mar 02	University of Tennessee at Martin	Martin, TN	60	-	-
16 Mar 02	16 Mar 02	NASA Marshall Space Flight Center	Marshall Space Flight Center, AL	30	-	-
20 Mar 02	20 Mar 02	Chabot Space and Science Center	Oakland, CA	396	184	-
20 Mar 02	20 Mar 02	Insights El Paso Science Museum	El Paso, TX	-	102	-
20 Mar 02	20 Mar 02	Murray State University	Murray, KY	-	200	-
20 Mar 02	20 Mar 02	Museum of Science	Boston, MA	-	300	-
20 Mar 02	20 Mar 02	NASA Ames Research Center	Moffett Field, CA	51	-	-
20 Mar 02	20 Mar 02	NASA Ames Research Center	Moffett Field, CA	10,721	550,000	-
20 Mar 02	20 Mar 02	NASA Goddard Space Flight Center	Greenbelt, MD	42	-	-
20 Mar 02	20 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	75	-	-
20 Mar 02	20 Mar 02	NASA Jet Propulsion Laboratory	Pasadena, CA	852	-	-
20 Mar 02	20 Mar 02	NASA Stennis Space Center	Stennis Space Center, MS	-	50	-
20 Mar 02	20 Mar 02	The Science Discovery Clubs Network	Godalming, United Kingdom	-	700	-
20 Mar 02	20 Mar 02	Western Colorado Museum	Grand Junction, CO	-	400	-
20 Mar 02	23 Mar 02	Bishop Museum	Honolulu, HI	-	300	-
20 Mar 02	23 Mar 02	Buffalo Museum of Science	Buffalo, NY	-	300	-
20 Mar 02	23 Mar 02	Catawba Science Center	Hickory, NC	-	300	-
20 Mar 02	23 Mar 02	Lafayette Natural History Museum and Planetarium	Lafayette, LA	-	400	-
20 Mar 02	23 Mar 02	Maryland Science Center	Baltimore, MD	125	150	-
20 Mar 02	23 Mar 02	Museum of Discovery	Little Rock, AR	-	600	-
20 Mar 02	23 Mar 02	NASA Goddard Space Flight Center	Greenbelt, MD	60	-	-
20 Mar 02	23 Mar 02	New Mexico Museum of Space History	Alamogordo, NM	-	600	-
20 Mar 02	23 Mar 02	World Hope Foundation	Boulder, CO	345	2,300	-
20 Mar 02	24 Mar 02	Adler Planetarium and Astronomy Museum	Chicago, IL	-	665	-
20 Mar 02	27 Mar 02	Harvard University	Cambridge, MA	-	450	-

20 Mar 02	27 Mar 02	NASA Goddard Space Flight Center	Greenbelt, MD	75	458	-
20 Mar 02	25 Jul 02	Salish Kootenai College	Pablo, MT	-	1,000	-
23 Mar 02	23 Mar 02	G.WIZ (Gulfcoast Wonder and Imagination Zone)	Sarasota, FL	30	80	-
23 Mar 02	23 Mar 03	Houston Museum of Natural Science	Houston, TX	100	5,000	-
27 Mar 02	27 Mar 02	University of Hawaii at Hilo	Hilo, HI	50	-	-
28 Mar 02	28 Apr 02	NASA Langley Research Center	Hampton, VA	-	71,893,184	-
24 Apr 02	24 Apr 02	Flint Cultural Center-Longway Planetarium	Flint, MI	-	100	-
02 May 02	02 May 02	NASA Langley Research Center	Hampton, VA	21	-	-

A382. Sunspotting—Tracking the Wild Sunspot

Theme(s): SEC

Msn/Prgm(s): Solar-B[B116]

Description: Sunspotting—Tracking the Wild Sunspot brings public and student visitors face to face with the Sun through the use of Learning Technologies, Inc., Sunspotter solar telescopes and other solar-viewing instruments. As part of the demonstration, visitors are shown, with a large lens and a surrogate "eyeball" (a piece of wood or a grape), why it is not safe to look at the Sun, either directly or with an instrument like a conventional telescope. The differences and similarities in the design of the Sunspotter versus a conventional refractor invoke discussions on telescope technology, and the solar image motion across the viewing surface brings up the question of apparent solar motion and the rotation of Earth on its axis. Visitors are given an informational brochure that introduces our Sun and its importance to life on Earth, and it provides fascinating solar facts, Web sites, a solar crossword puzzle, and an explanation of the sunspot features as seen through the Sunspotters. The unseen solar magnetic fields that cause the sunspots are modeled with a visual aid, and visitors are given the opportunity to trace their own maps of the current sunspot activity on the Sun.

Lead: Mr. Benjamin Burress, Chabot Space and Science Center, Oakland, CA 94619.
E-mail: *bburress@chabotspace.org.* Phone: 510-336-7308.

Scientist(s): Dr. Michelle Larson University of California, Berkeley Berkeley, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
23 Jul 02	23 Jul 02	Chabot Space and Science Center	Oakland, CA	-	19	-
24 Jul 02	24 Jul 02	Chabot Space and Science Center	Oakland, CA	-	26	-
25 Jul 02	25 Jul 02	Chabot Space and Science Center	Oakland, CA	-	27	-
26 Jul 02	26 Jul 02	Chabot Space and Science Center	Oakland, CA	-	15	-
30 Jul 02	30 Jul 02	Chabot Space and Science Center	Oakland, CA	-	31	-
31 Jul 02	31 Jul 02	Chabot Space and Science Center	Oakland, CA	-	32	-
01 Aug 02	01 Aug 02	Chabot Space and Science Center	Oakland, CA	-	20	-
06 Aug 02	06 Aug 02	Chabot Space and Science Center	Oakland, CA	-	22	-
07 Aug 02	07 Aug 02	Chabot Space and Science Center	Oakland, CA	-	45	-
08 Aug 02	08 Aug 02	Chabot Space and Science Center	Oakland, CA	-	17	-
08 Aug 02	11 Aug 02	Chabot Space and Science Center	Oakland, CA	-	200	-
09 Aug 02	09 Aug 02	Chabot Space and Science Center	Oakland, CA	-	30	-
20 Aug 02	20 Aug 02	Chabot Space and Science Center	Oakland, CA	-	21	-
21 Aug 02	21 Aug 02	Chabot Space and Science Center	Oakland, CA	-	24	-
27 Aug 02	27 Aug 02	Chabot Space and Science Center	Oakland, CA	-	32	-
28 Aug 02	28 Aug 02	Chabot Space and Science Center	Oakland, CA	-	24	-
29 Aug 02	29 Aug 02	Chabot Space and Science Center	Oakland, CA	-	14	-
30 Aug 02	30 Aug 02	Chabot Space and Science Center	Oakland, CA	-	18	-

A383. "The Exploding Universe" Public Presentations

Theme(s): SEU

Msn/Prgm(s): GLAST[B70], Swift[B83]

Description: This activity uses Swift education and public outreach materials to promote an improvement in the public's understanding of science as it relates to astronomy, cosmology, mathematics, and technology. This includes direct and indirect contact with the public through various forms of media: the Internet, printed materials, radio and TV (local and national), and electronic media presentations.

Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.

E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
Contact: Dr. Phil Plait, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *phil@universe.sonoma.edu.* Phone: 707-664-2190.
Primary URL: *http://swift.sonoma.edu*
2nd URL: *http://swift.sonoma.edu/program.html*

Scientist(s):		
Dr. Philip Plait	Sonoma State University	Rohnert Park, CA
Dr. Laura Whitlock	Sonoma State University	Rohnert Park, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
01 Nov 01	01 Nov 01	College of Charleston	Charleston, SC	-	30	-
06 Mar 02	06 Mar 02	Washington State University	Pullman, WA	-	50	-
11 Mar 02	11 Mar 02	Bowling Green State University	Bowling Green, OH	-	50	-
01 May 02	01 May 02	Georgia Southwestern State University	Americus, GA	-	30	-
05 Sep 02	05 Sep 02	Peck Farm Park	Geneva, IL	-	75	-
19 Sep 02	19 Sep 02	Reedley College	Reedley, CA	100	-	-
20 Sep 02	20 Sep 02	Fresno State University	Fresno, CA	150	-	-

A384. The Extreme Universe of Gamma-Ray Astronomy! Public Presentations

Theme(s): SEU
Msn/Prgm(s): GLAST[B70], Swift[B83]
Description: This activity promotes an improvement in the public's understanding of science as it relates to astronomy, cosmology, mathematics, and high-energy physics. This includes direct and indirect contact with the public through various forms of media: the Internet, printed materials, radio and TV (local and national), and electronic media presentations.
Lead: Dr. Lynn Cominsky, Sonoma State University, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
Primary URL: *http://glast.sonoma.edu*
2nd URL: *http://glast.sonoma.edu/resources/index.html*

Scientist(s):		
Dr. Lynn Cominsky	Sonoma State University	Rohnert Park, CA
Dr. John Mattox	Francis Marion University	Florence, SC
Dr. Philip Plait	Sonoma State University	Rohnert Park, CA
Dr. Gordon Spear	Sonoma State University	Rohnert Park, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
23 Oct 01	23 Oct 01	BCTV News	Winnipeg, Canada	-	1,000,000	-
09 Nov 01	09 Nov 01	Western Kentucky University	Bowling Green, KY	30	-	-
14 Nov 01	14 Nov 01	Foothill College	Los Altos Hills, CA	-	800	-
07 Dec 01	07 Dec 01	Society of Canadian Women in Science and Technology	Vancouver, Canada	42	-	-
12 Dec 01	16 Dec 01	Coral Gables Conference 2001	Fort Lauderdale, FL	-	50	-
14 Dec 01	14 Dec 01	Sonoma County Astronomical Society	Santa Rosa, CA	-	75	-
07 Jan 02	11 Jan 02	American Astronomical Society (AAS) Meeting	Washington, DC	-	150	-
04 Jun 02	04 Jun 02	PILOT Club of Holton	Holton, KS	-	50	-
09 Jun 02	09 Jun 02	Coast to Coast AM	Palm Coast, FL	-	10,000,000	-
30 Jun 02	06 Jul 02	American Association of Variable Star Observers (AAVSO) Meeting	Waikoloa Beach, HI	-	100	-
13 Jul 02	13 Jul 02	MTIA/Astronomy Programs	San Rafael, CA	-	200	-
21 Aug 02	21 Aug 02	MTIA/Astronomy Programs	San Rafael, CA	-	50	-

A385. TIGER on TV

Theme(s): SEU
Msn/Prgm(s): HEASARC[B86]
Description: The Trans-Iron Galactic Element Recorder (TIGER) is a balloon-borne cosmic-ray spectrometer that flew twice around the South Pole in December 2001 and January 2002. The balloon launch and science team interviews were done for two shows: "Hot Science in Antarctica" and "Fantastic Plastics" which are being put together by

the National History New Zealand and National Geographic organizations.
Lead: Dr. Eric Christian, NASA Goddard Space Flight Center, Greenbelt, MD 20771.
E-mail: *erc@cosmicra.gsfc.nasa.gov.* Phone: 301-286-1041.
Primary URL: *http://tiger.gsfc.nasa.gov*
2nd URL: *http://cosray2.wustl.edu/tiger/index.html*
Scientist(s): Dr. Eric Christian NASA Goddard Space Flight Center Greenbelt, MD
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
16 Nov 01	16 Nov 01	National Geographic/ Natural History New Zealand	Dunedin, New Zealand	-	1,000,000	-
16 Nov 01	16 Nov 01	National Geographic/ Natural History New Zealand	Dunedin, New Zealand	-	1,000,000	-

A386. TIMED Public Outreach

Theme(s): SEC
Msn/Prgm(s): TIMED[B118]
Description: The Thermosphere Ionosphere Mesosphere Energetics and Dynamics (TIMED) education and public outreach (E/PO) office helped scientists, engineers, and other team members become involved in the E/PO efforts by providing opportunities for TIMED general public outreach. The E/PO office supported these events by providing the resources that were necessary for the team members to talk to the general public, present demonstrations, and to conduct activities that are related to the TIMED mission. The E/PO office organized a viewing via the NASA TV coverage of the TIMED launch on December 7, 2001, at Johns Hopkins University Applied Physics Laboratory (JHU/APL) with address and commentary by JHU/APL scientists.
Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.
Contact: Ms. Linda Butler, Johns Hopkins University Applied Physics Laboratory, Laurel, MD 20723-6099.
E-mail: *Linda.Butler@jhuapl.edu.* Phone: 240-228-5746.
Primary URL: *http://www.timed.jhuapl.edu/*
Scientist(s): Ms. Kerri Beisser Johns Hopkins University Applied Physics Laboratory Laurel, MD
Ms. Linda Butler Johns Hopkins University Applied Physics Laboratory Laurel, MD
Dr. Raymond Greenwald Johns Hopkins University Applied Physics Laboratory Laurel, MD
Mr. Russell Layman Johns Hopkins University Applied Physics Laboratory Laurel, MD
Dr. Elsayed Talaat Johns Hopkins University Applied Physics Laboratory Laurel, MD
Dr. Sam Yee Johns Hopkins University Applied Physics Laboratory Laurel, MD
Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Dec 01	07 Dec 01	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	-	300	-
07 Dec 01	07 Dec 01	Maryland Science Center	Baltimore, MD	-	420	-
07 Dec 01	07 Dec 01	Vandenberg Air Force Base	Vandenberg Air Force Base, CA	30	-	-
27 Aug 02	27 Aug 02	Johns Hopkins University Applied Physics Laboratory	Laurel, MD	-	5	-

A387. U.S. Physics Team Tribute

Msn/Prgm(s): OSS/Outreach[B7], HST[B22]
Description: The 2002 U.S. National Physics Team, composed of 24 of the best and brightest physics and mathematics high school students from around the country, were the guests of honor at NASA Headquarters for a special tribute hosted jointly by the American Institute of Physics and the NASA Office of Space Science. The featured

speaker was astronaut and astrophysicist John Grunsfeld, recently returned from his role as payload commander for the fourth Hubble Space Telescope servicing mission. This special tribute came at the end of a weeklong physics competition that was held at the University of Maryland, College Park. Due to concerns about international travel, it was arranged as compensation for the winners of this 2002 competition who would not be able to represent the United States in the International Physics Olympiad in Indonesia.

Lead: Dr. James Stith, American Institute of Physics, College Park, MD 20740-3843.
E-mail: *jstith@aip.org.* Phone: 301-209-3126.

Contact: Dr. Philip Sakimoto, NASA Office of Space Science, Washington, DC 20546.
E-mail: *phil.sakimoto@hq.nasa.gov.* Phone: 202-358-0949.

Primary URL: *http://oliver.aapt.org/programs/olympiad/2002/team.cfm*

2nd URL: *http://www.aip.org*

Scientist(s):			
	Dr. John Grunsfield	NASA Johnson Space Center	Houston, TX
	Dr. Anne Kinney	NASA Office of Space Science	Washington, DC

Partner(s): Space Telescope Science Institute — Baltimore, MD

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
07 Jun 02	07 Jun 02	NASA Headquarters	Washington, DC	100	-	-

A388. Voyager Conferences

Theme(s): SEC

Msn/Prgm(s): Voyager[B97]

Description: In order to keep the general public and educators interest in the Voyager interstellar mission, project team members attend NASA-supported conferences with new information and exhibits. During the conferences, we are available to share the science through activities and question-and-answer sessions. We are also visible at the NASA booth and share materials as well as information.

Lead: Ms. Andrea Angrum, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *andrea.angrum@mail1.jpl.nasa.gov.* Phone: 818-354-6775.

Primary URL: *http://voyager.jpl.nasa.gov*

Scientist(s): Ms. Andrea Angrum — NASA Jet Propulsion Laboratory — Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Mar 02	30 Mar 02	National Science Teachers Association (NSTA) National Convention	San Diego, CA	-	25	-

A389. Voyager Speakers Bureau

Theme(s): SEC

Msn/Prgm(s): Voyager[B97]

Description: NASA Jet Propulsion Laboratory's speakers bureau is support by Voyager mission scientists. The scientists go into schools and make public appearances, sharing the science discoveries of the mission. They also motivate students through their talks and question-and-answer sessions to think about a future career in the sciences.

Lead: Ms. Andrea Angrum, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *andrea.angrum@mail1.jpl.nasa.gov.* Phone: 818-354-6775.

Primary URL: *http://voyager.jpl.nasa.gov*

Scientist(s): Mr. Tim Hogle — NASA Jet Propulsion Laboratory — Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
26 Feb 02	26 Feb 02	Sunriver Nature Center and Observatory	Sunriver, OR	35	-	-
03 Aug 02	03 Aug 02	Sunriver Nature Center and Observatory	Sunriver, OR	100	-	-
09 Aug 02	09 Aug 02	Orange County Astronomers	Orange, CA	-	250	-

A390. Voyager Tours

Theme(s): SEC

Msn/Prgm(s): Voyager[B97]

Description: The Voyager mission team shares the excitement of science with students and teachers. One special way is

for the students to see cutting-edge technology at work. Voyager team members provide classroom tours for individual teachers upon request.

Lead: Ms. Andrea Angrum, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *andrea.angrum@mail1.jpl.nasa.gov.* Phone: 818-354-6775.

Primary URL: *http://voyager.jpl.nasa.gov*

Scientist(s): Ms. Charlotte Weiss — NASA Jet Propulsion Laboratory — Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
28 Nov 01	28 Nov 01	NASA Jet Propulsion Laboratory	Pasadena, CA	28	-	-
26 Apr 02	26 Apr 02	NASA Jet Propulsion Laboratory	Pasadena, CA	17	-	-

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A391. What Is Nature Doing? Campfire Reflections on the History of Life in the Cosmos

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: Dr. Paul Knauth was the invited speaker at the Last Lecture Series, a public talk that focused on the new science of astrobiology. His lecture was based on the suggestion that life on Earth has been a long but accelerating transition of raw chemistry to neural "electronics" that are now decoupling from the biology. An alternative evolution of neural networks on a grander scale elsewhere in the cosmos seems likely. He asked the question "How can these evolved neural networks or life of any kind be recognized?" His thesis is that we must examine the question "What is nature doing?"

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Rebecca Davis, Arizona State University, Tempe, AZ 85287.
E-mail: *Rebecca.Davis@asu.edu.* Phone: 480-965-0833.

A392. Yellowstone National Park Resources and Issues Guide

Theme(s): ASO

Msn/Prgm(s): NAI[B35]

Description: The Ames astrobiology team and its integrated partners across the NASA Astrobiology Institute (NAI) partnered on a collaborative writing project with Yellowstone National Park. Linda Young, Deputy Chief of Interpretation, provided our team with the opportunity to create two chapters on astrobiology that were designed to be used during the interpretative professional development sessions which are held in the summers in the park. The chapters are to be published in the "Resources and Issues Guide" that is distributed to every ranger who is employed by Yellowstone and is trained to lead hikes and give special talks to the public. The guide is available to the public in the national park bookstores and gift shops. The astrobiology chapters will be placed in the research libraries across the national park system for the rangers to access when they are preparing more in-depth hikes or talks. The collaborative astrobiology planning team met initially at Yellowstone National Park with Dr. Baruch Blumberg (NAI, Director) and later began meeting by teleconference twice monthly to develop text and create the astrobiology product for the "Resources and Issues Guide." Dr. Roco Mancinelli (SETI Institute) organized the initial outline, and each of the integrated team members provided text and graphics for sections of the outline that related directly to his or her areas of research taking place in Yellowstone National Park. The chapters were approved for publication by the Chief of Interpretation, Diane Chalfant, at Yellowstone National Park.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Catherine Tsairides, NASA Ames Research Center, Moffett Field, CA 94035-1000.
E-mail: *ctsairides@mail.arc.nasa.gov.* Phone: 650-604-0808.

Scientist(s):	Dr. David Des Marais	NASA Ames Research Center	Moffett Field, CA
	Dr. Jack D. Farmer	Arizona State University	Tempe, AZ
	Dr. Nancy Hineman	University of Montana	Missoula, MT
	Ms. Lynn Rothschild	NASA Ames Research Center	Moffett Field, CA
	Ms. Catherine Tsairides	NASA Ames Research Center	Moffett Field, CA
	Mr. Dave Ward	Montana State University	Bozeman, MT
Partner(s):	National Park Service		Yellowstone National Park, WY

A393. Yellowstone National Park Wayside Sign Exhibit

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: The NASA Astrobiology Institute (NAI), through its outreach office along with the NASA Ames NAI team and its partners, and Lockheed Martin Corporation are working with Yellowstone National Park (YNP) on a tiered, long-term public-engagement program that includes exhibits, literature, field experiences, educator workshops, and "fireside chats" with astrobiologists who will reach the 3 million visitors of all ages that experience YNP each year. The Ames team is working with the Yellowstone staff on several projects within the park, including the development of exhibits that will illustrate astrobiology throughout the trails in Yellowstone. The same integrated team that developed the publications has organized to create the "astrobiology story" on a series of trailside signs along the public boardwalk near the hydrothermal vents. The team will determine the locations that best illustrate the story throughout the park. The team is responsible for the professional photographs that will be part of the design and on permanent exhibit within Yellowstone National Park.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Ms. Catherine Tsairides, NASA Ames Research Center, Moffett Field, CA 94035-1000.
E-mail: *ctsairides@mail.arc.nasa.gov.* Phone: 650-604-0808.

Scientist Involvement

A394. AAS Division of Planetary Sciences Activities

Theme(s): SSE
Msn/Prgm(s): SSE Forum[B12]
Description: The Solar System Exploration (SSE) Forum has had a long-term relationship with the American Astronomical Society/ Division for Planetary Sciences (DPS). Dr. Ellis Miner, Co-Director of the SSE Forum, has been serving as the DPS Press Officer for 3 years. Eleven poster papers covering the gamut of resources available for DPS scientists who are interested in being involved in education and public outreach (E/PO) activities were presented by members of the Office of Space Science (OSS) Support Network at the American Astronomical Society/Division for Planetary Sciences (DPS) Meeting in New Orleans, LA, during the weeklong conference. An OSS E/PO Support Network booth with Internet access and handouts was in the exhibit hall. There were about 800 planetary scientists present at the conference.
Lead: Dr. Ellis Miner, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Ellis.D.Miner@jpl.nasa.gov.* Phone: 818-354-4450.
Contact: Ms. Rosalie Betrue, NASA Jet Propulsion Laboratory, Pasadena, CA 91109.
E-mail: *Rosalie.Betrue@jpl.nasa.gov.* Phone: 818-393-5388.
Primary URL: *http://www.aas.org/~dps/dps.html*
2nd URL: *http://sseforum.jpl.nasa.gov*

Scientist(s):		
Ms. Patricia Liggett	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Rosaly Lopes	NASA Jet Propulsion Laboratory	Pasadena, CA
Dr. Ellis Miner	NASA Jet Propulsion Laboratory	Pasadena, CA

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
27 Nov 01	01 Dec 01	AAS Division of Planetary Sciences Meeting	New Orleans, LA	-	800	-

A395. Lunar and Planetary Science Conference (LPSC) Workshop for Scientists

Theme(s): SSE
Msn/Prgm(s): LPI B/F[B16]
Description: "From the Ivory Tower to the Global Village: Getting Involved To Educate Humans of All Hues" was the subject of the 2002 pre-LPSC workshop for scientists who are interested in doing more effective education and public outreach. This workshop series held before the LPSC covers a different topic each year.
Lead: Ms. Pamela Thompson, Lunar and Planetary Institute, Houston, TX 77058-1113.
E-mail: *thompson@lpi.usra.edu.* Phone: 281-486-2175.
Primary URL: *http://www.lpi.usra.edu/meetings*
Partner(s): National Association of Black Geologists and Geophysicists — Houston, TX

National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) — Washington, DC
Texas Southern University — Houston, TX
University of Houston-Downtown — Houston, TX

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
12 Mar 02	12 Mar 02	Lunar and Planetary Science Conference	League City, TX	90	-	-

A396. NASA Astrobiology Institute (NAI) Video Collection Project

Theme(s): ASO
Msn/Prgm(s): NAI[B35]
Description: Since April of 2000, the NASA Astrobiology Institute (NAI) Central education and public outreach (E/PO) team has been traveling to astrobiology-related conferences with a portable video studio and interviewing attendees about their work and current issues in astrobiology. They have been using the footage to develop Web-based video/article products meant to educate the public, showcase NAI-funded research, and generate dialogue within the community. Over the past year, a critical mass of such pieces has been reached, warranting the development of an archive on the NAI Web site. The pieces are divided into three categories: Video Features, Ask An Astrobiologist Featured Questions, and Astrobiology Profiles. The Video Features are designed as public interest pieces which showcase the work of NAI scientists, whereas the Ask An Astrobiologist Featured Questions are longer, in-depth responses to frequently asked questions, and the Astrobiology Profiles section is a video/biography collection of NAI scientists describing their paths to astrobiology and giving advice to future astrobiologists.
Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.
Contact: Ms. Daniella Scalice, NASA Astrobiology Institute (NAI), Moffett Field, CA 94035.
E-mail: *dscalice@mail.arc.nasa.gov.* Phone: 650-604-4024.
Primary URL: *http://nai.arc.nasa.gov/*

A397. Office of Space Science (OSS) Conference on Education and Public Outreach

Theme(s): ASO, SEC, SEU, SSE
Msn/Prgm(s): ASO Forum[B11], SSE Forum[B12], SEU Forum[B13], SECEF[B14], DePaul B/F[B15], LPI B/F[B16], MARSSB[B17], NESSIE B/F[B18], SERCH B/F[B19], SSI B/F[B20], S2N2 B/F[B21]
Description: The first OSS Education and Public Outreach Conference took place June 14-16 in Chicago, IL. The goals were to strengthen and deepen the education and public outreach efforts of the OSS and to enhance the ability of the space science community to contribute to these efforts. To achieve the goals, the conference brought together scientists and educators with an interest in space science education and outreach to hear presentations and engage in discussions on what they could can learn from science education research, issues and challenges faced by educators in formal and informal venues, and on ways in which scientists could participate in education and outreach.
Lead: Dr. Lynn Narasimhan, DePaul University, Chicago, IL 60604.
E-mail: *cnarasim@depaul.edu.* Phone: 773-325-1854.
Contact: Ms. Victoria Simek, DePaul University, Chicago, IL 60604.
E-mail: *vsimek@depaul.edu.* Phone: 773-325-4790.
Primary URL: *http://analyzer.depaul.edu/ossconference/*
Partner(s): Adler Planetarium and Astronomy Museum — Chicago, IL

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
14 Jun 02	16 Jun 02	DePaul University	Chicago, IL	270	-	-

A398. Workshops, Sessions, and Seminars for Scientists on K-14 Education and Public Outreach

Theme(s): ASO
Msn/Prgm(s): SECEF[B14], SSI B/F[B20]
Description: The Space Science Institute (SSI) of Boulder, CO, and its Broker program conduct 4-day workshops, 2-day special topic workshops, conference sessions/tutorials, and local seminars for space scientists, engineers, and managers of K-14 education and public outreach (E/PO) programs. Approximately 600 participants and guest

presenters have been served. The goals of the 4-day workshops are 1) to enhance and sustain a national cadre of well-informed NASA scientists, engineers, and E/PO managers who can act as advocates and leaders for effective science education and as role models for colleagues engaged in E/PO activities; 2) to strengthen and increase the effectiveness of the education activities involving the NASA science and engineering communities that are presently (and soon-to-be) underway; and 3) to provide scientists, engineers, and E/PO managers who are active in E/PO with focused and ongoing opportunities for showcasing their work and networking with colleagues and education experts. The 2-day workshops are intended to focus on particular E/PO topics in more detail (e.g., professional development of teachers, informal education, educational technology, etc.). Currently, SSI is organizing a 2-day workshop for January 2003 on planning and implementing exemplary professional development experiences for K-12 and informal science educators. The SSI Broker also convened two highly successful sessions on the involvement of scientists in E/PO for the fall of 2001 and the spring of 2002 meetings of the American Geophysical Union (AGU). The SSI Broker collaborated with Jim Thieman of NASA Goddard Space Flight Center and Tim Slater of the University of Arizona to convene the spring 2002 session.The SSI Broker is also seeking opportunities to provide seminars and workshops in areas where there are relatively large clusters of space scientists who have E/PO options associated with their research grants.

Lead: Dr. Cherilynn Morrow, Space Science Institute, Boulder, CO 80303-1058.
E-mail: *camorrow@colorado.edu.* Phone: 303-492-7321.

Scientist(s):	Dr. Paul Dusenbery	Space Science Institute	Boulder, CO
	Mr. James Harold	Space Science Institute	Boulder, CO
	Dr. Cherilynn Morrow	Space Science Institute	Boulder, CO
	Dr. Stephen Pompea	Pompea & Associates	Tucson, AZ
	Dr. Timothy Slater	University of Arizona	Tucson, AZ
	Ms. Lesley Smith	University of Colorado at Boulder	Boulder, CO
	Dr. James Thieman	NASA Goddard Space Flight Center	Greenbelt, MD
Partner(s):	NASA Goddard Space Flight Center		Greenbelt, MD
	NASA Office of Human Resources and Education		Washington, DC
	National Science Foundation		Arlington, VA
	University of Arizona		Tucson, AZ

Event(s):

Dates		Location		Participants		
Start Date	End Date	Venue	City, State	DIR	ANON	WEB
10 Dec 01	14 Dec 01	American Geophysical Union (AGU) Meeting	San Francisco, CA	111	-	-
21 Apr 02	24 Apr 02	Space Science Institute	Boulder, CO	43	-	-
28 May 02	31 May 02	American Geophysical Union (AGU) Meeting	Washington, DC	-	50	-

APPENDIX B. Directory of OSS E/PO Programs

This directory provides overview information on the overall Education and Public Outreach (E/PO) program activities of each Office of Space Science (OSS) mission or program. Each listing contains the following information:

Title:
Title of the mission or program.

Description:
Overview description of the E/PO activities conducted by the mission or program.

Lead:
Person or organization with lead E/PO responsibility for the mission or program.

Contact:
Person or organization with contact E/PO responsibility for the mission or program.

URL:
Web address for further information on the mission's or program's E/PO activities.

Activities (or Grants):
Indexed listing of all E/PO products and activities conducted or supported by the mission or program (or of all active E/PO grants supported by the program).

The listings are grouped into categories as follows:

Office of Space Science
Grants Programs
Major Partnerships

Education and Public Outreach (E/PO) Support Network
Forums
Broker/Facilitators

Astronomical Search for Origins (ASO) Missions
Major Missions
Explorers
Navigator
Other NASA Programs

Solar System Exploration (SSE) Missions
Major Missions
Discovery
Mars Exploration Program
Outer Planets Program
Other NASA Programs
International Missions with NASA Participation

Structure and Evolution of the Universe (SEU) Missions
Major Missions
Explorers
Attached Payloads
Other NASA Programs
International Missions with NASA Participation

Sun-Earth Connection (SEC) Missions
Major Missions
Explorers
International Solar-Terrestrial Physics (ISTP)
Solar-Terrestrial Probes (STP)
Other NASA Programs
International Missions with NASA Participation

OFFICE OF SPACE SCIENCE

Grants Programs

B1. Initiative to Develop Education through Astronomy and Space Science (IDEAS)

Description: The IDEAS Grant Program is one component of the NASA Office of Space Science (OSS) education and public outreach (E/PO) strategy. It is administered by the Space Telescope Science Institute (STScI) on behalf of NASA OSS. As part of the overall OSS E/PO program, the IDEAS Grant Program provides start-up funding for innovative, creative education and public outreach projects that feature active collaboration between astronomers/space scientists and formal/informal education professionals. Through this effort, the IDEAS objective is to enhance science, mathematics, and/or technology education in the United States for K-14 students, teachers, and the general public by promoting partnerships that explore new ways to translate astronomy and space science into contexts that will educate and stimulate the interest of students, teachers, and the general public. The reporting programs have completed their projects which span multiple years. Thirteen new proposals were selected for funding in FY 2002.

Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Formal Education Division, 3700 San Martin Drive, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.

URL: *http://ideas.stsci.edu/*

Grant(s):
A Multi-Wavelength International Exploration of the Universe [A247]
Acknowledging Under-Resourced Outer Reaches of Alaska (AURORA) [A248]
Astronomy Foundations Through Art and Paper Plates (AFTAPP)—Serving the Universe on a Paper Plate [A68]
Connections: Image Processing, Mars, and Science [A149]
Did You See the Moon Last Night? [A154]
Institute of Astronomy for Elementary Science Teachers [A174]
Project REACH for the Stars [A196]
Project SEARCH [A197]
Project SPARK—Student Program for Aeronautics Resources and Knowledge (SPARK) [A288]
Space Science Education at the University of Wisconsin [A294]
Teacher Training to Enhance Space Science Curriculum [A242]
The Dynamic Sun Planetarium Project [A4]

B2. Minority Institution Initiative (MI Initiative)

Description: The Office of Space Science (OSS) and the Office of Equal Opportunity Programs Minority University Education and Research Partnership Initiative in Space Science is a grant program with the long-term goals of enhancing minority college and university participation in space science and increasing the understanding of science, technology, and the role of research in contemporary society in a broad and diverse segment of the American population. It emphasizes partnerships among OSS, the space science research community, and Minority Institutions. During FY 2002, 15 projects were funded under this initiative, including 6 at Historically Black Colleges or Universities, 3 at Hispanic Serving Institutions, 3 at Tribal Colleges, and 3 at other Minority Institutions. Collectively, they were engaged in research collaborations with 9 NASA space science missions or suborbital projects and in more than 30 working partnerships with major space science research groups. In academic programs, they established on their campuses 22 new or redirected space science faculty positions, 11 new or revised space science degree programs, and 66 new or revised space science courses. They also engaged in a wide variety of teacher training, precollege outreach, and public outreach programs that serve constituencies in their local communities.

Lead Dr. Philip Sakimoto, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *phil.sakimoto@hq.nasa.gov.* Phone: 202-358-0949.

Grant(s):
A Space Science Curriculum at Hampton University: Development of a Minor, Faculty Enhancement, and K-14 Outreach [A32]
An Urban Outreach Program in Space Science: A Collaborative Effort Among NASA, Hispanic-Serving and Black Universities, and School Age Minority Students [A33]
Astronomy and Astrophysics Course Development at Salish Kootenai College [A34]
Collision Processes in Astrophysical Plasmas [A35]
Connecting Sun City with Sun-Earth Connections [A36]
Enhancement of the Space Science Research Program at South Carolina State University [A37]

NASA-HBCU Partnership To Enhance Minority Education and Research Participation in the Space Sciences [A38]
New Opportunities Through Minority Initiatives in Space Science [A39]
New York City Space Science Research Alliance [A40]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]
Southwest Internet Program for the Enhancement of Minority Education [A43]
Space Science Education and Sun-Earth Connection [A44]
Stars on Earth: Providing Underrepresented New Mexico High School Students with Research Experience in Space Science and Preparation for Math, Science, and Technology [A45]
York College Observatory Educational Outreach Program (YCOOP) [A46]

B3. Supporting Research and Technology (SRT)

Description: The NASA Office of Space Science (OSS) SRT Program provides grants for basic research and instrument development and data analysis for OSS missions. Each grantee also has the opportunity to propose a supplementary education and public outreach (E/PO) project to be conducted in conjunction with the research project. The outcomes of the funded E/PO projects are reported here.

Contact: Dr. Larry Cooper, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *Larry.P.Cooper@nasa.gov.* Phone: 202-358-1531.

URL: *http://spacescience.nasa.gov/education/scientists/index.html*

Grant(s): A Space Science Module for Los Alamos Space Science Outreach (LASSO) [A138]
A Tale of Two Deserts: Training Educators to Understand Water-Formed Features in the Desert Southwest and on Mars Using Image-Based Exercises [A139]
Astromaterials-Astrobiology Student Presentations [A257]
Heliostat Spectroscopy [A18]
Lesson Plan Development: Convection, Spectroscopy, and Velocity and Acceleration [A234]
NASA-HBCU Partnership To Enhance Minority Education and Research Participation in the Space Sciences [A38]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Regional Planetary Image Facility (RPIF) Open Houses [A354]
Regional Planetary Image Facility (RPIF) Teacher Workshops [A198]
Rocks from Space in the Classroom [A238]
"Rocks from Space" Teacher Workshops [A199]
Science Education Gateway/National Virtual Observatory [A358]
Science@NASA [A359]
Space Science Education at the University of Wisconsin [A294]
Studies of Solar Magnetic Fields and Solar Activity [A377]
Windows to the Universe [A245]

B4. University Research Centers at Minority Institutions (URCs)

Description: The URCs at Minority Institutions is an Office of Equal Opportunity Programs (OEOP)-managed program that is intended to achieve a broadly based, competitive aerospace research capability at Historically Black Colleges and Universities (HBCUs) and Other Minority Universities (OMUs) that will 1) expand the Nation's base for aerospace research and development, 2) foster new aerospace science and technology concepts, 3) develop mechanisms for increased participation by faculty and students of HBCUs and OMUs in the research programs of NASA's science and technology Enterprises, and 4) increase the numbers of underrepresented minorities at HBCUs and OMUs who attain advanced degrees in NASA-related fields. Each URC is a multidisciplinary scientific or engineering research center at the host university that contributes to the research program of one or more of the NASA Strategic Enterprises. The Office of Space Science provides funding and technical support to URCs that are working in space science areas.

Lead: Dr. Jeffrey Rosendhal, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *jeffrey.rosendhal@hq.nasa.gov.* Phone: 202-358-2470.

Grant(s): Center for Automated Space Science [A47]

Major Partnerships

B5. Adler Center for Space Science Education (Adler)

Description: The Center for Space Science Education at the Adler Planetarium and Astronomy Museum serves as a nexus between the research and education communities. Its goal is to bring a broad program of astronomy and space science education to the half-million annual visitors to the museum and to reach beyond the traditional museum setting to provide educational support for students, teachers, and families.

Lead: Dr. Paul Knappenberger, Adler Planetarium and Astronomy Museum, 1300 S. Lake Shore Drive, Chicago, IL 60605.
E-mail: *paul@adlernet.org.* Phone: 312-322-0325.

URL: *http://adlerplanetarium.org*

B6. Challenger Center for Space Science Education (Challenger Center)

Description: The Challenger Center for Space Science Education is a global, not-for-profit education organization. Our mission is to use the excitement of space exploration as a theme to create positive learning experiences that raise students' expectation of success; foster in them a long-term interest in mathematics, science, and technology; and help them develop critical communication, decisionmaking, and team-building skills. Challenger Center works to develop and maintain a scientifically literate world where every individual has a reasonable understanding of science, mathematics, and technology, and the role they play in our lives. During the past 16 years, Challenger Center has proven its commitment to education through a wide variety of innovative educational programs. Each program is designed to help improve math and science scores. Challenger Center employs three astrophysicists who work as both educators and researchers. As researchers, they work part-time focusing on their individual research interests. As educators, they serve as science content reviewers and writers, workshop leaders, featured speakers, and speakers in the classroom and in other venues. Challenger Center's staff scientists reach thousands of educators, students, parents, and members of the general public each year. "Window on the Universe" and "Voyage: A Journey Through Our Solar System" are two of the Challenger Center's education and public outreach programs that are funded in part by NASA's Office of Space Science. "Window on the Universe" is an education initiative that uses the fields of human space flight and the space sciences to engage entire communities in sustained science, mathematics, and technology education. "Voyage" is a permanent, outdoor scale model of our Solar System on The National Mall.

Lead: Dr. Jeffrey Goldstein, Challenger Center for Space Science Education, 1250 North Pitt Street, Alexandria, VA 22314.
E-mail: *journey@challenger.org.* Phone: 703-683-9740.

URL: *http://www.challenger.org*

Activities: Journey through the Universe [A52]

B7. OSS Outreach Activities (OSS/Outreach)

Description: In keeping with our education outreach goal of enhancing the quality of education, the Office of Space Science (OSS) participates in a number of education and outreach activities at both the regional and national levels. OSS supports a number of regional and national education conferences that are attended by thousands of educators in mathematics, science, and technology. OSS supports various professional conferences that are attended by thousands of scientists from all fields of space science. Such activities at these conferences usually entail showcasing an exhibit, distributing educational and outreach material (lithograph sets, posters, educator guides, strategic plans, etc.), conducting educational workshops, giving keynote speeches, highlighting various space science Web pages, and having NASA employees and scientists answer questions about space science. Finally, OSS staff members participate in more localized events such as conducting talks in local classrooms.

Lead: Ms. Ruth Netting, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *rnetting@hq.nasa.gov.* Phone: 202-358-0539.

URL: *http://spacescience.nasa.gov/education*

Activities: Professional Societies of Minority Scientists/OSS Collaboration [A57]
U.S. Physics Team Tribute [A387]

B8. OSS Science Center Development (OSS/Sci. Ctr. Dev.)

Description: In keeping with our public outreach goal of sharing the excitement of space science discoveries with the public, the Office of Space Science supports a number of major development projects at science centers and

planetariums across the country. Such projects typically entail the development or renovation of exhibit galleries or planetariums, coupled with the development of new exhibits, shows, and education programs that are based on the results of recent NASA space science missions and discoveries. These efforts make a substantial contribution to the general public's understanding of science and to communicating to students and the public the new understanding of the Universe as it has been derived from NASA's space science program.

Lead: Dr. Jeffrey Rosendhal, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *jeffrey.rosendhal@hq.nasa.gov.* Phone: 202-358-2470.

Contact: Dr. Philip Sakimoto, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *phil.sakimoto@hq.nasa.gov.* Phone: 202-358-0949.

URL: *http://spacescience.nasa.gov/education*

Activities: Museum of Discovery and Science/NASA Space Science Education Partnership [A25]
National Convention for the National Science Teachers Association (NSTA) [A348]
South Carolina State Museum Observatory, Planetarium, and Theater Project [A28]

B9. Passport to Knowledge (P2K)

Description: P2K is a series of interactive learning adventures that connect essential life, Earth, space, and physical science concepts with exciting real-world phenomena. P2K uses a powerful, integrated suite of video programs, hands-on activities, and online resources to deliver real science, real scientists, real locations, and real learning, while students experience some of the most exciting and challenging places on Earth and beyond.

Lead: Mr. Geoffrey Haines-Stiles, Geoff Haines-Stiles Productions, 27 Washington Valley Road, Morristown, NJ 07960.
E-mail: *ghs@passporttoknowledge.com.* Phone: 973-656-9403.

URL: *http://passporttoknowledge.com*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
"Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]

B10. Students Training for Achievement in Research Based on Analytical Space Science Experiences (STARBASE)

Description: STARBASE is a combination of dedicated hardware, professional astronomers, teachers, and students who are working together in scientific investigations and education. The purpose is to involve motivated high school and college students as direct and integral participants in the research of space scientists. The initial efforts are centered on developing the first two nodes in a network of longitudinally spaced, meter-class, CCD-imaging telescopes that can be operated remotely or robotically over the Internet or operated locally for training and research. A 0.6-meter telescope at Western Kentucky University and the 1.3-meter Remotely Controlled Telescope (RCT) at Kitt Peak National Observatory are being refurbished and automated. A network of universities that share common interests in research and education is being developed, and more than a dozen undergraduate students are currently involved in developing various aspects of STARBASE.

Lead: Dr. Charles McGruder, Western Kentucky University, Department of Physics and Astronomy, Bowling Green, KY 42101.
E-mail: *charles.mcgruder@wku.edu.* Phone: 270-745-4357.

Activities: Hands-On Universe Workshop [A268]
Public Education in Astronomy [A352]
STARBASE Teachers and Students [A295]

EDUCATION AND PUBLIC OUTREACH (E/PO) SUPPORT NETWORK

Forums

B11. Astronomical Search for Origins Forum (ASO Forum)

Description: The Origins program is the scientific study of the long chain of events, from the birth of the Universe in the Big Bang through the formation of galaxies, stars and planets, and the chemical elements of life to the profusion of life on Earth and possibly elsewhere. The overarching program, funded by NASA, that enables researchers to pursue these questions is called the Astronomical Search for Origins and Planetary Systems, or Origins for

short. The Forum is the public gateway to the research results, the data, the information, and the people behind this quest.

Lead: Dr. Ian Griffin, Space Telescope Science Institute, Office of Public Outreach, 3700 San Martin Drive, Baltimore, MD 21218.
E-mail: *griffin@stsci.edu.* Phone: 410-338-4567.

URL: *http://origins.stsci.edu/*

Activities: Exceptional Space Science Materials for Exceptional Students [A158]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Origins Presentations and Workshops [A192]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Science@NASA [A359]

B12. Solar System Exploration Forum (SSE Forum)

Description: The Office of Space Science Solar System Exploration Education and Public Outreach Forum serves as the entry point and coordinator for education and outreach activities and materials for NASA's Solar System exploration missions and research activities. Our content includes the planets beyond Earth, comets, asteroids, other planetary bodies, and moons.

Lead: Ms. Leslie Lowes, NASA Jet Propulsion Laboratory, Mail Stop 180-109, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Leslie.L.Lowes@jpl.nasa.gov.* Phone: 818-393-7734.

Contact: Dr. Ellis Miner, NASA Jet Propulsion Laboratory, Mail Stop 230-260, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Ellis.D.Miner@jpl.nasa.gov.* Phone: 818-354-4450.

URL: *http://sseforum.jpl.nasa.gov*

Activities: AAS Division of Planetary Sciences Activities [A394]
Exceptional Space Science Materials for Exceptional Students [A158]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
"MarsQuest" Planetarium Show [A2]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Practical Uses of Math and Science (PUMAS) [A237]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Science Education Standards Matrix (Quilt) Outreach [A240]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Science Workshops for Educators [A210]
Summer Solstice Celebration [A378]

B13. Structure and Evolution of the Universe Forum (SEU Forum)

Description: The SEU Education Forum shares the exciting discoveries and knowledge from NASA SEU missions and research programs with educators, students, and the general public. The SEU partnership brings together the rich expertise of scientists, science educators, and education researchers to develop innovative products and programs. Our goal is to contribute to the improvement of precollege science education and increase science literacy at all levels, focusing attention on the human quest to understand the Universe and our place in the cosmos.

Lead: Dr. Roy Gould, Harvard-Smithsonian Center for Astrophysics, Mail Stop 71, 60 Garden Street, Cambridge, MA 02138.
E-mail: *rgould@cfa.harvard.edu.* Phone: 617-496-7689.

Contact: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Mail Stop 71, 60 Garden Street, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

URL: *http://cfa-www.harvard.edu/seuforum/*

Activities: Authors' Nights at the Harvard-Smithsonian Center for Astrophysics (CfA) [A311]
Chandra X-Ray Center Teacher Workshops and Presentations [A148]
Children's Nights at the Harvard-Smithsonian Center for Astrophysics [A321]
"Cosmic Questions" Informal Science Education Programs [A14]
"Cosmic Questions" Interpretation/Docent Activities [A15]
"Cosmic Questions" Professional Development for Classroom Educators [A151]
"Cosmic Questions" Professional Development for Informal Science Educators [A16]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Exceptional Space Science Materials for Exceptional Students [A158]
"Exploring the Solar System: A Multisensory Approach" [A161]
"Journey to the Edge of Space and Time" Planetarium Show [A1]
MicroObservatory Online Telescopes [A281]
Monthly Observatory Nights at the Harvard-Smithsonian Center for Astrophysics [A345]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Sci-Fi Movie Nights at the Harvard-Smithsonian Center for Astrophysics [A357]
Smithsonian Teacher's Night [A206]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Structure and Evolution of the Universe (SEU) Forum Informal Science Education Programs [A375]
Structure and Evolution of the Universe (SEU) in the Classroom [A217]

B14. Sun-Earth Connection Education Forum (SECEF)

Description: The SEC Education Forum shares the exciting discoveries and knowledge from NASA Sun-Earth connection missions and research programs with educators, students, and the general public. The Sun-Earth connection partnership brings together the rich expertise of scientists, educators, and museum personnel to develop innovative products and programs. Our goal is to contribute to the improvement of precollege science education and increase science literacy at all levels, focusing attention on the active Sun and its effects on Earth.

Lead: Dr. Richard Vondrak, NASA Goddard Space Flight Center, Mail Code 690, Greenbelt, MD 20771.
E-mail: *rvondrak@pop600.gsfc.nasa.gov.* Phone: 301-286-8112.

Contact: Dr. Isabel Hawkins, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *isabelh@ssl.berkeley.edu.* Phone: 510-643-5662.

URL: *http://sunearth.gsfc.nasa.gov*

Activities: Exceptional Space Science Materials for Exceptional Students [A158]
From the Sun to the Star Nations [A50]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Interactive Exhibits at Community Events [A339]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
"Northern Lights" Planetarium Show [A3]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Shares Sun-Earth Connection Science Through Conferences [A356]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Science Workshops for Educators [A210]
"Space Weather Center" Traveling Exhibit [A12]
STEREO/IMPACT Formal Education Teacher Inservice Preparation [A213]
Sun-Earth Connection Education and Public Outreach Electronic Newsletter [A379]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]

Sun-Earth Connection Education Forum (SECEF) Formal Education Curriculum Development [A241]
Sun-Earth Connection Education Forum (SECEF) Formal Education Student Support [A297]
Sun-Earth Connection Education Forum (SECEF) Formal Education Systemic Improvement [A137]
Sun-Earth Connection Education Forum (SECEF) Informal and Public Outreach [A30]
Sun-Earth Connection Education Forum (SECEF) Outreach Workshops: Science of the Sun [A380]
Sun-Earth Connection Education Forum (SECEF) Preservice Teacher Education [A220]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Connection Education Forum (SECEF) Targeted Outreach to Native Americans [A59]
Sun-Earth Day [A381]
Workshops, Sessions, and Seminars for Scientists on K-14 Education and Public Outreach [A398]

Broker/Facilitators

B15. DePaul Broker/Facilitator (DePaul B/F)

Description: The DePaul University Broker/Facilitator assists space scientists and members of the education community in the States of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, and Wisconsin to form partnerships that realize high-leverage opportunities for education and outreach.

Lead: Dr. Lynn Narasimhan, DePaul University, Interdisciplinary Science and Technology Center, 1 East Jackson Street, Chicago, IL 60604.
E-mail: *cnarasim@depaul.edu.* Phone: 773-325-1854.

URL: *http://analyzer.depaul.edu/NASABroker/*

Activities: Chicago Teacher Advisory [A133]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Planetarium Learning and Teaching Opportunities [A27]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Small-Grants Program for Midwestern Teachers [A205]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Day in Chicago [A292]
Space Science Curriculum Development and Training for the Milwaukee Public Schools [A135]
Space Science for Illinois/Indiana Teachers [A209]

B16. Lunar and Planetary Institute Broker/Facilitator (LPI B/F)

Description: This is one of seven brokers/facilitators for education and public outreach within the NASA Office of Space Science Education Support Network. The six-State region served includes Texas, Louisiana, Oklahoma, Kansas, New Mexico, and Arizona.

Lead: Dr. Robert Herrick, Lunar and Planetary Institute, 3600 Bay Area Boulevard, Houston, TX 77058-1113.
E-mail: *herrick@lpi.usra.edu.*

URL: *http://www.lpi.usra.edu/education*

Activities: Explore! Fun with Science [A330]
Field Workshops for Scientist-Teacher Teams [A163]
Lunar and Planetary Institute (LPI) Speakers Bureau [A341]
Lunar and Planetary Science Conference (LPSC) Workshop for Scientists[A395]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Scientist-Teacher Cooperation Projects [A201]
Space Day at Bacliff, TX [A291]

B17. Mid-Atlantic Region Space Science Broker/Facilitator (MARSSB)

Description: The Mid-Atlantic Region Space Science Broker assists space scientists and members of the education community in the States of Delaware*, Kentucky*, Maryland*, New Jersey, New York, Ohio, Pennsylvania, Virginia*, West Virginia, and Washington, DC.* Its goal is to form partnerships that realize high-leverage opportunities for education and public outreach (E/PO) events and services. (*These areas are shared with the SERCH Broker/Facilitator.) The Center for Educational Technologies established the MARSSB program as a newly organized Broker/Facilitator. It has served as a regional point of contact for scientists and educators seeking

information or involvement in the Office of Space Science (OSS) E/PO program through the Web site, mailings, and personal communications. As part of its program "ramp-up," it created a database inventory of educators, scientists, and science centers in the mid-Atlantic region. This resource is designed to match individuals with institutions and groups based on the geographic location and areas of interest. MARSSB initiated contact with stakeholders in its region (such as the University of Pittsburgh and Allegheny Observatory) to introduce the services it has to offer and identify E/PO needs.

Lead: Dr. Nitin Naik, Wheeling Jesuit University, 316 Washington Avenue, Wheeling, WV 26003.
E-mail: *nitin.naik-1@nasa.gov.* Phone: 202-358-1110.

Contact: Dr. Laurie Ruberg, Wheeling Jesuit University, 316 Washington Avenue, Wheeling, WV 26003.
E-mail: *lruberg@cet.edu.* Phone: 304-243-2480.

URL: *http://www.cet.edu/ossbroker*

Activities: Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Science Education, Communication, and Math Experience (SECME) [A200]

B18. New England Space Science Initiative in Education Broker/Facilitator (NESSIE B/F)

Description: Founded in January 2002, NESSIE is the Broker/Facilitator for the New England States of Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine. NESSIE is charged with catalyzing and fostering collaborations among space scientists and educators within both the formal and informal education communities. NESSIE itself is a collaboration of scientists and science educators at the Museum of Science, Harvard-Smithsonian Center for Astrophysics, and Tufts University. Its primary goals are to 1) broker partnerships between space scientists and educators, 2) facilitate a wide range of educational and public outreach activities, and 3) examine and improve space science education methods. NESSIE's unique strengths reside in its prime location (the Museum of Science), its diverse mix of scientists and educators, and its dedicated board of advisors. NESSIE's role as a clearinghouse and facilitator of space science education is being realized through its interactive Web site and via its targeted meetings, workshops, and conferences that involve scientists and educators. Special efforts are being made to reach underserved groups by tailoring programs to their particular education needs and interests. These efforts are building on the experiences of prior and ongoing programs in space science education at the Museum of Science, Harvard-Smithsonian Center for Astrophysics, Tufts University, and NASA.

Lead: Dr. Cary Sneider, Museum of Science, Programs Division, Science Park, Boston, MA 02114-1099.
E-mail: *nessie@mos.org.* Phone: 617-589-0227.

Contact: Dr. William Waller, Museum of Science, Programs Division, Science Park, Boston, MA 02114-1099.
E-mail: *wwaller@mos.org.* Phone: 617-589-0227.

URL: *http://www.mos.org/nessie*

Activities: Current Science and Technology Center [A6]
"Exploring the Solar System: A Multisensory Approach" [A161]
New England Space Science Initiative in Education (NESSIE) Outreach to Formal Educators [A191]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]

B19. Southeast Regional Clearinghouse Broker/Facilitator (SERCH B/F)

Description: SERCH is a NASA Office of Space Science (OSS)-funded program whose purpose is to promote space science awareness and enhance interest in science, math, and technology through the use of NASA OSS mission data, information, and educational products. SERCH works closely with 14 Space Grant consortia (in Alabama; Arkansas; Washington, DC; Florida; Georgia; Kentucky; Louisiana; Maryland; Mississippi; North Carolina; Puerto Rico; South Carolina; Tennessee; and Virginia) throughout the southeastern United States. SERCH serves as a Broker and Facilitator of services between the region's education community and researchers who are involved in OSS missions. The goals of SERCH are to 1) develop a network of educators and researchers interested in space science; 2) be an effective interface between researchers and educators in the area of space science; 3) be a primary information and resource clearinghouse for space science data, information, and educational products; 4) support OSS mission scientists in their education and public outreach activities; 5) facilitate the modification of OSS materials to meet the needs of diverse education environments; 6) be a leader in serving exceptional students and the general public; 7) enhance minority involvement across NASA OSS programs; and 8) develop an accessible nationwide Geographic Information System (GIS) database that provides spatially related information of targeted NASA education resources.

Lead: Dr. Cassandra Runyon, College of Charleston, Geology Department, 66 George Street, Charleston, SC 29424.

E-mail: *cass@cofc.edu.* Phone: 843-953-8279.
URL: *http://serch.cofc.edu/serch/*
Activities: Backyard Astronomy [A312]
"Earth in Space"—Capturing Student Curiosity [A155]
Enhancement of the Space Science Research Program at South Carolina State University [A37]
Exceptional Space Science Materials for Exceptional Students [A158]
"Exploring the Solar System: A Multisensory Approach" [A161]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
South Carolina Coalition for Science and Mathematics Education (SCCSME) [A134]
STARLAB Portable Planetarium Training [A212]
Students Acquiring Real Science [A376]
Video and Laboratory Curriculum in NASA OSS Themes for DC Public Schools [A243]

B20. Space Science Institute Broker/Facilitator (SSI B/F)

Description: The Space Science Institute (SSI) of Boulder, CO, is home to one of seven regional broker/facilitator programs that support the education and public outreach (E/PO) efforts of the NASA Office of Space Science (OSS). The core mission of Broker/Facilitators is to cultivate opportunities and partnerships between the education and space science communities that can address important education needs in their respective regions. The SSI B/F program now serves a large swath of the United States, starting in the upper Midwest in North Dakota and extending to California (Arizona, California, Colorado, Nebraska, North Dakota, New Mexico, Nevada, South Dakota, and Utah). SSI is building on 4 years of "lessons learned" in the broker/facilitator role. The goals of our SSI B/F program are to provide strategically valuable support for 1) space scientists' effective E/PO involvement, 2) formal education (emphasizing State-based agendas), 3) informal education (emphasizing planetarium associations, Girl Scouts, and traveling science exhibits), and 4) underserved populations (emphasizing indigenous and Latino educators). This strategic support includes providing professional development opportunities, facilitating access to and use of exemplary materials, and facilitating E/PO participation and/or partnership. Key collaborators of the SSI B/F program include leaders from two western planetarium associations, the Girl Scouts-Mile Hi Council, mobile education programs, traveling exhibit programs, and E/PO leads at major scientific research institutions in our region. To begin to address the vastness of our region, we are developing new electronic resources (E-Brokering) that include the quarterly "Bulletin of NASA Space Science Education Opportunities in the Western U.S.," and a Web-based "Menu of Opportunities for Scientists in Education" ("MOSIE").
Lead: Dr. Cherilynn Morrow, Space Science Institute, 3100 Marine Street, Suite A353, Boulder, CO 80303-1058.
E-mail: *camorrow@colorado.edu.* Phone: 303-492-7321.
Contact: Ms. Christy Edwards, Space Science Institute, 3100 Marine Street, Suite A353, Boulder, CO 80303-1058.
E-mail: *edwardcl@colorado.edu.* Phone: 303-735-4880.
URL: *http://ssibroker.colorado.edu/broker/*
Activities: Astrobiology Workshop for Planetarium Educators [A13]
From the Sun to the Star Nations [A50]
Interactive Exhibits at Community Events [A339]
Kinesthetic Astronomy Curricular Materials Development [A233]
Mars: Informal Educator Workshops [A22]
"MarsQuest" Planetarium Show [A2]
"MarsQuest" Traveling Exhibit [A10]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Outreach to Native Americans in the Western Region [A56]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Space Science Workshops for Educators [A210]
"Space Weather Center" Traveling Exhibit [A12]
Workshops, Sessions, and Seminars for Scientists on K-14 Education and Public Outreach [A398]

B21. Space Science Network Northwest Broker/Facilitator (S2N2 B/F)

Description: S2N2 uses a variety of approaches to make formal and informal educators aware of NASA Office of Space Science (OSS) programs, materials, and opportunities. S2N2 helps to create sustainable partnerships among formal and informal educators and NASA OSS missions, forums, and space scientists. S2N2 operates by having

a central office at the University of Washington and representatives in the partner States of Washington, Arkansas, Hawaii, Oregon, Montana, Idaho, and Wyoming.

Lead: Dr. Julie Lutz, University of Washington, 60 Johnson Hall, Seattle, WA 98195-1310.
E-mail: *nasaerc@u.washington.edu.* Phone: 206-543-0214.

Activities: Field Workshops for Scientist-Teacher Teams [A163]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Summer Solstice Celebration [A378]
Sun-Earth Day Information for Tribal Schools [A60]

ASTRONOMICAL SEARCH FOR ORIGINS (ASO) MISSIONS

Major Missions

B22. Hubble Space Telescope (HST)

Description: The Office of Public Outreach (OPO) at the Space Telescope Science Institute (STScI) was created to share the amazing discoveries of the Hubble Space Telescope with the American public. We are privileged to be the focal point of public attention for a storied NASA/European Space Agency (ESA) space science mission to which thousands of engineers, programmers, technicians, administrators, and scientists have devoted their professional gifts. We have developed a multitude of products and programs that have capitalized on the intense interest in Hubble to inform and inspire millions of Americans and many others around the globe.

Lead: Dr. Ian Griffin, Space Telescope Science Institute, Office of Public Outreach, 3700 San Martin Drive, Baltimore, MD 21218.
E-mail: *griffin@stsci.edu.* Phone: 410-338-4567.

URL: *http://hubblesite.org/*

Activities: "Center of Galaxy M51: The Whirlpool Galaxy" [A75]
"Galaxy Hunter" [A89]
Hubble Space Telescope (HST) Amateur Astronomical Community Events [A334]
Hubble Space Telescope (HST) Formal Education [A98]
Hubble Space Telescope (HST) Speakers Bureau [A335]
Hubble Space Telescope (HST) Workshops and Presentations [A336]
Hubble Space Telescope (HST): Amazing Space [A99]
Hubble Space Telescope: Immersive Dome Visualizations for Planetariums [A19]
Hubble Space Telescope: International Planetarium Society Slide Service [A20]
Hubble Space Telescope: Online Broadcast-Quality Hubble Video Clip Library [A21]
"Hubble Space Telescope: New Views of the Universe" (version 1) [A7]
"Hubble Space Telescope: New Views of the Universe" (version 2) [A8]
Hubble Space Telescope: ViewSpace [A9]
"Mission Mastermind" [A111]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Open Night at the Space Telescope Science Institute [A351]
"Planet Impact" [A118]
Science Concepts in Context [A239]
Science@NASA [A359]
U.S. Physics Team Tribute [A387]
Windows to the Universe [A245]

B23. James Webb Space Telescope (JWST)

Description: The JWST education and public outreach program (E/PO) is led by the Office of Public Outreach (OPO) of the Space Telescope Science Institute (STScI). With the launch planned for 2009 or 2010, a modest level of resources is planned until 2006 or 2007. As OPO at STScI is also responsible for Hubble E/PO, we are using the interest in Hubble to introduce the public to this future mission as the next major leap forward in space discovery. Through the Origins Education Forum, we are keeping abreast of the activities of the SIRTF and SOFIA missions to promote public understanding of infrared light and will seek opportunities to partner with them.

One new program will be initiated in the upcoming year by the University of Arizona Near Infrared Camera (NIRCam) science team to develop astronomy camps specifically designed for Girl Scouts.

Lead: Ms. Peg Stanley, Space Telescope Science Institute, Office of Public Outreach, 3700 San Martin Drive, Baltimore, MD 21218.
E-mail: *pstanley@stsci.edu.* Phone: 410-338-4536.

URL: *http://nextgen.stsci.edu*

B24. Space Infrared Telescope Facility (SIRTF)

Description: The SIRTF Science Center's education and public outreach program is actively promoting public understanding of infrared and other invisible forms of light. We have designed a suite of Web sites, audiovisual products, and classroom activities to achieve our education goals. We are also currently conducting an international naming contest for the SIRTF spacecraft as well as preparing launch support materials.

Lead: Dr. Michelle Thaller, SIRTF Science Center/California Institute of Technology, Mail Stop 220-6, 1200 East California Boulevard, Pasadena, CA 91125.
E-mail: *thaller@ipac.caltech.edu.* Phone: 626-395-8670.

URL: *http://sirtf.caltech.edu*

Activities:
"Astronomia Multi-Onda!" [A67]
"Beyond the Visible Universe: Teaching Invisible Astronomy" [A144]
"Calor y Temperatura" [A71]
"El Experimento del Herschel!" [A84]
From the Outer Planets to the Inner City [A49]
"Heat and Temperature" Web Site [A95]
"Infrared Image Gallery" Web Site [A101]
"Infrared Yellowstone" Web Site [A102]
"Infrared Zoo" Web Site [A103]
Multiwavelength Astronomy Web Site [A112]
National Convention for the National Science Teachers Association (NSTA) [A348]
"Our Infrared World" Web Site [A117]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]
SIRTF and SOFIA Online Course [A202]
SIRTF Conference Support [A203]
SIRTF Teacher Workshops/Inservices [A204]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Infrared Telescope Facility (SIRTF) Classroom Visits [A293]
Space Infrared Telescope Facility (SIRTF) Large Public Presentations [A367]
Space Place Contributions to ITEA's "The Technology Teacher" [A369]
Space Place Newspaper Contributions [A371]
The Invisible Universe Online: The Search for Astronomical Origins for Teachers [A225]
"The Multiwavelength Universe" [A128]
"What Is It? Learn About Infrared Images" Web Site [A132]

B25. Stratospheric Observatory for Infrared Astronomy (SOFIA)

Description: SOFIA's education and public outreach (E/PO) program contributes to the improvement of the American public's scientific, mathematical, and technological literacy and to an awareness and understanding of the importance and value of research in science. SOFIA will be a world-class research observatory, designed from the ground up with the capability to allow visiting educators and journalists to closely observe and participate in the research process. SOFIA's E/PO program will bring the excitement, hardships, challenges, discoveries, teamwork, and educational value of the observatory to students (precollege, undergraduate, and graduate), teachers, and the general public on a national and international scale, as SOFIA is a joint U.S.-German project. Programs include 1) Airborne Astronomy Ambassadors—trained educators fly on research missions and compose a national network of master educators who conduct teacher workshops and public presentations; 2) Education Partners Program—SOFIA scientists, observers, instrument builders, engineers, technicians, flight crews, and educators partner with teachers in their local communities who may fly on SOFIA; 3) Science Literacy and Education Program—annual symposia are held at the SOFIA Science and Mission Operations Center for undergraduate instructors, science and technology center staff, and planetarium directors who may fly on SOFIA; 4) SOFIA Visiting Educators—each year, a small number of experienced educators will join the SOFIA E/PO staff

as flight facilitators and E/PO outreach personnel; and 5) SOFIA's Web site—the E/PO program will support a public affairs team that works closely with the NASA Office of Public Affairs to communicate SOFIA science effectively. SOFIA is being developed and will be operated for NASA and the German Aerospace Center by the Universities Space Research Association (USRA). The E/PO program is jointly conducted by the SETI Institute, the Astronomical Society of the Pacific, and members of the USRA SOFIA team.

Lead: Ms. Edna DeVore, SETI Institute, 2035 Landings Drive, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.

Contact: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), 390 Ashton Avenue, San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.

URL: *http://sofia.arc.nasa.gov*

Activities: Active Astronomy: Classroom Activities for Learning About Infrared (IR) Light [A62]
Aeronautical Exposition for Students [A249]
Air Expo for the Public [A305]
"Astronomy at 41,000 Feet—The Story of SOFIA" [A309]
"Beyond the Visible Universe: Teaching Invisible Astronomy" [A144]
"Explore the Invisible Universe" [A159]
National Convention for the National Science Teachers Association (NSTA) [A348]
Parsons School of Design Student Web Project [A286]
SIRTF and SOFIA Online Course [A202]
SIRTF Conference Support [A203]
SIRTF Teacher Workshops/Inservices [A204]
"SOFIA—Astronomy From 41,000 Feet" [A361]
Stratospheric Observatory for Infrared Astronomy (SOFIA) Exhibit at Conferences [A215]
Stratospheric Observatory for Infrared Astronomy (SOFIA) Visitors' Center Exhibit [A374]
The Invisible Universe Online: The Search for Astronomical Origins for Teachers [A225]

Explorers

B26. Far-Ultraviolet Spectroscopic Explorer (FUSE)

Description: FUSE is designed for a very specialized and unique task that is complementary to other NASA missions. FUSE looks at light in the far ultraviolet portion of the electromagnetic spectrum (approximately 90 to 120 nanometers), which is unobservable with other telescopes. FUSE observes these wavelengths with much greater sensitivity and resolving power than instruments previously used to study light in this wavelength range. The FUSE education and public outreach program has developed educational kits for middle and high school students, conducts educator workshops, and provides exhibits for museums.

Lead: Ms. Luciana Bianchi, Johns Hopkins University Applied Physics Laboratory, 11100 Johns Hopkins Road, Laurel, MD 20723-6099.
E-mail: *bianchi@skysrv.pha.jhu.edu.* Phone: 410-516-4009.

URL: *http://fuse.pha.jhu.edu/outreach/*

Activities: Science@NASA [A359]

Navigator

B27. Navigator Program (Navigator)

Description: The Navigator projects are united in their goal to find and characterize planets like Earth in orbit around stars other than the Sun. Collectively, they represent a voyage of unprecedented scope and ambition, promising insight into humankind's most timeless questions: Where did we come from? and Are we alone? The goal of the Navigator public engagement plan is to invite all Americans to participate in this journey of discovery.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov*

Activities: From the Outer Planets to the Inner City [A49]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Minority Outreach Program [A55]

Navigator: Science Events [A349]
Navigator: Student Support [A283]
New Opportunities Through Minority Initiatives in Space Science [A39]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B28. Michelson Science Center (MSC)

Description: The Michelson Science Center is a science operations and analysis service organization for selected NASA Origins theme projects and the scientists and engineers who use them. The MSC facilitates the timely and successful execution of Origins theme science by providing software infrastructure, science operations, and consulting to Navigator projects and their user communities. The Michelson Science Center participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov/*

Activities: Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Science Events [A349]
Navigator: Student Support [A283]

B29. Keck Interferometer (KECK)

Description: The Keck Interferometer participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov*

Activities: Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Minority Outreach Program [A55]
Navigator: Science Events [A349]
Navigator: Student Support [A283]
"Planet Quest" Activities for Students [A119]
"Planet Quest: The Search for Another Earth" [A120]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B30. Large Binocular Telescope Interferometer (LBTI)

Description: The Large Binocular Telescope Interferometer participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov/*

B31. Planetary Imager (PI)

Description: The Planetary Imager participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov/*

B32. Space Interferometry Mission (SIM)

Description: The Space Interferometry Mission participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.

E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.
URL: *http://planetquest.jpl.nasa.gov/*
Activities: National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Minority Outreach Program [A55]
Navigator: Science Events [A349]
Navigator: Student Support [A283]
"Planet Quest" Activities for Students [A119]
"Planet Quest: The Search for Another Earth" [A120]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B33. StarLight [New Millennium] (ST-3)

Description: A technology pathfinder, StarLight is a technology precursor to Terrestrial Planet Finder (TPF), a future mission designed to search for and characterize habitable planets around stars other than the Sun. Previously scheduled for launch in 2006, StarLight has been redirected to focus on the development of ground demonstration of technologies that support formation flying interferometry for TPF. Space Place has involved ST3 in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and the NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that 1 day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to the "Technology and Children" magazine four times a year and to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches up to an estimated 1,400 teachers and their students (up to 42,000 children), and each "The Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium program. It reaches an average of 3,000 viewers a day.
Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.
URL: *http://spaceplace.jpl.nasa.gov*
Activities: Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Minority Outreach Program [A55]
"Planet Quest" Activities for Students [A119]
"Planet Quest: The Search for Another Earth" [A120]

B34. Terrestrial Planet Finder (TPF)

Description: The Terrestrial Planet Finder participates in the overall Navigator education and public outreach program.
Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.
URL: *http://planetquest.jpl.nasa.gov/*
Activities: Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]

Navigator: Minority Outreach Program [A55]
Navigator: Science Events [A349]
Navigator: Student Support [A283]
"Planet Quest" Activities for Students [A119]
"Planet Quest: The Search for Another Earth" [A120]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

Other NASA Programs

B35. NASA Astrobiology Institute (NAI)

Description: At NAI, we are building a future community of astrobiologists while expanding the public's understanding of the nature and importance of our work. NAI's education and public outreach (E/PO) program is distributed to all its lead teams. Each team directs a local effort with specific emphasis on that team's research and expertise while contributing to larger collaborative projects. These include Web sites, print products, and curriculum supplements, as well as educational programs and activities, internships, presentations, and exhibits. Educating and training the next generation is another important aspect of NAI's mission, essential to ensuring the continuity and longevity of the field of astrobiology. Many of our members train new researchers directly in their academic programs and laboratories. While some of these courses and programs are called "astrobiology," many of them reside within traditional astronomy, biology, chemistry, geology, and planetary science departments. In this way, NAI members are growing the field of astrobiology, both as an independent discipline and through the expansion of traditional approaches.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Mail Stop 240-1, Ames Research Center, Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Karen Dodson, NASA Astrobiology Institute (NAI), Mail Stop 240-1, Ames Research Center, Moffett Field, CA 94035.
E-mail: *kdodson@mail.arc.nasa.gov.* Phone: 650-604-4145.

URL: *http://nai.arc.nasa.gov*

Activities: Arizona State University (ASU) Space Photography Laboratory Tours [A250]
"Ask an Astrobiologist" [A251]
"Astro-Venture" [A253]
Astrobiology Academy [A254]
Astrobiology Article in "Science Scope" [A63]
Astrobiology at UCLA [A306]
Astrobiology High School Curriculum Review Panel [A230]
"Astrobiology Micro*Scope" Web Site [A231]
Astrobiology Module for Toward Other Planetary Systems (TOPS) Teacher Workshop [A141]
Astrobiology on the School Front: Interning and Mentoring [A255]
Astrobiology Pathfinder [A256]
Astrobiology Science Conference Public Talks [A307]
Astrobiology Television Program: "The Stories Rocks Tell" [A308]
Astrobiology Workshop for Planetarium Educators [A13]
"Astrobiology: Discovering New Worlds of Life" Poster [A64]
Astrobiology: "The Origins and Early Evolution of Life" Educator Workshop [A142]
Astrobiology: "The Search for Life in the Universe" Magazine [A65]
Astrobiology: "The Search for Water" [A66]
Astromaterials-Astrobiology Student Presentations [A257]
ASU Earth Science Day [A310]
Carnegie Academy for Science Education Summer Institute [A146]
Center for Astrobiology and Early Evolution (CABEE) Newsletter [A315]
Chemistry and Astrobiology Educational Films [A77]
"Extremophiles: Life on the Edge" Astrobiology Teacher Workshop [A162]
"Fingerprints of Life" CD and Web Site [A87]
"Fingerprints of Life?"—Development of Classroom Activities, Web Site, and CD-ROM [A232]
Formal and Informal Education Workshops with an Astrobiology Component [A164]

Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
"It's Out There—Extreme Life!" NSTA Short Course [A175]
"Kinesthetic Astronomy" for Educators and Scientists [A176]
"Life and Living in Space" Teacher Workshop [A177]
"Living in the Microbial World" Teacher Workshop [A179]
Mysteries of Microbes: Fascinating Fieldwork [A235]
NASA Astrobiology Institute (NAI) Lead Team Presentations and Lectures [A346]
NASA Astrobiology Institute (NAI) Minority Faculty Fellowship Program [A53]
NASA Astrobiology Institute (NAI) Video Collection Project [A396]
Project AstroBio [A195]
Science Concepts in Context [A239]
Science@NASA [A359]
See ASU 2002 [A360]
Skymobile [A11]
Space Day 2002 at Penn State [A366]
Space Science Workshops for Educators [A210]
"The Extremities: Geology and Life in Yellowstone and Implications for Other Worlds" [A224]
"The Joy of Science" Video Series [A127]
Voyages Through Time (VTT) Curriculum [A244]
What Is Nature Doing? Campfire Reflections on the History of Life in the Cosmos [A391]
Women in Science and Engineering (WISE) Camp—Science Projects in Astrobiology [A61]
Yellowstone National Park Resources and Issues Guide [A392]
Yellowstone National Park Wayside Sign Exhibit [A393]
Young Astronauts [A304]

B36. Two Micron All Sky Survey (2MASS)

Description: The Two Micron All Sky Survey project was designed to close the gap between our current technical capability and our knowledge of the near-infrared sky. In addition to providing a context for the interpretation of results obtained at infrared and other wavelengths, 2MASS is providing direct answers to immediate questions on the large-scale structure of the Milky Way and the local Universe. The optimal use of the next generation of infrared space missions, such as the Hubble Space Telescope Near Infrared Camera and Multi-Object Spectrometer (HST NICMOS), the Space Infrared Telescope Facility (SIRTF), and the Next Generation Space Telescope (NGST) as well as powerful ground-based facilities, such as Keck I, Keck II, and Gemini, required a new census with vastly improved sensitivity and astrometric accuracy than was previously available. To achieve these goals, 2MASS uniformly scanned the entire sky in three near-infrared bands to detect and characterize point sources brighter than about 1 mJy in each band, with a signal-to-noise ratio (SNR) greater than 10, using a pixel size of 2.0 arcseconds. This achieved an 80,000-fold improvement in sensitivity, relative to earlier surveys.

URL: *http://www.ipac.caltech.edu/2mass/*

Activities: Science Concepts in Context [A239]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]

SOLAR SYSTEM EXPLORATION (SSE) MISSIONS

Major Missions

B37. Cassini/Huygens Probe

Description: The Cassini-Huygens education and public outreach mission is dedicated to bringing the excitement of the Cassini mission and the Saturn system to audiences throughout the Nation and abroad. Educational activities, cooperative educator programs, educator conferences, public Web access, media support and releases, museum participation, and the Cassini speakers group are just a few of the ways we seek to engage the public in this multinational exploration program to Saturn.

Contact: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Mail Stop 230-101, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.

URL: *http://saturn.jpl.nasa.gov*

Activities: Cassini Classroom Visits [A258]
Cassini Conferences [A147]
Cassini Sky Watching Events [A313]
Cassini Talks [A314]
"Cassini Unveils the Myth" [A72]
From the Outer Planets to the Inner City [A49]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Space Science Workshops for Educators [A210]
Windows to the Universe [A245]

B38. Galileo

Description: The Galileo mission has a 6-year legacy of the exploration of Jupiter and its moons. Since arriving at Jupiter in 1995, the Galileo spacecraft has orbited the planet and its moons more than 30 times. Ongoing volcanic activity on Io, a magnetic field at Ganymede, and water on Europa are only a few of the thought-provoking discoveries made during Galileo's mission. Educational activities, Web access, information, media support, and educator and student conferences compose a sampling of the engaging and exciting ways that Galileo outreach continues to reach out into the community to bring Jupiter to people around the world.

Lead: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Mail Stop 230-101, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.

URL: *http://www.jpl.nasa.gov/galileo/*

Activities: American Association of University Women (AAUW) Math and Science Conference [A48]
From the Outer Planets to the Inner City [A49]
Galileo Classroom Visits [A263]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Windows to the Universe [A245]

B39. Jet Propulsion Laboratory Solar System Exploration Theme Lead (JPL SSE Theme)

Description: The Jet Propulsion Laboratory (JPL) Solar System Theme Lead coordinates the activities of JPL's Solar System exploration mission outreach coordinators and specialists in media relations, television production, Internet services, and education (both formal and informal). The Lead also coordinates the science data analysis and research activities of the missions.

Lead: Ms. Anita Sohus, NASA Jet Propulsion Laboratory, Mail Stop 233-201, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Anita.M.Sohus@jpl.nasa.gov.* Phone: 818-354-6613.

URL: *http://www.jpl.nasa.gov/pscischool/*

Activities: Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
"Live from Mars 2001" and "Live from Mars 2002" [A270]
"MarsQuest" Planetarium Show [A2]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Space Science Workshops for Educators [A210]

Discovery

B40. Discovery Program Support Office (DPSO)

Description: NASA's Discovery program comprises of a series of low-cost, highly focused, competitively selected planetary science investigations. Discovery missions aim to enhance our understanding of the Solar System by exploring the planets, their moons, and other small bodies by using innovative approaches to assure the highest science value for the cost. Ten missions have been selected since the program began in 1992. The Discovery program education and public outreach (E/PO) efforts are designed to promote the program and awareness of the missions. This is done through a Web site, a quarterly newsletter, the development of outreach products and informational materials, and by giving presentations in a variety of venues. The Discovery program works with Discovery mission E/PO personnel to identify and develop E/PO opportunities, to coordinate with the program, and to assure that mission activities are consistent with Office of Space Science E/PO strategy.

Lead: Ms. Shari Asplund, NASA Jet Propulsion Laboratory, Mail Stop 180-201, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *shari.e.asplund@jpl.nasa.gov.* Phone: 818-354-7280.

URL: *http://discovery.nasa.gov*

Activities: From the Outer Planets to the Inner City [A49]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B41. Comet Nucleus Tour (CONTOUR)

Description: The education and public outreach efforts of the CONTOUR mission are aimed at bringing the thrill of exploration and the wonder of discovery into classrooms and homes through unique educational experiences. We invite teachers, students, and the public to participate in scientific inquiry and discovery and to gain insight into the complex and awesome nature of comets. Through media, the Internet, and classroom curriculum, we hope to reach out to the education community and the public to inspire their curiosity and satisfy their interests in the study of comets. The highlights of activities during the past year included public and educational events that were associated with the CONTOUR launch in July.

Contact: Ms. Kathy May, Cornell University, Ithaca, NY 14853.
E-mail: *kathym@astrosun.astro.cornell.edu.* Phone: 607-255-8542.

URL: *http://www.contour2002.org/*

Activities: Comet Nucleus Tour (CONTOUR) Student Involvement [A260]
CONTOUR Public Lectures [A323]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Windows to the Universe [A245]

B42. Dawn

Description: Dawn's goal is to characterize the conditions and processes of the Solar System's earliest epoch by investigating in detail two of the largest protoplanets remaining intact since their formations. Ceres and Vesta reside in the extensive zone between Mars and Jupiter, together with many other smaller bodies called the asteroid belt. Each has followed a very different evolutionary path constrained by the diversity of processes that operated during the first few million years of Solar System evolution. Dawn has much to offer the general public. It brings images of varied landscapes on previously unseen worlds to the public, including mountains; canyons; craters; lava flows; polar caps; and, possibly, ancient lakebeds, streambeds, and gullies. Students can follow the mission over an entire K-12 experience as the mission spacecraft is built, cruises to Vesta and Ceres, and returns data. The public will be able to participate through the Solar System Ambassadors and directly on the Web.

Lead: Dr. Lucy McFadden, University of Maryland, Astronomy Building, College Park, MD 20742.
E-mail: *McFadden@astro.umd.edu.* Phone: 301-405-2081.

URL: *http://www-ssc.igpp.ucla.edu/dawn/outreach.htmlawn/outreach.html*

Activities: Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B43. Deep Impact

Description: The Deep Impact mission outreach plan specializes in five audiences: educators, students, the general public (including informal outreach), underserved groups, and amateur astronomers.

Lead: Dr. Lucy McFadden, University of Maryland, Astronomy Building, College Park, MD 20742.
E-mail: *McFadden@astro.umd.edu.* Phone: 301-405-2081.

Contact: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Mail Stop 264-850, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.

URL: *http://deepimpact.jpl.nasa.gov*

Activities:
Deep Impact Amateur Astronomer Partnership [A326]
Deep Impact "Comet on a Stick!" [A79]
Deep Impact Education: Student Support [A261]
Deep Impact Educator Training [A152]
Deep Impact Poster [A80]
Deep Impact Public/Informal Events [A327]
Deep Impact Science Poster [A81]
Exploring Comets and Modeling for Mission Success [A85]
From the Outer Planets to the Inner City [A49]
From the Sun to the Star Nations [A50]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
"Make a Comet Model and Eat It!" [A104]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Windows to the Universe [A245]

B44. Genesis

Description: Genesis is a sample recovery mission designed to provide the data needed to achieve a better understanding of the original building blocks of the Solar System. The mission captures pieces of the Sun (ion by ion) in ultrapure materials. It will be returned to Earth in an airtight capsule, which will float toward the surface of the Earth via a parafoil. At an approximate altitude of 8,000-10,000 feet, it will be captured using a special technique with helicopters. These samples will be opened at the "cleanest" cleanroom in NASA at Johnson Space Center. From there, a small portion of the sample will be analyzed in new state-of-the-art facilities being built as part of this project. The remainder will be held and distributed over the remainder of the century to laboratories capable of making similar measurements. The education and public outreach of Genesis is also operated in a unique manner. The project has contracted with a Department of Education (DOE) Laboratory, McREL (Mid-Continent Research in Education and Learning). McREL, sited in Aurora, CO, has a lead role in DOE with respect to learning and standards-based education. So far, over the course of our mission, McREL has produced over 10 large educational modules (each composed of approximately 50-100 pages) of standards-based, field-tested materials. McREL has also designed and implemented an award winning Web page for the mission. Each month, this page gets in excess of 1 million hits, relating to over 45,000 visits, primarily by educators.

Lead: Dr. Gilbert Yanow, NASA Jet Propulsion Laboratory, Mail Stop 264-370, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *gilbert.yanow@jpl.nasa.gov.* Phone: 818-354-8060.

URL: *http://genesismission.jpl.nasa.gov*

Activities:
Genesis Chautauqua Program [A168]
Genesis Classroom/Student Presentations [A266]
Genesis Conference Workshops [A169]
Genesis Education Events and Exhibits [A170]
Genesis Products [A90]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]

Public Outreach [A353]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B45. Mercury Surface, Space Environment, Geochemistry and Ranging (MESSENGER)

Description: MESSENGER is a scientific investigation of the planet Mercury. Understanding Mercury, and the forces that have shaped it, is fundamental to understanding the terrestrial planets and their evolution. MESSENGER is a mission to orbit Mercury, following two flybys of that planet. MESSENGER will investigate key scientific questions regarding Mercury's characteristics and environment during these two complementary mission phases. Data are provided by an optimized set of miniaturized space instruments and the spacecraft's telecommunications system. MESSENGER will enter Mercury orbit in April 2009 and will carry out comprehensive measurements for one Earth year. Data collection concludes in April 2010. Working in close coordination with the science team, a carefully selected group of education and public outreach (E/PO) professionals has been engaged to design a comprehensive set of activities that are coordinated with MESSENGER events to enliven education and to excite the public. These activities include teacher training, curriculum development, unique student investigations related to the mission and student experiments with MESSENGER, a television documentary, museum displays, and a special outreach to underserved and minority students. The full, multifaceted E/PO program is carried out with an extensive network of individual and institutional partners throughout the country. The E/PO effort is organized around overarching themes that reflect the science, engineering, technology, and people of the mission. The MESSENGER themes are Comparative Planetology, The Solar System Through History, and Framing Pathways to Answers: The Scientific Process in Action. The thematic framework is also informed by both content and pedagogy standards that are articulated in the National Science Education Standards and Benchmarks for Science Literacy. For the duration of the mission, the E/PO team will create and disseminate materials that focus on telling MESSENGER's many stories to a broad and diverse audience.

Lead: Ms. Stephanie Stockman, NASA Goddard Space Flight Center, Mail Code 921, Greenbelt, MD 20771.
E-mail: *stockman@core2.gsfc.nasa.gov.* Phone: 301-614-6457.

URL: *http://messenger.jhuapl.edu*

Activities: Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Windows to the Universe [A245]

B46. Near-Earth Asteroid Rendezvous (NEAR)

Description: As the first spacecraft to orbit (and land on!) an asteroid, the NEAR Shoemaker mission continues to answer fundamental questions about the nature and origin of near-Earth objects. These objects are of interest because they are the primary source of large bodies that collide with Earth, and because clues to the nature of early Solar System processes and conditions are preserved on primitive bodies like asteroids, comets, and meteorites. These clues have been altered or destroyed on large, planet-size bodies by processes of planetary evolution. (NEAR was launched on February 17, 1996; asteroid landing and final communication occurred on February 12, 2001.)

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, 11100 Johns Hopkins Road, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

URL: *http://near.jhuapl.edu/*

Activities: National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Near-Earth Asteroid Rendevous (NEAR) Classroom Visits and Student Events [A284]
Near-Earth Asteroid Rendevous (NEAR) Museum and Conference Exhibits and Support [A26]
Near-Earth Asteroid Rendevous (NEAR) Special Interest Groups [A350]
Near-Earth Asteroid Rendevous (NEAR) Student Events/Support [A285]
Near-Earth Asteroid Rendezvous (NEAR) Teacher Support [A190]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Windows to the Universe [A245]

B47. Stardust

Description: The Stardust education Web page is designed to enhance the breadth, flexibility and knowledge of science, mathematics, and technology between K-12 education and higher education, recognizing and supporting a diverse set of programs while improving scientific literacy among students. The materials found on this home page are aligned with the national science education standards and have been designed primarily for use by grades 5-8. The Stardust education and public outreach team is composed of many partners which include the Challenger Center for Space Science Education; the JASON Foundation for Education; the Kirkpatrick Science and Air Space Museum at Omniplex; Space Explorers, Inc.; Virginia Space Grant Consortium; Parents and Children as Co-Travelers (PACCT); NASA Jet Propulsion Laboratory (JPL) Ambassadors Program; JPL Solar System Educator Program; From the Sun to the Star Nations—Native American Outreach Initiative; and Space Place. The Stardust mission participates and sponsors teacher training and curriculum development programs targeted for minorities and underserved communities along with the public at large. Other available resources include an interactive Web site, an education-based planetarium program, video animation, and library and museum exhibits.

Lead: Ms. Aimee Whalen, NASA Jet Propulsion Laboratory, Mail Stop 264-379, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *aimee.l.whalen@jpl.nasa.gov.* Phone: 818-354-3245.

URL: *http://stardust.jpl.nasa.gov*

Activities: From the Outer Planets to the Inner City [A49]
From the Sun to the Star Nations [A50]
Passport to the Solar System [A236]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Stardust Amateur Astronomical Societies [A372]
Stardust Conference Workshops [A136]
Stardust Formal Education [A211]
Stardust Informal Outreach [A29]
Stardust Public Outreach [A373]
Windows to the Universe [A245]

Mars Exploration Program

B48. Mars Public Engagement (Mars E/PO)

Description: Mars exploration is NASA's signature effort in planetary science over the next two decades. It is one of the largest programs in NASA's Office of Space Science and will provide regular and frequent voyages to Mars. Such a compelling program deserves forward-looking initiatives to engage the public in Mars exploration, scientific discovery, and technological achievements. These initiatives are covered in a long-term Mars Public Engagement Plan.* Just as Mars missions have been organized into a program where each element strategically complements and builds on another, the Mars Public Engagement Plan creates a focused, cohesive, highly leveraged program in its collection of planned activities. Mars public engagement is conducted at the program level, covering missions scheduled for Mars destinations over the next two decades.** This organization prevents the need to reinvent the wheel with each mission; allows continuity in programming beyond the official end dates of the missions; and provides the ability to develop strong, stable, and common infrastructures with long-term partners. The benefit of a 20-year plan is that public engagement initiatives will have time to bear fruit. Also, the contributions and discoveries of each mission can be intimately linked to the rich and compelling science and technology goals of the Mars Exploration Program for greater public understanding of what NASA seeks to achieve in its systematic exploration of Mars. *The term "public engagement" includes all formal education, informal education, and public information and outreach activities. **Missions include Mariner 3-4, 6-7, and 8-9; Viking 1 and 2; Mars Pathfinder; Mars Global Surveyor; Mars Odyssey; Mars Exploration Rovers; United States participation in Mars Express; Mars Reconnaissance Orbiter; and Mars Science Laboratory. Missions also include coordination with Mars Netlander, Mars Scout, and other Mars programs that receive their education and public outreach funding from other sources.

URL: *http://mars.jpl.nasa.gov*

Activities: Exceptional Space Science Materials for Exceptional Students [A158]
"Exploring the Solar System" Teacher Workshops [A160]

From the Outer Planets to the Inner City [A49]
"Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Planetarium Show [A2]
"MarsQuest" Traveling Exhibit [A10]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Place Contributions to ITEA's "The Technology Teacher" [A369]
Space Science Workshops for Educators [A210]
Windows to the Universe [A245]

B49. 2001 Mars Odyssey

Description: The 2001 Mars Odyssey orbiter is mapping the mineralogy and morphology of the Martian surface, and it is achieving global mapping of the elemental composition of the surface and the abundance of hydrogen in the shallow subsurface. (The 2001 Mars Odyssey was launched on April 7, 2001, and arrived at Mars on October 24, 2001.)

Lead: Ms. Christine Johnson, NASA Jet Propulsion Laboratory, Mail Stop 264-255, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Christine.Johnson@jpl.nasa.gov.* Phone: 818-393-2634.

URL: *http://mars.jpl.nasa.gov/odyssey/*

Activities:
From the Outer Planets to the Inner City [A49]
"Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars Student Imaging Project Resource Manual [A107]
Mars Student Imaging Project Student Handbook and Activity Guide [A108]
Mars Student Imaging Project Teacher Guide [A109]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Traveling Exhibit [A10]
Passport to the Solar System [A236]

Science Concepts in Context [A239]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Space Science Workshops for Educators [A210]

B50. Mars Exploration Rover Mission (MER)

Description: In 2003, two powerful new Mars rovers will be on their way to the Red Planet. With far greater mobility than the 1997 Mars Pathfinder rover, these robotic explorers will be able to trek up to 100 meters (about 110 yards) across the surface each Martian day. Each rover will carry a sophisticated set of instruments that will allow it to search for evidence of liquid water that may have been present in the planet's past. The rovers will be identical to each other but will land at different regions of Mars.

URL: *http://mars.jpl.nasa.gov/missions/future/2003.html*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Traveling Exhibit [A10]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B51. Mars Global Surveyor (MGS)

Description: The Mars Global Surveyor is returning an unprecedented amount of data regarding the Martian surface features, atmosphere, and magnetic properties. Scientists are using the data gathered from this mission both to learn about the Earth by comparing it to Mars and to build a comprehensive data set to aid in planning future missions. (The Mars Global Survey was launched on November 7, 1996.)

URL: *http://mars.jpl.nasa.gov/mgs/*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
"Mapping the Surface of a Planet" Student Guide [A105]
"Mapping the Surface of a Planet" Teacher Guide [A106]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Traveling Exhibit [A10]

Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Windows to the Universe [A245]

B52. Mars Pathfinder

Description: Mars Pathfinder was launched on December 2, 1996, and arrived on the surface of Mars on July 4, 1997. The mission was an engineering demonstration of key technologies and concepts for use in future missions to Mars; it also delivered science instruments to the surface of Mars to investigate the structure of the Martian atmosphere, surface meteorology, surface geology, form and structure, and the elemental composition of Martian rocks and soil. A small, 10-kilogram (22-pound) rover was carried on the Pathfinder and became the first rover ever to explore the Martian surface. The last communication from the spacecraft was received on September 27, 1997, and it was officially declared dead on March 10, 1998.

URL: *http://mpfwww.jpl.nasa.gov/default.html*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Windows to the Universe [A245]

B53. Mars Reconnaissance Orbiter (MRO)

Description: The Mars Reconnaissance Orbiter will focus on analyzing the surface at new scales in an effort to follow tantalizing hints of water detected in images from the Mars Global Surveyor spacecraft, and to bridge the gap between surface observations and measurements from orbit. For example, the Reconnaissance Orbiter will measure thousands of Martian landscapes at 20- to 30-centimeter (8- to 12-inch) resolution, good enough to observe rocks the size of beach balls.

URL: *http://mars.jpl.nasa.gov/missions/future/2005-plus.html*

Activities: Mars Reconnaissance Orbiter (MRO) Compact Reconnaissance Imaging Spectrometer for Mars (CRISM) Events [A274]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]

Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B54. Mars Science Laboratory (MSL)

Description: The Mars Science Laboratory is a roving, long-range, long-duration science laboratory that will provide a major leap forward in surface measurements and will pave the way for a future sample-return mission. NASA is studying options to launch this mobile science laboratory mission as early as 2007. This capability will also demonstrate the technology for "smart landers" with accurate landing and hazard-avoidance abilities in order to reach what may be very promising but difficult-to-reach scientific sites.

URL: *http://solarsystem.nasa.gov/missions/profile.cfm?Sort=Chron&Mission=MarsSciLab*

Activities: Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]

B55. Mars Scout

Description: The Mars Scout program is a set of 10 concepts that were selected for study in 2001. They include missions to return samples of Martian atmospheric dust and gas, networks of small landers, orbiting constellations of small craft, and a rover that would attempt to establish absolute surface ages of rocks and soils. NASA plans to evaluate the 10 innovative concepts using rapid 6-month studies as a means for jump-starting the identification of new Mars Scout missions that will compete for a possible launch in 2007.

URL: *http://www.jpl.nasa.gov/releases/2001/marsscout.html*

Activities: Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B56. Viking

Description: NASA's Viking project found a place in history when it became the first mission to land aspacecraft safely on the surface of another planet. Two identical spacecraft, each consistingof a lander and an orbiter, were built. Each orbiter-lander pair flew together and entered Mars orbit; the landers then separated and descended to the planet's surface. The Viking 1 Lander touched down on the western slope of Chryse Planitia (the Plains of Gold), while the Viking 2 Lander settled down at Utopia Planitia. Besides taking photographs and collecting other science data on the Martian surface, the two landers conducted three biology experiments designed to look for possible signs of life. These experiments discovered unexpected and enigmatic chemical activity in the Martian soil, but they provided no clear evidence for the presence of living microorganisms in the soil near the landing sites. According to scientists, Mars is self-sterilizing. They believe the combination of solar ultravi-

olet radiation that saturates the surface, the extreme dryness of the soil, and the oxidizing nature of the soil chemistry prevent the formation of living organisms in Martian soil. The Viking mission was planned to continue for 90 days after landing. Each orbiter and lander operated far beyond its designed lifetime. Viking Orbiter 1 functioned until July 25, 1978, while Viking Orbiter 2 continued for 4 years and 1,489 orbits of Mars, concluding its mission on August 7, 1980. Because of the variations in available sunlight, both landers were powered by radioisotope thermoelectric generators—devices that create electricity from heat given off by the natural decay of plutonium. That power source allowed long-term science investigations that otherwise would not have been possible. The last data from Viking 2 Lander arrived at Earth on April 11, 1980. Viking 1 Lander made its final transmission to Earth on November 11, 1982.

URL: *http://www.jpl.nasa.gov/missions/past/viking.html*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
Passport to the Solar System [A236]
Science Concepts in Context [A239]

Outer Planets Program

B57. Outer Planets/Education and Public Outreach Program (OP E/PO)

Description: The Outer Planets program consists of a roadmap of missions in search of organic-rich environments in the outer planetary regions of the Solar System. A refocusing of the Outer Planets program during the past year resulted in a concentration on the Europa Orbiter while the Pluto/Kuiper Belt Express mission was undergoing substantial revisions.

Lead: Mr. Richard Shope III, NASA Jet Propulsion Laboratory, Mail Stop 301-335, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *rick.shope@jpl.nasa.gov.* Phone: 818-354-3812.

Activities: Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]

B58. Europa Orbiter

Description: The Europa education and public outreach effort embraces science and technology questions and invites participation as directly as possible in every aspect of the adventure of space exploration and discovery, creating activities and events organized around the following four active inquiry themes: Europa, An Ice Experience: Comparing Ices on Earth, Europa, and Other Worlds; Europa, An Ocean Experience: Searching for Evidence of an Ocean on Europa; Europa, A Planetary System Experience: Jupiter's Radiant Magnetosphere and Intense Gravitational Field; and Europa, An Organic-Rich Experience: Exploring a Potentially Organic-Rich World. Europa demonstrates leadership in reaching academically diverse learners through two programs working collaboratively with the Jet Propulsion Laboratory (JPL) and other NASA projects (including JPL's Stardust, Deep Impact, and the Deep Space Network; the Space Science Institute Broker/Facilitator; and the Sun-Earth Connection Forum at NASA Goddard) and in partnership with community-based organizations (LA's BEST, Project Universe, the World Hope Foundation, and the Academic Research Lab): From the Outer Planets to the Inner City, with an urban focus; and From the Sun to the Star Nations, with an American Indian focus. Europa's nationwide effort creates and implements validated outreach innovations for community and education services that achieve NASA objectives in response to participatory assessments of diverse audience needs.

Lead: Mr. Richard Shope III, NASA Jet Propulsion Laboratory, Mail Stop 301-335, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *rick.shope@jpl.nasa.gov.* Phone: 818-354-3812.
URL: *http://www.jpl.nasa.gov/europaorbiter/*
Activities: "Europa: An Ice Experience" Educator Workshops [A156]
From the Outer Planets to the Inner City [A49]
From the Sun to the Star Nations [A50]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]

Other NASA Programs

B59. Astromaterials Program (Astromaterials)

Description: The Astromaterials program at NASA Johnson Space Center (JSC) curates and distributes samples of other bodies in the Solar System to researchers around the world. Astromaterials include samples collected by NASA missions (Apollo Moon rocks, Genesis solar wind ions, and Stardust comet particles) and samples collected from Earth (meteorites from Antarctica and cosmic dust from the stratosphere). Astromaterials education and public outreach (E/PO) focus on the scientific study of extraterrestrial materials and their use in education. The program is based on collaboration between scientists at JSC and educators. A long-term example is the distribution of lunar and meteorite samples to schools through partnership with the NASA Education Office. Major recent projects include 1) the development of classroom activities in partnership with K-12 teachers and the presentation of these activities in teacher workshops, 2) the collaboration with two minority universities on a Houston-wide outreach program, and 3) the development of exhibits and planetarium shows in partnership with museums.
Lead: Dr. Marilyn Lindstrom, NASA Johnson Space Center, 2101 NASA Road 1, Houston, TX 77058.
E-mail: *marilyn.m.lindstrom1@jsc.nasa.gov.* Phone: 281-483-5135.
URL: *http://curator.jsc.nasa.gov*
Activities: Astromaterials Sample Distribution [A143]
Astromaterials-Astrobiology Student Presentations [A257]
"Exploring the Solar System" Teacher Workshops [A160]
"Fingerprints of Life?"—Development of Classroom Activities, Web Site, and CD-ROM [A232]
Formal and Informal Education Workshops with an Astrobiology Component [A164]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Rocks from Space in the Classroom [A238]
"Rocks from Space" Teacher Workshops [A199]

B60. Deep Space Mission System (DSMS)

Description: DSMS incorporates the Deep Space Network (DSN) and the infrastructure, software, and systems which support it. The goal of the education and public outreach program for DSMS is to build awareness of the critical role that communication plays in Solar System exploration. Without a means of communicating between spacecraft and Earth to relay commands and return science data, there could be no exploration. Using the DSMS, frequent collaborations with the Jet Propulsion Laboratory (JPL) missions tell this story, while previously produced printed materials and videos are distributed to educators and to the public to offer further explanation. DSMS partners with JPL programs (Solar System Ambassadors, Solar System Educators, and a Native American initiative), allowing wider distribution of information and educational activities. The DSN is also used for science observation through radio astronomy, and one of the decommissioned, 34-meter antennas is now part of an innovative educational program, the Goldstone Apple Valley Radio Telescope (GAVRT). Students control this huge antenna, via the Internet, from their classrooms to gather and analyze data which are ultimately used by scientists at JPL.
Lead: Ms. Shirley Wolff, NASA Jet Propulsion Laboratory, Mail Stop 303-401, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *shirley.e.wolff@jpl.nasa.gov.* Phone: 818-354-4069.
URL: *http://deepspace.jpl.nasa.gov/dsn*
Activities: Deep Space Network Formal Education [A153]

Deep Space Network Informal Education [A328]
Deep Space Network Public Events [A329]
From the Outer Planets to the Inner City [A49]
From the Sun to the Star Nations [A50]
GAVRT Classroom Implementation [A264]
GAVRT Educational Conference Workshops and Exhibits [A166]
GAVRT Scientist Telecons [A265]
GAVRT Teacher Training [A167]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Goldstone Communications Complex—Public Tours [A333]
Goldstone Communications Complex—Student Tours [A267]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B61. Deep Space 1 [New Millennium] (DS-1)

Description: "The Space Place" has involved DS-1 in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and the NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that one day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to the "Technology and Children" magazine four times a year and articles to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches an estimated 1,400 teachers and their students (up to 42,000 children), and each "The Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium program. It reaches an average of 3,000 viewers a day.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.

URL: *http://spaceplace.jpl.nasa.gov/*

Activities: From the Outer Planets to the Inner City [A49]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Space Place Contributions to ITEA's "Technology and Children" [A368]
Windows to the Universe [A245]

B62. Near-Earth Asteroid Tracking (NEAT)

Description: NEAT is an autonomous celestial observatory developed by the Jet Propulsion Laboratory and funded by the National Aeronautics and Space Administration to study asteroids and comets. The NEAT Principal Investigator is Dr. Eleanor F. Helin, with co-investigators Dr. Steven H. Pravdo (also the project manager), and Dr. David Rabinowitz (now of Yale University). Discoveries are reported to the Minor Planet Center, whose Web site contains new objects which require confirmation by observers.

URL: *http://neat.jpl.nasa.gov/*

Activities: Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

International Missions with NASA Participation

B63. Mars Express

Description: NASA is participating in a mission called Mars Express that was planned by the European Space Agency and the Italian Space Agency. This mission will explore the atmosphere and surface of Mars from polar orbit. NASA's involvement includes joint development of the radar instrument with the Italian Space Agency, support of U.S. science co-investigators, coordination of radio relay systems to make sure that different spacecraft will operate with each other, a hardware contribution to the energetic neutral atoms analyzer instrument, and the provision of backup tracking support during critical mission phases by NASA's Deep Space Network. Our contribution to the energetic neutral atoms analyzer instrument is called ASPERA-3. ASPERA-3 was selected as a Discovery mission of opportunity; the complete instrument will study the interaction between the solar wind and the atmosphere of Mars, and it will attempt to find out what happened to the large amount of water that was once on Mars. The co-investigator being funded by NASA is Dr. David Winningham of the Southwest Research Institute, San Antonio, TX.

URL: *http://mars.jpl.nasa.gov/missions/future/express.html*

Activities:
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Traveling Exhibit [A10]

B64. Mars NetLander

Description: A U.S. contribution to the French-led NetLander mission will add unique capabilities to each of the four landers and the orbiter which compose the mission. In 2007, NetLander will create the first science network on Mars to study the planet's internal structure. The American contribution includes short-period seismometers and wind sensors on the landers and a high-resolution geodesy instrument on the orbiter. NetLander was selected in January 2001 as a Discovery Mission of Opportunity.

URL: *http://www.geo.fmi.fi/PLANETS/NetLander.html*

Activities:
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]

B65. Rosetta

Description: Rosetta is a European Space Agency cometary mission. The satellite will rendezvous with a comet and orbit it, while taking scientific measurements. A Surface Science Package (SSP) will be landed on the comet's surface to take in situ measurements. The United States is providing science instruments for the orbiter.

URL: *http://sci.esa.int/home/rosetta/index.cfm*

Activities:
Science Concepts in Context [A239]
Windows to the Universe [A245]

STRUCTURE AND EVOLUTION OF THE UNIVERSE (SEU) MISSIONS

Major Missions

B66. Advanced Radio Interferometry between Space and Earth (ARISE)

Description: ARISE will be a mission consisting of one (or possibly two) 25-meter radio telescopes in highly elliptical Earth orbit. The telescope(s) would observe the Universe in conjunction with a large number of radio telescopes on the ground, using the technique of space Very Long Baseline Interferometry (VLBI) in order to obtain the highest resolution (10-microarcsecond) images of the most energetic astronomical phenomena in the Universe.

URL: *http://arise.jpl.nasa.gov/*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B67. Chandra X-Ray Observatory (CXO)

Description: The Chandra X-Ray Observatory, the third of NASA's great observatories, was launched in July 1999 and has completed its third year of science operations. Chandra has returned spectacular images of the x-ray emission from such energetic cosmic sources as the material swirling into black holes, exploding stars, and long jets of high-energy particles. The goals of the Chandra education and public outreach (E/PO) program are to increase public engagement with NASA's Space Science Enterprise by conveying the excitement of the Chandra discoveries to the public; promote science literacy by engaging the imaginations of students, educators, and the public; increase learning opportunities in science, mathematics, and technology with classroom-ready materials that are aligned with national standards; and to provide ready access to Chandra images and education products by utilizing a wide range of technologies and formats for accessibility. The program maintains an extensive public Web site with all images, background materials, and education products that are downloadable in multiple formats. Online forms allow educators to order printed and multimedia resources. Opportunities for educators include summer workshops and the Chandra Teacher Resource Agent program. Printed material such as posters, bookmarks, lithographs, a coloring book, and postcards are available for classroom and informal education use. A CD-ROM, containing Chandra images, has been distributed widely to classrooms, planetariums, and amateur astronomy associations. Classroom-ready materials are downloadable from the E/PO Web site on such topics as the electromagnetic spectrum and the life cycle of stars. For greater educational impact, an effort is made to present Chandra images in multiwavelength comaparisons. The newest addition to the Chandra education materials is a software program, tailored for educational use, that combines the ability to display images with a pull-down menu of x-ray analysis tools, enabling students and teachers to work with actual Chandra data and images.

Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, 60 Garden Street, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.

URL: *http://chandra.harvard.edu*

Activities: "Bright Cosmic Lights of the Milky Way" [A70]
Chandra Images CD-ROM [A76]
Chandra Public Outreach by the Massachusetts Institute of Technology (MIT) Center for Space Research (CSR) [A316]
Chandra Summer Lecture Series at the Massachusetts Institute of Technology (MIT) Center for Space Research (CSR) [A317]
Chandra X-Ray Center Online Education and Outreach [A318]
Chandra X-Ray Center Operation Control Center Tours [A319]
Chandra X-Ray Center Presentations [A259]
Chandra X-Ray Center Public Outreach [A320]
Chandra X-Ray Center Teacher Workshops and Presentations [A148]
Collision Processes in Astrophysical Plasmas [A35]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions" Interpretation/Docent Activities [A15]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
"Galaxy Clusters X-Ray and Optical Light" [A88]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
"Journey to the Edge of Space and Time" Planetarium Show [A1]
MicroObservatory Online Telescopes [A281]

National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Presentations by the Massachusetts Institute of Technology (MIT) Center for Space Research [A287]
Science Concepts in Context [A239]
Science@NASA [A359]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
"Seeing the Universe in a Whole New Light" [A123]
Smithsonian Teacher's Night [A206]
Space Place Newspaper Contributions [A371]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
"Waves Light Up The Universe!" Teacher Workshops [A229]

B68. Compton Gamma-Ray Observatory (CGRO)

Description: CGRO, the second of NASA's great observatories, was launched on April 5, 1991. It had a diverse scientific agenda, including studies of very energetic celestial phenomena: solar flares, cosmic gamma-ray bursts, pulsars, nova and supernova explosions, accreting black holes of stellar dimensions, quasar emission, and interactions of cosmic rays with the interstellar medium. Compton left a legacy of outstanding science and revolutionized our knowledge of the gamma-ray sky. Its mission ended on June 4, 2000, when it was de-orbited following the failure of one of its three gyroscopes.

URL: *http://cossc.gsfc.nasa.gov/cossc/*

Activities: Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Science Concepts in Context [A239]

B69. Constellation-X (Con-X)

Description: Constellation-X has been designed to perform x-ray spectroscopy with unprecedented sensitivity and spectral resolution. The measurement of large numbers of x-ray spectral lines in hot plasmas leads to determining the elemental composition, temperature, and velocity of the emitting matter. Astronomers will determine the flow of gas in accretion disks around black holes in active galactic nuclei and in binary x-ray sources, measure the population of newly created elements in supernova remnants, and detect the influence of dark matter on the hot intergalactic medium in clusters of galaxies. Constellation-X is identified in the Office of Space Science Strategic Plan.

URL: *http://constellation.gsfc.nasa.gov/*

Activities: Cosmic Journeys Collectible Card Game [A78]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]

B70. Gamma-ray Large Area Space Telescope (GLAST)

Description: GLAST is scheduled for launch in September of 2006. With GLAST, scientists seek to explore the limits of gravity and energy in the Universe and to study nature's highest energy acceleration processes. The instruments aboard GLAST have an imaging gamma-ray telescope vastly more capable than instruments flown previously as well as a secondary instrument to augment the study of gamma-ray bursts. The GLAST education and public outreach (E/PO) group has developed a program that is well suited to promote inquiry into the origin and structure of the Universe and the fundamental relationship between energy and matter, concepts which are included in the Physical Science Content Standards A, B, and D for grades 9-12. The GLAST Telescope Network (GTN) is being designed to provide information to ground-based, gamma-ray telescopes for more detailed observations of events that produce gamma rays. GTN also will promote the development of an imaging and data archive. The GLAST Ambassador Program consists of 10 educators who will work in conjunction with GLAST science and E/PO team members at Sonoma State Univeristy and the Stanford Linear Accelerator (SLAC) to develop workshops and curricular materials. Many printed materials are being developed, including TOPS lesson modules and yearly posters and activity sets. Ask A Scientist allows students, teachers, and the public to ask and receive answers about GLAST high-energy physics. The GLAST E/PO group also maintains a public-oriented Web site. Among future programs are an interactive gamma-ray detector exhibit (under development at the Stanford Linear Accelerator's Virtual Visitor Center) and more Space Mysteries (interactive video games that teach physical science and mathematics). Also in development with Thomas Lucas Productions is a NOVA or PBS special that takes a sweeping look at high-energy astrophysics.

Lead: Dr. Lynn Cominsky, Sonoma State University, Department of Physics and Astronomy, 1801 East Cotati Avenue, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
URL: *http://glast.gsfc.nasa.gov*
Activities: Chandra X-Ray Center Teacher Workshops and Presentations [A148]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Examining Einstein's Spacetime with Gravity Probe B [A157]
"Exploring the Extreme Universe!" Student Presentations [A262]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
"The Exploding Universe" Public Presentations [A383]
The Extreme Universe of Gamma-Ray Astronomy! Public Presentations [A384]
"Waves Light Up The Universe!" Teacher Workshops [A229]

B71. Gravity Probe B Relativity Mission (GP-B)

Description: Gravity Probe B is producing and distributing educational materials that communicate the science and technology of GP-B, including Einstein's General Theory of Relativity. In addition, GP-B is participating in conferences and workshops to teach students, teachers, and the general public about GP-B. Materials include posters, an educator guide, lithograph sets, a DVD video, and brochures. Most materials are available on the GP-B Web site. Additionally, the GP-B Web site is developing a spacetime and relativity section to introduce and educate users about these concepts.
Lead: Ms. Shannon Range, Stanford University, HEPL 4085, Stanford, CA 94305. E-mail: *www@relgyro.stanford.edu.*
Contact: Dr. Jennifer Mullins, Stanford University, HEPL 4085, Stanford, CA 94305. E-mail: *www@relgyro.stanford.edu.*
URL: *http://einstein.stanford.edu*
Activities: "Cosmic Questions" Interpretation/Docent Activities [A15]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Examining Einstein's Spacetime with Gravity Probe B [A157]
GLAST High-Energy Informal Education [A17]
Gravity Probe B Classroom Lithograph Set [A91]
Gravity Probe B Wallsheet [A92]
Gravity Probe B: "Examining Einstein's Spacetime with Gyroscopes" Educator's Guide [A93]
High-Energy Classroom Teacher Workshops [A172]
Science@NASA [A359]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

B72. Laser Interferometer Space Antenna (LISA)

Description: Space Place has involved LISA in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and the NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that 1 day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to the "Technology and Children" magazine four times a year and to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches up to an estimated 1,400 teachers and their students (up to 42,000 children), and each "The

Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium program. It reaches an average of 3,000 viewers a day.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.

URL: *http://spaceplace.jpl.nasa.gov*

Activities:
Catch a Gravitational Wave, Dude! [A73]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Space Place Contributions to ITEA's "Technology and Children" [A368]
Space Place Contributions to ITEA's "The Technology Teacher" [A369]
Space Place Newspaper Contributions [A371]
Swift High-Energy Informal Education [A31]

Explorers

B73. Cooperative Astrophysics and Technology Satellite (CATSAT)

Description: The scientific objectives of CATSAT is to study the origin and nature Gamma-Ray bursters, one of the most mysterious astrophysical phenomenom. CATSAT is a small, ongoing scientific satellite mission being developed by the University of New Hampshire through the Universities Space Research Association (USRA)/NASA Student Explorer Demonstration Initiative (STEDI) program.

URL: *http://www.catsat.sr.unh.edu/*

Activities:
GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B74. Cosmic Background Explorer (COBE)

Description: The COBE satellite was developed to measure the diffuse infrared and microwave radiation from the early Universe, to the limits set by our astrophysical environment. It was launched on November 18, 1989, and carried three instruments, a Far Infrared Absolute Spectrophotometer (FIRAS) to compare the spectrum of the cosmic microwave background radiation with a precise black body, a Differential Microwave Radiometer (DMR) to map the cosmic radiation precisely, and a Diffuse Infrared Background Experiment (DIRBE) to search for the cosmic infrared background radiation. The cosmic microwave background spectrum was measured with a precision of 0.005 percent; the results confirmed the Big Bang theory of the origin of the Universe.

URL: *http://nssdc.gsfc.nasa.gov/database/MasterCatalog?sc=1989-089A*

Activities:
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Science Concepts in Context [A239]

B75. Cosmic Hot Interstellar Plasma Spectrometer (CHIPS)

Description: CHIPS will use an extreme ultraviolet spectrograph during its 1-year mission to study the "Local Bubble," a tenuous cloud of hot gas surrounding our Solar System that extends about 300 light-years from the Sun. Scientists believe that the million-degree gas in this region is generated by supernovas and stellar winds from hot stars, but they want to better understand the origins and cooling of this gas and apply knowledge of these processes to the study of other galaxies beyond our Milky Way. CHIPS was selected in September 1998 as one of the first two University-Class Explorer (UNEX) missions. (CHIPS was launched on January 12, 2003.)

Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

URL: *http://chips.ssl.berkeley.edu/chips.html*

Activities:
Cosmic Hot Interstellar Plasma Spectrometer (CHIPS) Formal Education Teacher Inservice Preparation [A150]
Cosmic Hot Interstellar Plasma Spectrometer (CHIPS) Public Outreach and Informal Education [A325]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]

Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

B76. Extreme Ultraviolet Explorer (EUVE)

Description: EUVE was an astronomy mission operating in the largely unexplored extreme ultraviolet (70-760 Å) band. The science payload consisted of three grazing incidence scanning telescopes and an extreme ultraviolet (EUV) spectrometer/deep survey instrument. The spacecraft was launched on June 7, 1992, and was completely successful, exceeding its science goals. EUVE was turned off on January 31, 2001.

URL: *http://ssl.berkeley.edu/euve/*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B77. Galaxy Evolution Explorer (GALEX)

Description: Space Place has involved GALEX in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and the NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that 1 day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to the "Technology and Children" magazine four times a year and to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches up to an estimated 1,400 teachers and their students (up to 42,000 children), and each "The Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site, which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium program. It reaches an average of 3,000 viewers a day.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.

URL: *http://spaceplace.jpl.nasa.gov*

Activities: Galaxy Evolution Explorer (GALEX) Social [A332]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]

B78. High Energy Transient Explorer 2 (HETE-2)

Description: HETE-2's prime objective is to carry out a multiwavelength study of gamma-ray bursts (GRBs) with ultraviolet, x-ray, and gamma-ray instruments. A unique feature of the mission is its capability to localize bursts with several arcsecond accuracy, in near real-time, aboard the spacecraft. The original HETE spacecraft was lost as a result of a launch failure on November 4, 1996. (HETE-2 was launched on October 9, 2000.)

Lead: Dr. Irene Porro, Massachusetts Institute of Technology, NE80-6079, 77 Massachusetts Avenue, Cambridge, MA 02139.
E-mail: *iporro@space.mit.edu.* Phone: 617-258-7481.

URL: *http://space.mit.edu/HETE/*

Activities: Chandra Public Outreach by the Massachusetts Institute of Technology (MIT) Center for Space Research (CSR) [A316]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

B79. Microwave Anisotropy Probe (MAP)

Description: MAP continues to concentrate its education and public outreach (E/PO) efforts in electronic forms. MAP's mission page and the "Teacher's Guide to the Universe" Web site explain both the basics about cosmology as well as mission details. Additionally, MAP has supported the Structure and Evolution of the Universe (SEU) Forum's creation of the "Cosmic Questions" exhibit and the Space Science Update kiosk. MAP has created four postcards for E/PO and has helped to create a mission card for the Cosmic Journeys card game. MAP has been represented at national and State conferences by education staff, and it has contributed to SEU Forum kits. MAP's E/PO coordinator has led a course for an informal audience at a local planetarium. MAP continues to work with the Cooperative Satellite Learning Program and Old Bridge High School.

Lead: Dr. David Spergel, Princeton University, Peyton Hall, Dept. of Astrophysics, Princeton, NJ 08544-1001.
E-mail: *dns@astro.princeton.edu.* Phone: 609-258-3589.

Contact: Ms. Lindsay Bartolone, Adler Planetarium and Astronomy Museum, Education, 1300 S. Lake Shore Drive, Chicago, IL 60605.
E-mail: *Lindsay_Clark@adlernet.org.* Phone: 312-322-0316.

URL: *http://www.astro.princeton.edu/~clark/teachersguide.html*

Activities:
"A Teacher's Guide to the Universe" MAP Workshop [A140]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions" Interpretation/Docent Activities [A15]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
"Does the Universe Have a Fingerprint?" Factcard [A83]
GLAST High-Energy Informal Education [A17]
"Greetings from L2" Factcard [A94]
MAP Cooperative Satellite Learning Project (CSLP) [A273]
Mapping the Cosmic Microwave Background—Microwave Anisotropy Probe (MAP) Informal Outreach [A342]
"Microwaves in Space?" Factcard [A110]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
"Should This Laser Slinging Slug Have Fired His Weapon?" Factcard [A124]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
York College Observatory Educational Outreach Program (YCOOP) [A46]

B80. Rossi X-ray Timing Explorer (RXTE)

Description: RXTE, launched in December 1995, continues to return a stream of impressive results on the physics of matter near sources of extreme gravity (neutron stars, black holes, and the supermassive black hole cores of active galaxies). The mission, a collaboration among NASA Goddard Space Flight Center, the Massachusetts Institute of Technology (MIT), and the University of California, San Diego, centers on three flight instruments in a low-Earth orbit which investigate the 2-250 keV x-ray spectral and milliseconds-to-years timing variability of astronomical sources. Since early in the mission, RXTE has supported an active education and public outreach (E/PO) program involving the RXTE Learning Center—an online educational resource for teachers and students. It hosts teacher interns who design and develop lesson plans and classroom activities based on RXTE results. Recent accomplishments include the All-Sky Monitor-based Tour the X-Ray Sky, which uses real data to introduce students to the types of variability seen in x-ray sources, and a series of supporting educator workshops to train teachers on the use of this module in their classrooms. During the next two years, the E/PO program for RXTE will focus on the classroom testing and educator dissemination of a collection of newly developed activities to go with a multimedia RXTE product—"The High Energy Groovie Movie." This movie mates an animation of the x-ray variability of the entire sky over several years of the mission (developed by the All-Sky Monitor team at MIT) with a high-energy original pop song, "High Energy Groove" (written and recorded by the Chromatics as part of the AstroCappella project), which describes the basics of modern x-ray astronomy. The activities were developed by two Maryland teacher interns in the summer of 2002 and cover a range of topics, including the technology behind the Proportional Counter Array (PCA) detectors, how accretion works in close binary systems, neutron stars and pulsars, active galaxies, and the electromagnetic spectrum.

Lead: Dr. Patricia Boyd, NASA Goddard Space Flight Center, Mail Code 662, Greenbelt, MD 20771.
E-mail: *padi@lhea1.gsfc.nasa.gov.* Phone: 301-286-2550.

URL: *http://rxte.gsfc.nasa.gov/docs/xte/learning_center/*

Activities:
Chandra Public Outreach by the Massachusetts Institute of Technology (MIT)
Center for Space Research (CSR) [A316]

GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

B81. Spectroscopy and Photometry of the IGMs Diffuse Radiation (SPIDR)

Description: The SPIDR mission is designed to detect, map, and quantify the cosmic web of hot, intergalactic filaments that were predicted by hydrodynamic models of the structure of the Universe. In addition, SPIDR will provide new information about hot gas in a variety of galactic environments. SPIDR will provide these diagnostics through the spectral imaging of selected astrophysical fields in the 100-150 nm band. The SPIDR education and public outreach program will include a new GEMS educator guide with a Cosmic Models theme for grades 6-8. It will highlight key concepts of the SPIDR mission's scientific work and will inform students of the mission's goals. Students will create models to visualize our galaxy, our Local group, galaxies in the Virgo cluster, and clusters of galaxies. The activities in this GEMS guide will use models and visualization that go beyond the scale of the planetary system models that were developed in previous GEMS guides. (The SPIDR mission deals with structure on the largest scale.) A GEMS training center will be launched at the New Mexico Museum of Natural History and Science (NMMNHS) to establish close working relationships with education leaders at the NMMNHS and the Albuquerque and Santa Fe public schools. SPIDR science will be included in a series of new presentations to be developed by the Boston Museum of Science's Current Science and Technology Center and in a series of Web programs to be developed by the NASA Marshall Space Flight Center for the following Web sites: "Science@NASA," "NASAKids," "Liftoff," and the Spanish-language Web site "Ciencia@NASA." SPIDR will partner with the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), one of the first such partnerships between a mission and this professional society. The organization's undergraduate students will produce a series of biographical and professional profiles of NOBCChE scientists. SPIDR scientists will also participate in annual NOBCChE conferences and their professional teacher workshops.

Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

Contact: Dr. Bryan Mendez, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *bmendez@ssl.berkeley.edu.* Phone: 510-643-2178.

URL: *http://www.bu.edu/spidr/indextoo.html*

Activities: "Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
"Journey to the Edge of Space and Time" Planetarium Show [A1]
Professional Societies of Minority Scientists/OSS Collaboration [A57]

B82. Submillimeter Wave Astronomy Satellite (SWAS)

Description: SWAS is part of the Small Explorer program. SWAS studies the chemical composition, energy balance, and structure of interstellar clouds and the processes that lead to the formation of stars and planets. SWAS was launched on December 5, 1998.

URL: *http://cfa-www.harvard.edu/swas/*

Activities: GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]

B83. Swift Gamma-Ray Burst MIDEX Mission (Swift)

Description: Swift is a NASA Medium-class Explorer (MIDEX) mission being developed for launch in September 2003 by an international collaboration. Swift is the first of its kind, a multiwavelength observatory that is dedicated to the study of gamma-ray bursts. The main mission objectives of Swift include determining the origin of gamma-ray bursts, classifying gamma-ray bursts as well as searching for new types, determining how the blast wave evolves and interacts with the surroundings, using gamma-ray bursts to study the early Universe, and performing a sensitive survey of the sky in the hard x-ray band. Swift has a complement of three coaligned instruments: the BAT, XRT, and UVOT. Using this prompt burst location information, Swift can slew quickly to point onboard x-ray (XRT) and optical (UVOT) instrumentation at the burst for continued afterglow studies. The goal of the Swift mission education and public outreach (E/PO) efforts at Sonoma State University is to use the observations and scientific discoveries of the Swift mission to improve the understanding and utilization of science and mathematics concepts for grades 7-12. Swift E/PO team members interact with and disseminate Swift curricular materials via workshops and conferences at the national, State, and local levels. The program

includes yearly posters and activity sets and a GEMS guide, entitled "Invisible Universe," that has been developed at the Lawrence Hall of Science and will be available in the fall of 2002. "What's In The News?," a television show produced by Pennsylvania State University, informs middle school students across the country about Swift. Pennsylvania State University also offers yearly workshops for science educators: In the summer of 2002, Swift was featured in a space astronomy workshop. Evaluation and guidance of the development of educational materials comes from the Swift Education Committee (SwEC) and the two Swift Educator Ambassadors.

Lead: Dr. Lynn Cominsky, Sonoma State University, Department of Physics and Astronomy, 1801 East Cotati Avenue, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.

URL: *http://swift.gsfc.nasa.gov*

Activities:
"Catching Gamma-Ray Bursts on the Fly" Swift Brochure [A74]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
"Exploring the Extreme Universe!" Student Presentations [A262]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
Newton's First Law of Motion [A113]
"Newton's Laws of Gravitation" [A114]
Newton's Second Law of Motion [A115]
Newton's Third Law of Motion [A116]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
"The Exploding Universe" Public Presentations [A383]
The Extreme Universe of Gamma-Ray Astronomy! Public Presentations [A384]
"Waves Light Up The Universe!" Teacher Workshops [A229]
"Who's Got The Power?" Student Presentations [A303]

Attached Payloads

B84. Advanced Cosmic-ray Composition Experiment for the Space Station (ACCESS)

Description: ACCESS is under study for a possible launch in 2007. This experiment will make spectral, individual-element composition measurements at energies reaching up to 10^15 electronvolts in order to address fundamental questions concerning the origin and acceleration of the cosmic radiation.

URL: *http://lheawww.gsfc.nasa.gov/ACCESS/*

Activities:
GLAST High-Energy Informal Education [A17]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Swift High-Energy Informal Education [A31]

B85. Alpha Magnetic Spectrometer (AMS-2)

Description: AMS-2 is an experiment to search for antimatter in space. It has flown previously on the Space Shuttle (STS-91, June 1998) and is scheduled for launch to the International Space Station on ISS User Flight 4 (UF-4).

URL: *http://ams.cern.ch/AMS/ams_homepage.html*

Activities:
GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

Other NASA Programs

B86. High-Energy Astrophysics Science Archive Research Center (HEASARC)

Description: Since 1996, the HEASARC education and public outreach (E/PO) program has been bringing information and curriculum-support materials to upper middle school, high school, and lower undergraduate students and their teachers on topics regarding the structure and evolution of the Universe, with emphasis on high-energy astronomy. The E/PO program consists of the "Imagine the Universe!" Web site, a series of posters and information/activity booklets, and a repertoire of educator workshops. Both scientists and educators are involved in the development and testing of the materials which use satellite data to teach topics in science and math. HEASARC also hosts the "StarChild" Web site and annually publishes a CD-ROM containing "Imagine," "StarChild," and the "Astronomy Picture of the Day." Materials are distributed to thousands of educators via

workshops, meetings, and e-mail requests. HEASARC also coordinates with the E/PO programs of other Structure and Evolution of the Universe (SEU) high-energy astrophysics missions such as RXTE, GLAST, Swift, and XMM.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Mail Code 662, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

URL: *http://heasarc.gsfc.nasa.gov*

Activities: "Black Holes in a Different Light" Workshop [A145]
"Cosmic Connections" Talk [A324]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Frontiers in Astrophysics Talks [A165]
GLAST High-Energy Informal Education [A17]
"Hidden Lives of Galaxies" Workshop [A171]
"Life Cycles of Stars" Workshop [A178]
"Light and Shadow" Workshop [A340]
Overview of the "Imagine the Universe!" CD-ROM [A194]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Science Concepts in Context [A239]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
"The Elements" Educator Workshop [A223]
TIGER on TV [A385]
TIGER Talk [A298]
"X-ray Spectroscopy and Chemistry of Supernova Remnants" Field Test [A246]

International Missions with NASA Participation

B87. Astro-E2

Description: Astro-E2 is a joint U.S.-Japanese mission to explore the x-ray Universe at high spectral resolution. The mission uses a microcalorimeter which determines x-ray energies from cosmic sources by measuring the heat deposited by the x rays into an absorbing material. To accomplish this, the detector is cooled to 60 millikelvin by using an adiabatic demagnetization refrigerator. The mission also includes lightweight mirrors to focus the x rays onto the detectors. Astro-E2 will probe the chemical composition of supernova remnants and galaxy clusters, and it will measure the motion of material before it falls into a black hole. The education and public outreach (E/PO) program for the mission seeks to bring students into the science and technology of the mission. Working with the NASA Student Involvement Program, Astro-E2 will sponsor a competition for students to share in the data from the mission. This effort will be supported by the Astro-E2 Guest Observer Facility at the NASA Goddard Space Flight Center. We will also produce a video which tells the story of the science, technology, and history of the mission for teachers to use in their science, math, or social studies classes. The video will particularly touch on the cross-cultural aspects of working with the Japanese. These efforts will be supported by a Web site which will provide background material and lessons on the use of spectroscopy in x-ray astronomy.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Mail Code 662, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

URL: *http://astroe.gsfc.nasa.gov/docs/astroe_lc/*

Activities: Astro-E2: Operating in the Cold [A252]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]

B88. Herschel Space Observatory (FIRST)

Description: Herschel is cornerstone number 4 (CS4) in the European Space Agency's Horizon 2000 Scientific Program. It will permit high spatial and spectral resolution imaging in the 85-900 micron wavelength region. Superb sensitivity for both photometry and spectroscopy will result from Herschel's high throughput and low thermal background. Herschel will be a multipurpose observatory serving the entire astronomical community. NASA supports U.S. participation on the mission.

URL: *http://sci.esa.int/home/first/index.cfm*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B89. International Gamma-Ray Astrophysics Laboratory (INTEGRAL)

Description: INTEGRAL is an international gamma-ray mission led by the European Space Agency with NASA participation. The Lab for High Energy Astrophysics at the NASA Goddard Space Flight Center provides science support services for the U.S. astronomers who are participating in the mission. INTEGRAL's key science question is to probe the origin of the elements by studying gamma-ray emission lines from the galactic center, supernovas, black holes, and the Sun. The education and public outreach (E/PO) program features the development of a poster and an activity booklet on the topic of the origin of the elements. The development of these materials includes a weeklong educator workshop which provides content for the participants and during which the participants develop classroom activities. The E/PO program also includes the development of a gamma-ray comic book which will explain gamma-ray astronomy and various techniques which are used to detect cosmic gamma rays.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Mail Code 662, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

URL: *http://sci.esa.int/home/integral/index.cfm*

Activities: GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]
"The Elements" Educator Workshop [A223]

B90. Planck Surveyor (Planck)

Description: Planck is the third Medium-Sized Mission (M3) of the European Space Agency's Horizon 2000 Scientific Program. It is designed to image minor variations in the cosmic background radiation over the whole sky, with unprecedented sensitivity and angular resolution. Planck will provide a major source of information relevant to several cosmological and astrophysical issues, such as testing theories of the early Universe and the origin of cosmic structure. NASA supports U.S. participation on the mission.

URL: *http://sci.esa.int/home/planck/index.cfm*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B91. Satellite per Astronomia X (BeppoSAX)

Description: The x-ray astronomy satellite BeppoSAX ("Beppo" in honor of Giuseppe Occhialini) is a project of the Italian Space Agency with participation of the Netherlands Agency for Aerospace Programs. The main scientific characteristic of the BeppoSAX mission is the wide spectral coverage, ranging from 0.1 to over 200 kiloelectronvolts. BeppoSAX has been developed with the support of a consortium of institutes in Italy and in the Netherlands and of the Space Science Department of the European Space Agency. A collaboration with the Max Planck Institute for Extraterrestrial Physics also exists for x-ray mirror testing and the calibration of the concentrator/spectrometer system.

URL: *http://bepposax.gsfc.nasa.gov/bepposax/*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B92. Spectrum-X-Gamma (SXG)

Description: Spectrum-X-Gamma (SXG) is an international high-energy astrophysics observatory which is being built under the leadership of the Russian Space Research Institute.

URL: *http://hea-www.harvard.edu/SXG/sxg.shtml*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B93. VLBI Space Observatory Programme (VSOP)

Description: The VSOP mission is led by the Institute of Space and Astronautical Science in collaboration with the National Astronomical Observatory of Japan. The first VSOP satellite was successfully launched on February 12, 1997, on the new ISAS M-V rocket from the Kagoshima Space Center. The satellite, renamed Highly Advanced Laboratory for Communications and Astronomy (HALCA) after its successful launch, sucessfully deployed an 8-meter-diameter radio telescope in orbit on February 27-28, 1997. HALCA is in an elliptical Earth orbit, with an

apogee height of 21,000 km and a perigee height of 560 km, which enables VLBI (Very Long Baseline Interferometry) observations on baselines up to three times longer than those acheivable on Earth. Observations will be made at 1.6 GHz (18 cm), 5 GHz (6 cm), and 22 GHz (1.3 cm).

URL: *http://www.vsop.isas.ac.jp/*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B94. X-ray Multi-mirror Mission (XMM-Newton)

Description: XMM-Newton is an x-ray astrophysics observatory developed by the European Space Agency with U.S. participation. This facility-class observatory, with an anticipated lifetime of 10 years, enables astronomers to conduct sensitive x-ray spectroscopic observations of a wide variety of cosmic sources. (XMM-Newton was launched on December 10, 1999.)

URL: *http://sci.esa.int/home/xmm-newton/index.cfm*

Activities: "Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

SUN-EARTH CONNECTION (SEC) MISSIONS

Major Missions

B95. Interstellar Probe (IS)

Description: The Interstellar Probe is a mission in the very early concept definition phase and is designed to cross the solar wind termination shock and heliopause and make a significant penetration into the local interstellar medium, characterizing the regions it passes. This mission offers a significant technological challenge in that its success will require the achievement of spacecraft velocities of 10 astronomical units (10 times the Earth-Sun distance) per year.

URL: *http://interstellar.jpl.nasa.gov/*

Activities: "Live from the Aurora" [A271]

B96. Ulysses

Description: Ulysses makes passes over the north and south poles of the Sun in order to forecast solar weather. The spacecraft was the first to explore interplanetary science at high solar latitudes. Launched in October of 1990, it has provided scientific data for the last 12 years. Students from Los Angeles County compete for interview opportunities with team members on space science, spacecraft design, spacecraft operations, and project management. Students' interests are matched with team-member volunteers. Students conduct research and professional interviews and do a professional presentation at the end of the project. A team member attends and evaluates all presentations.

URL: *http://www.ulysses.jpl.nasa.gov/index.html*

Activities: From the Outer Planets to the Inner City [A49]
"Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]
Ulysses Tours and Classroom Visits [A301]
Windows to the Universe [A245]

B97. Voyager

Description: The Voyager mission, now in its 25th year, continues its quest to push the bounds of space exploration. Voyager 1, now the most distant human-made object in the Universe, and Voyager 2, close on its heels, continue their ground-breaking journeys with their current mission to study the region in space where the Sun's influence ends and the dark recesses of interstellar space begin. Education and public outreach (E/PO) goals include 1) continuing to improve the quality and quantity of project participation in outreach programs; 2) interacting with Deep Space Network Outreach, the Jet Propulsion Laboratory (JPL) Education Office, the Sun-Earth Connection (SEC) community, and the project's investigators to assist in the development of classroom tools; 3) increasing the level of Voyager public awareness with the help of the JPL Media Relations Office; 4) continuing collaborations with the Stanford Solar Center and the SEC Broker/Facilitators; 5) participating in SEC Education Forum Sun-Earth Day teacher training (March 02) and the live Webcast; and 6) attending the National Science Teachers Association meeting as a partner with the SEC Education Forum.

Lead: Ms. Andrea Angrum, NASA Jet Propulsion Laboratory, Mail Stop 264-801, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *andrea.angrum@mail1.jpl.nasa.gov.* Phone: 818-354-6775.

URL: *http://voyager.jpl.nasa.gov*

Activities:
From the Outer Planets to the Inner City [A49]
"Live from the Aurora" [A271]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Voyager Classroom Visits [A302]
Voyager Conferences [A388]
Voyager Speakers Bureau [A389]
Voyager Tours [A390]
Windows to the Universe [A245]

Explorers

B98. Advanced Composition Explorer (ACE)

Description: The primary purpose of the ACE is to determine and compare the isotopic and elemental composition of several distinct samples of matter, including the solar corona, the interplanetary medium, the local interstellar medium, and galactic matter. For education and public outreach, ACE shares the following topics through a Web site, printed materials, workshops, and presentations: the composition of the Solar System and extrasolar bodies, particle composition from solar wind to galactic cosmic rays, the causes and effects of transient events, solar and galactic evolution, and stellar nucleosynthesis.

Lead: Ms. Beth Jacob, NASA Goddard Space Flight Center, Mail Code 661, Greenbelt, MD 20771.
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URL: *http://www.srl.caltech.edu/ACE/ASC/*

Activities:
A Space Science Module for Los Alamos Space Science Outreach (LASSO) [A138]
"Live from the Aurora" [A271]
NASA Connect: Having a Solar Blast [A282]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
"Space Weather Center" Traveling Exhibit [A12]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Day [A381]
Windows to the Universe [A245]

B99. Aeronomy of Ice in the Mesosphere (AIM)

Description: The scientific purpose of the AIM mission is focused on the study of Polar Mesospheric Clouds (PMCs) that form about 50 miles above Earth's surface in the summer, mostly in the polar regions. The overall goal is to resolve why PMCs form and why they vary. AIM will measure PMCs and the thermal, chemical, and dynamic environment in which they form. This will allow the connection to be made between these clouds and the meteorology of the polar mesosphere. This connection is important because a significant variability in the yearly number of noctilucent ("glow-in-the-dark") clouds (NLCs), one manifestation of PMCs, has been suggested as an indicator of global change. The body of data collected by AIM will provide the basis for a rigorous study of PMCs that can be reliably used to study past PMC changes, present trends, and their relationship to global change. In the end, AIM will provide an expanded basis for the study of long-term variability in Earth's climate. The education and public outreach programs will share the science as new discoveries indicate the connection of the Sun and Earth system.

Lead: Ms. Dianne Robinson, Hampton University, Post Office Box 6142, Hampton, VA 23668.
E-mail: *dianne.robinson@hamptonu.edu.* Phone: 757-727-5869.

URL: *http://www.hamptonu.edu/science/physics/CAS/AIM/aim.html*

B100. Fast Auroral Snapshot Explorer (FAST)

Description: The FAST Explorer was launched into orbit on August 21, 1996. The instruments aboard FAST measure charged particles which enter Earth's upper atmosphere; large waves of these particles from the Sun begin to glow once inside Earth's atmosphere, causing a spectacular light show known as the aurora borealis or northern lights. The education and public outreach for FAST includes K-12 curriculum components such as lessons, activities, and information that will help teachers and students understand the aurora, the sounding rockets, and the satellites that study them.

Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

URL: *http://cse.ssl.berkeley.edu/fast_epo/*

Activities: "Live from the Aurora" [A271]
"Northern Lights" Planetarium Show [A3]
Science Education Gateway/National Virtual Observatory [A358]
Sun-Earth Day [A381]
Windows to the Universe [A245]

B101. Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI)

Description: RHESSI is funded by NASA's Explorers Program under the category of small explorers. RHESSI may help to answer one of the most fundamental questions about how the Sun works: How do solar flares release such large quantities of energy in such a short span of time? (A single flare can be as powerful as 10 million volcanic explosions!) The centerpiece of the RHESSI mission is the imager, which uses a new technology to capture images and spectra of high-energy solar flares. RHESSI's primary education and public outreach (E/PO) goal is to provide high-quality education and outreach experiences for precollege teachers, their students, and the general public. Additionally, through our University/NASA Center collaboration, RHESSI will be able to provide research opportunities to enhance the education of undergraduate and graduate students. Thus, the RHESSI education and public outreach effort will permeate all facets of the mission, allowing the college-level students to serve as effective liaisons to the precollege community that we plan to involve. The University of California, Berkeley's E/PO efforts will focus on middle and high school teachers, their students, and the public. In the formal arena, we will concentrate on the middle school grades 6-8, since here is where RHESSI-related content is taught in the precollege science curriculum and where students typically stop being interested in science. We will also conduct regular public awareness activities, highlighting RHESSI data in collaboration with the Exploratorium. The Exploratorium's "Live@the Exploratorium" Internet netcast series will be able to highlight RHESSI during the years of high solar activity through regularly scheduled public events. To complement these high-visibility Internet netcasts for the public, we will develop self-guided Internet modules that highlight key aspects of the RHESSI mission and its data.

Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

URL: *http://cse.ssl.berkeley.edu/hessi*

Activities: Heliostat Spectroscopy [A18]
HESSI Book Cover [A96]

"HESSI Spacecraft Model" Booklet [A97]
"Live from the Aurora" [A271]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Formal Education Student Support [A289]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Outreach to Underserved and Minority Groups [A58]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Public Outreach and Informal Education [A355]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Shares Sun-Earth Connection Science Through Conferences [A356]
Science Education Gateway/National Virtual Observatory [A358]
Science@NASA [A359]
"Space Weather Center" Traveling Exhibit [A12]
STEREO/IMPACT Formal Education Teacher Inservice Preparation [A213]
Students United with NASA Becoming Enthusiastic About Math and Science (SUNBEAMS) [A218]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Day [A381]
"Sunspots Lesson Plan Resource Guide" [A126]

B102. Imager for Magnetopause-to-Aurora Global Exploration (IMAGE)

Description: The IMAGE satellite is the first spacecraft dedicated to imaging Earth's magnetosphere, a region of space that is controlled by Earth's magnetic field and contains extremely tenuous plasmas of both solar and terrestrial origin. IMAGE employs a variety of imaging techniques to see the invisible and to produce the first comprehensive global images of plasma in the inner magnetosphere. The IMAGE education and public outreach program is called Public Outreach, Education, Teaching and Reaching Youth (or POETRY). We specialize in developing classroom activities, CD-ROMs, and other products that help students understand Earth's magnetic field, its radiation belts, and the impacts of solar activity on our technology. The goal of POETRY is to rewrite the textbooks to explain the causes of auroras, to update K-12 descriptions of Earth's magnetic field and its systems of particles, and to provide teachers with the latest information about the effects of space weather. We also conduct an award-winning "Ask the Space Scientist" Web-based resource, where students may ask questions about space science.

Lead: Dr. Sten Odenwald, NASA Goddard Space Flight Center, Mail Code 630, Greenbelt, MD 20771.
E-mail: *odenwald@mail630.gsfc.nasa.gov.* Phone: 301-286-6953.

URL: *http://image.gsfc.nasa.gov/poetry*

Activities:
A Space Science Module for Los Alamos Space Science Outreach (LASSO) [A138]
"Exploring the Earth's Magnetic Field"—An IMAGE Satellite Guide [A86]
IMAGE Amateur Astronomy Clubs [A337]
IMAGE Internet Activities [A100]
IMAGE Planetariums and Museum Lectures [A338]
IMAGE Presentations to Students [A269]
IMAGE Teacher Workshops and Training [A173]
"Live from the Aurora" [A271]
"Northern Lights" Planetarium Show [A3]
Passport to the Solar System [A236]
"Polly's and Ernie's Adventures in Space" [A121]
Science Concepts in Context [A239]
"Space Weather Center" Traveling Exhibit [A12]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]
Two Wide-angle Imaging Neutral Atom Spectrometers (TWINS) Teacher Training Program [A228]

B103. Interplanetary Monitoring Platform (IMP-8)

Description: IMP-8 (also known as IMP-J) was launched by NASA in 1973 to measure the magnetic fields, plasmas, and energetic charged particles (e.g., cosmic rays) of Earth's magnetotail and magnetosheath and of the near-Earth solar wind. IMP-8, the last of 10 IMP (Interplanetary Monitoring Platform) spacecraft launched in 10 years, continues to accumulate data that is useful in understanding long-term solar processes. IMP-8 scientists at NASA Goddard Space Flight Center provide their expertise through the validation of educational

products whose content deals with interplanetary and magnetotail studies of cosmic rays, energetic solar particles, plasma, and electric and magnetic fields.

Lead: Mr. Joseph King, NASA Goddard Space Flight Center, Mail Code 633, Greenbelt, MD 20771.
E-mail: *Joseph.H.King.1@gsfc.nasa.gov.* Phone: 301-286-7355.

URL: *http://nssdc.gsfc.nasa.gov/nmc/tmp/1973-078A.html*

Activities: "Live from the Aurora" [A271]

B104. Solar Anomalous and Magnetospheric Particle Explorer (SAMPEX)

Description: SAMPEX is designed to detect solar energy particles, precipitating energetic electrons, anomalous cosmic rays, and galactic cosmic rays throughout a solar cycle. Education and public outreach consist of SAMPEX scientists and engineers at NASA Goddard Space Flight Center who support a high school team in the Cooperative Satellite Learning Program (CSLP). The CSLP is a unique education partnership among various high schools, Allied Signal Technical Services Corporation in Seabrook, MD, and Goddard Space Flight Center that involves high school students in the process of developing and operating SAMPEX. This pilot program provides students with an understanding of the overall end-to-end system that is used to support SAMPEX, and it will demonstrate how NASA implements a specific mission for a given scientific endeavor. It also introduces the students to careers in space. A mission monitoring system in the high school receives and processes SAMPEX satellite data and provides computer-assisted tutoring. In this way, students participate directly in SAMPEX tests, simulations, and orbital operations.

Lead: Dr. Jim Watzin, NASA Goddard Space Flight Center, Mail Code 474, Greenbelt, MD 20771.
E-mail: *jim.watzin@gsfc.nasa.gov.* Phone: 301-286-7933.

URL: *http://sunland.gsfc.nasa.gov/smex/sampex/index.html*

B105. Student Nitric Oxide Explorer (SNOE)

Description: SNOE is a small scientific satellite that is measuring the effects of energy from the Sun and the magnetosphere on the density of nitric oxide in Earth's upper atmosphere. It is one of the three projects selected for the Student Explorer Demonstration Initiative Program (STEDI) to demonstrate that university-led teams can successfully carry out high-quality space science and technology missions. Students are involved in all aspects of the project. Under the supervision of the Laboratory for Atmospheric and Space Physics (LASP) of the University of Colorado (UC) and industry mentors, they worked on the design study, built the spacecraft and instruments, wrote the flight software, integrated and tested the instruments and subsystems, and integrated the satellite with the launch vehicle. SNOE will be operated from the LASP Space Technology Research building by a team of students and mission operations professionals. Advanced undergraduate and graduate students will analyze the data. The student training effort was coordinated through a course offered continuously in the UC Department of Aerospace Engineering Sciences.

Lead: Mr. Kenneth Mankoff, University of Colorado at Boulder, Boulder, CO 80309.
E-mail: *mankoff@lasp.colorado.edu.* Phone: 303-492-2326.

URL: *http://lasp.colorado.edu/snoe/*

B106. Transition Region and Coronal Explorer (TRACE)

Description: A mission of the Small Explorer program, TRACE observes the effects of the emergence of magnetic flux from deep inside the Sun to the outer corona with high spatial and temporal resolution. (TRACE was launched on April 1, 1998.)

Lead: Mr. Neal Hurlburt, Lockheed Martin Solar and Astrophysics Laboratory, 3251 Hanover Street, Palo Alto, CA 94304.
E-mail: *hurlburt@lmsal.com.* Phone: 650-354-5504.

URL: *http://vestige.lmsal.com/TRACE/*

Activities: National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
Sun-Earth Day [A381]
Sun-Earth Scale Model Brochure [A125]

B107. Two Wide-angle Imaging Neutral-atom Spectrometers (TWINS)

Description: The TWINS mission provides a new capability for stereoscopically imaging the magnetosphere. In contrast to traditional space experiments which make measurements at only one point in space, imaging experiments provide simultaneous viewing of different regions of the magnetosphere. Stereo imaging, as done by TWINS, takes the next step of producing 3-D images and will provide a leap ahead in our understanding of the global

aspects of the terrestrial magnetosphere. The TWINS education and public outreach program is carried out through the Los Alamos Space Science Outreach (LASSO) program, an umbrella program for space science education activities at Los Alamos National Lab (LANL). It is based on teacher workshops in which K-14 teachers spend several weeks at LANL learning space science from lab scientists and developing methods and materials for teaching this science to their students. The program supports an instructional model that is based on education research and cognitive theory. Students and teachers engage in activities that encourage critical thinking and a constructivist approach to learning.

Lead: Dr. Ruth Skoug, Los Alamos National Laboratory, NIS-1, Mail Stop D466, Los Alamos, NM 87545.
E-mail: *rskoug@lanl.gov.* Phone: 505-667-6594.

URL: *http://nis-www.lanl.gov/nis-projects/twins/*

Activities: A Space Science Module for Los Alamos Space Science Outreach (LASSO) [A138]
Two Wide-angle Imaging Neutral Atom Spectrometers (TWINS) Teacher Training Program [A228]

International Solar-Terrestrial Physics

B108. International Solar-Terrestrial Physics Program Office (ISTP)

Description: The ISTP program is a comprehensive effort to observe and understand our star and its effect on our environment. The education and public outreach effort focuses on sharing those discoveries in the formal and informal education communities through mentoring, exhibits, and workshops.

Activities: "Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
"Space Weather Center" Traveling Exhibit [A12]

B109. Cluster II

Description: Cluster is a European Space Agency program with major NASA involvement. The four Cluster spacecraft carry out 3-D measurements in Earth's magnetosphere, covering both large- and small-scale phenomena in the sunward and tail regions. The first two spacecraft were launched on July 16, 2000; the second pair were launched on August 9, 2000.

URL: *http://sci.esa.int/home/clusterii/index.cfm*

Activities: "Live from the Aurora" [A271]
Sun-Earth Day [A381]

B110. Geotail

Description: The Geotail mission is a collaborative project undertaken by the Japanese Institute of Space and Astronautical Science (ISAS) and NASA. Its primary objective is to study the tail of Earth's magnetosphere. The information gathered is allowing scientists to model and more accurately predict Sun-Earth interactions and their effects on space exploration, communications, and technology systems. (Geotail was launched on July 24, 1992.)

URL: *http://www-spof.gsfc.nasa.gov/istp/geotail/*

Activities: "Live from the Aurora" [A271]

B111. Polar

Description: The Solar-Terrestrial Science Program (STSP), composed of SOHO and Cluster with Geotail (ISAS-Japan), Wind, and Polar, cooperates in education and public outreach by providing educational products, science data, and images that tell the story of the Sun. These materials (images) can been seen in most museums, planetariums, and science centers, and they support STSP's work with the general public. Images are also shown by national television broadcasting companies to share a solar event with the public when it happens.

Lead: Dr. Nicola Fox, NASA Goddard Space Flight Center, Mail Code 600, Greenbelt, MD 20771.
E-mail: *nicola.fox@gsfc.nasa.gov.* Phone: 301-286-8872.

URL: *http://www-spof.gsfc.nasa.gov/istp/polar/*

Activities: Aurora Poster [A69]
"Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]

B112. Solar and Heliospheric Observatory (SOHO)

Description: SOHO is designed to study the internal structure of the Sun, its extensive outer atmosphere, and the origin of the solar wind—the stream of highly ionized gas that blows continuously outward through the Solar System. SOHO is helping us to better understand the interactions between the Sun and Earth's environment than has been possible to date. Its legacy may enable scientists to solve some of the most perplexing riddles about the Sun, including the heating of the solar corona, the acceleration of the solar wind, and the physical conditions of the solar interior. It will give solar physicists their first long-term, uninterrupted view of the mysterious star that we call the Sun. The SOHO education and public outreach program generates and distributes educational and outreach materials on the Sun and SOHO for use in schools and by the public. The materials include posters, CDs, image sets, slide sets, stickers, and videos. Scientists give presentations in classrooms, at teacher workshops, in museums, and to other scientists. Materials are also provided to publications and news organizations.

Lead: Dr. Steele Hill, NASA Goddard Space Flight Center, Mail Code 682.3, Greenbelt, MD 20771.
E-mail: *steele.hill@gsfc.nasa.gov.* Phone: 301-286-6452.

URL: *http://soho.nascom.nasa.gov/*

Activities: Heliostat Spectroscopy [A18]
Lesson Plan Development: Convection, Spectroscopy, and Velocity and Acceleration [A234]
"Live from the Aurora" [A271]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
"Space Weather Center" Traveling Exhibit [A12]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]

B113. Wind

Description: The Solar Terrestrial Science Program (STSP) composed of SOHO and Cluster, with Geotail (ISAS-Japan), Wind, and Polar, cooperates in education and public outreach by providing educational products, science data, and images that tell the story of the Sun. these materials (images) can been seen in most museums, planetariums, and science centers, and they support STSP's work with the general public. Images are also shown by national television broadcasting companies to share a solar event with the public when it happens.

Lead: Dr. Nicola Fox, NASA Goddard Space Flight Center, Mail Code 600, Greenbelt, MD 20771.
E-mail: *nicola.fox@gsfc.nasa.gov.* Phone: 301-286-8872.

URL: *http://www-istp.gsfc.nasa.gov/istp/wind/wind.html*

Activities: "Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]

Solar-Terrestrial Probes

B114. Solar-Terrestrial Probes Program Office (STP)

Description: NASA's STP program represents a significant opportunity for ground-breaking education and public outreach (E/PO) in the fields of solar science, information technology, engineering studies, and the Solar System. The STP program office initiates programs that adhere to E/PO guidelines as set forth by the Office of Space Science. This includes E/PO efforts for formal and informal education, public outreach, and public and media relations. The program promotes excellence in science, mathematics, engineering, and technology education through its direct involvement in partnerships, workshops, and internships. Most programs lend themselves to nationwide participation, with a special emphasis on serving groups that have been historically underrepresented in the space sciences.

Lead: Ms. Barbara Lambert, NASA Goddard Space Flight Center, Mail Code 460, Greenbelt, MD 20771.
E-mail: *Barbara.J.Lambert.1@gsfc.nasa.gov.* Phone: 301-286-1275.
URL: *http://stp.gsfc.nasa.gov*
Activities: Living With a Star (LWS) Master Teacher Leadership and Mentor Program [A183]
Living With a Star (LWS) Preservice Workshop [A184]
Our Star the Sun—Living With a Star (LWS) Summer Institute [A193]
Solar-Terrestrial Probes (STP) Educational Programs and Workshops [A208]
Solar-Terrestrial Probes (STP) Outreach [A365]
Solar-Terrestrial Probes (STP) Student Competitions [A290]
Student Interns Gain Professional Experience on the Solar-Terrestrial Probes (STP) Program [A296]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]
Teacher Interns Explore Solar-Terrestrial Probes (STP) [A222]

B115. Magnetospheric Multiscale (MMS)

Description: Broad regions of Earth's magnetosphere are connected by fundamental processes operating in the thin boundary layers. Processes of vastly different scale sizes can interact strongly. Understanding these fundamental processes requires multipoint measurements that uniquely separate temporal and 3-D spatial variations. The MMS mission goal is to make those necessary measurements with a five-spacecraft constellation in highly eliptical orbits. MMS is a future Solar-Terrestrial Probes mission.
URL: *http://stp.gsfc.nasa.gov/missions/mms/mms.htm*
Activities: "Live from the Aurora" [A271]

B116. Solar-B

Description: The Solar-B satellite observatory will be launched into a polar orbit around Earth to allow almost uninterrupted observations of our Sun. Three major instruments will make coordinated observations at multiple wavelengths, examining the processes taking place on the Sun's surface and in its atmospheric envelope. Solar-B education and public outreach will be developed and implemented primarily at the new Chabot Space and Science Center in Oakland, CA, in collaboration with the Lockheed Martin Solar and Astrophysics Laboratory. The forms of education and outreach include exhibits, teacher training workshops, video/multimedia productions, posters and brochures, an adult solar astronomy class, "solar" summer camps for children, and a high school solar astronomy internship program.
Lead: Mr. Benjamin Burress, Chabot Space and Science Center, 10902 Skyline Blvd., Oakland, CA 94619.
E-mail: *bburress@chabotspace.org.* Phone: 510-336-7308.
URL: *http://www.chabotspace.org/vsc/exhibits/solarb/default.asp*
Activities: Fun in the Sun—Summer Camp [A331]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Public Outreach and Informal Education [A355]
Solar Eclipse Watch [A362]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sunspotting—Tracking the Wild Sunspot [A382]
"Touch the Sun" [A131]
"Touch the Sun" Teacher Workshop [A227]

B117. Solar-Terrestrial Relations Observatory (STEREO)

Description: STEREO is the third of five Solar-Terrestrial Probes, and it will obtain simultaneous images of the Sun from two spacecraft and build a 3-D picture of coronal mass ejections (CMEs) and the complex structures around them. STEREO will also study the propagation of disturbances through the heliosphere and their effects at Earth orbit. The STEREO education and public outreach program participates in the Sun-Earth Connection Education Forum, sponsored workshops that meet the needs of educators at all grade levels. We present these workshops to inservice educators to teach them about the most recent and relevant solar and STEREO science discoveries, which they will then teach in their classrooms. Mission scientists participate in the workshops to share the science content. Education specialists provide integrated, hands-on activities to demonstrate science application in the classroom. The missions also provide images and animations to support programs that have been developed by the science centers, specifically for educators and for the general public.
Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.

E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.
URL: *http://stp.gsfc.nasa.gov/missions/stereo/stereo.htm*
Activities: "Live from the Aurora" [A271]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Formal Education Student Support [A289]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Public Outreach and Informal Education [A355]
Science Education Gateway/National Virtual Observatory [A358]
STEREO/IMPACT Formal Education Teacher Inservice Preparation [A213]
STEREO/PLASTIC Interactive Workshops [A214]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Day [A381]

B118. Thermosphere Ionosphere Mesosphere Energetics and Dynamics (TIMED)

Description: The TIMED mission will study the influences of the Sun and humans on the least explored and understood region of Earth's atmosphere, the Mesosphere and Lower Thermosphere/Ionosphere (MLTI). The MLTI region is a gateway between Earth's environment and space, where the Sun's energy is first deposited into Earth's environment. TIMED will focus on a portion of this region located approximately 60-180 kilometers above the surface. From studying portions of Earth's atmosphere, scientists believe global change is occurring primarily due to variations in the Sun's cycle and to the human-induced release of gases such as methane and carbon dioxide into this atmosphere. The TIMED education and public outreach Web site offers activities, a Teacher's Corner, and TIMED lesson plans.
Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, 11100 Johns Hopkins Road, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.
URL: *http://www.timed.jhuapl.edu/*
Activities: "Live from the Aurora" [A271]
Near-Earth Asteroid Rendevous (NEAR) Classroom Visits and Student Events [A284]
Near-Earth Asteroid Rendevous (NEAR) Museum and Conference Exhibits and Support [A26]
Near-Earth Asteroid Rendevous (NEAR) Special Interest Groups [A350]
Near-Earth Asteroid Rendevous (NEAR) Student Events/Support [A285]
Near-Earth Asteroid Rendezvous (NEAR) Teacher Support [A190]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar-Terrestrial Probes (STP) Student Competitions [A290]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]
TIMED Classroom Visits and Student Events [A299]
TIMED Public Outreach [A386]
TIMED Spacecraft Mobile [A129]
TIMED Spacecraft Model [A130]
TIMED Student Events [A300]
TIMED Teacher Support [A226]

Other NASA Programs

B119. Living With a Star (LWS)

Description: Living With a Star (LWS) is a NASA initiative that addresses aspects of the Sun-Earth system that affect life and society. This program is a part of the Sun-Earth Connection (SEC) theme within the Office of Space Science. The program elements are 1) a space weather research network, 2) theory, modeling, and data analysis programs, 3) space environment testbeds, and 4) established and expanded partnerships. The goals and objectives link to each of the six NASA Strategic Enterprises: Space Science, Earth Science, Human Exploration and Development of Space, Aerospace Technology, Biological and Physical Research, and Education.
Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Mail Code 460, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.

URL: *http://lws.gsfc.nasa.gov*
Activities: "Live from the Aurora" [A271]
Living With a Star (LWS) Follow-Up Program and School Visits [A180]
Living With a Star (LWS) Information Technology Program [A181]
Living With a Star (LWS) Inservice Teacher Workshop [A182]
Living With a Star (LWS) Master Teacher Leadership and Mentor Program [A183]
Living With a Star (LWS) Preservice Workshop [A184]
Living With a Star (LWS) Student Internship [A272]
Living With a Star (LWS) Summer Teacher Internship [A185]
Our Star the Sun—Living With a Star (LWS) Summer Institute [A193]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day Information for Tribal Schools [A60]

B120. Space Technology-5 [New Millennium] (ST-5)

Description: "The Space Place" has involved ST-5 in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that one day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to "Technology and Children" magazine four times a year and articles to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches an estimated 1,400 teachers and their students (up to 42,000 children), and each "The Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium Program. It reaches an average of 3,000 viewers a day.
Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.
URL: *http://spaceplace.nasa.gov*
Activities: Club Space Place Activities [A322]
"Design a Tortilla Spacecraft!" [A82]
From the Outer Planets to the Inner City [A49]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
Space Place Contributions to ITEA's "Technology and Children" [A368]
Space Place Contributions to ITEA's "The Technology Teacher" [A369]
Space Place Museum and Library Partnerships [A370]
Space Place Newspaper Contributions [A371]

International Missions with NASA Participation

B121. Yohkoh

Description: Yohkoh, an observatory for studying x rays and gamma rays from the Sun, is a project of the Institute for Space and Astronautical Sciences, Japan. The spacecraft was built in Japan, but the observing instruments had contributions from the United States and from Great Britain. Yohkoh was launched on August 30, 1991;

the spacecraft lost attitude control in December 2001, and recovery attempts have been unsuccessful.

URL: *http://www.lmsal.com/SXT/*

Activities: "Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Sun-Earth Day [A381]
The Dynamic Sun Planetarium Project [A4]

APPENDIX C. Contributing Scientists, Technologists, and Support Personnel

The NASA Office of Space Science is very pleased to acknowledge the more than 1,000 OSS-affiliated scientists, technologists, and support personnel who contributed to developing Education and Public Outreach (E/PO) products or conducting E/PO activities in FY 2002. The names and affiliations of these dedicated individuals are listed below. The numbers in the brackets to the right of each entry refer to the product or activity in Appendix A to which the individual contributed.

Individual Affiliated	Organization	Reference in Appendix A
Ms. Kim Aaron	NASA Jet Propulsion Laboratory	[A237]
Ms. Tracey Abbott	NASA Jet Propulsion Laboratory	[A343]
Ms. Faith Abney	Space Telescope Science Institute	[A336]
Ms. Eleanor Abrams	University of New Hampshire	[A214]
Mr. Chuck Acton	NASA Jet Propulsion Laboratory	[A136]
Dr. Loren Acton	Montana State University	[A4]
Dr. Mario Acuna	NASA Goddard Space Flight Center	[A52]
Mr. Mark Adler	NASA Jet Propulsion Laboratory	[A343]
Dr. Michael A'Hearn	University of Maryland	[A81, A327]
Ms. Rachel Akeson	NASA Jet Propulsion Laboratory	[A349]
Ms. Joanne Alano	NASA Jet Propulsion Laboratory	[A343]
Ms. Cindy Alarcon-Rivera	NASA Jet Propulsion Laboratory	[A49]
Ms. Lucy Albert	Space Telescope Science Institute	[A334, A335, A336]
Dr. Claudia Alexander	NASA Jet Propulsion Laboratory	[A236, A239, A245]
Dr. David Alexander	Lockheed Martin Solar and Astrophysics Laboratory	[A236]
Dr. Louis Allamandola	NASA Ames Research Center	[A77, A346]
Dr. Carlton Allen	NASA Johnson Space Center	[A33, A87, A143, A164, A187, A257, A346]
Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	[A22, A33, A51, A160, A161, A164, A187, A199, A238, A257, A346, A348]
Dr. Richard Alley	Pennsylvania State University	[A239]
Mr. Jose Alonso	University of Puerto Rico at Mayagüez	[A174]
Linda Amaral-Zettler	Woods Hole Oceanographic Institute	[A162]
Dr. Frank Ameduri	Los Alamos National Laboratory	[A228]
Ms. Elizabeth Amini	NASA Jet Propulsion Laboratory	[A49]
Dr. Bob Anderson	NASA Jet Propulsion Laboratory	[A168, A343]
Mr. Ed Anderson	Northern Arizona University	[A50]
Dr. Scott Anderson	NASA Jet Propulsion Laboratory	[A186]
Dr. Paul Andres	NASA Jet Propulsion Laboratory	[A24]
Ms. Andrea Angrum	NASA Jet Propulsion Laboratory	[A49, A364, A381, A388]
Mr. Peter Antreasian	NASA Jet Propulsion Laboratory	[A270]
Ms. Felipita Aragon	Ball Aerospace Technologies Corporation	[A261]
Mr. Roberto Arceo	University of Texas at El Paso	[A36]
Mr. Michael Arida	NASA Goddard Space Flight Center	[A223, A324]
Ms. Nina Armagno	NASA Kennedy Space Center	[A270]
Dr. Richard Arquilla	Space Telescope Science Institute	[A89]
Dr. Raymond Arvidson	Washington University	[A236, A275]
Ms. Shari Asplund	NASA Jet Propulsion Laboratory	[A49]
Mr. David Atkinson	NASA Jet Propulsion Laboratory	[A147, A197]
Ms. Robin Auer	Space Telescope Science Institute	[A336]
Mr. Richard August	Mt. Wilson Institute	[A364]
Ms. Shermane Austin	Medgar Evers College	[A40]
Mr. Ron Baalke	NASA Jet Propulsion Laboratory	[A364]
Mr. Glen Baer	Johns Hopkins University Applied Physics Laboratory	[A226, A300]
Mr. Jim Baer	Ball Aerospace Technologies Corporation	[A327]

Dr. Fred Baganoff	Massachusetts Institute of Technology	[A316, A317]
Mr. Erik Bailey	NASA Jet Propulsion Laboratory	[A344]
Mr. Vince Bailey	Johns Hopkins University Applied Physics Laboratory	[A300]
Mr. Kevin Baines	NASA Jet Propulsion Laboratory	[A237]
Mr. Mark Balzer	NASA Jet Propulsion Laboratory	[A278]
Dr. Josh Bandfield	Arizona State University	[A270]
Mr. Thomas Bank	Ball Aerospace Technologies Corporation	[A261]
Mr. Todd Barber	NASA Jet Propulsion Laboratory	[A147, A277, A314, A343, A344]
Dr. Louis Barbier	NASA Goddard Space Flight Center	[A340]
Mr. Philip Barker	Los Alamos National Laboratory	[A138, A228]
Dr. David Barnaby	Western Kentucky University	[A295]
Dr. Olivier Barnouin-Jha	Johns Hopkins University Applied Physics Laboratory	[A274]
Ms. Lindsay Bartolone	Adler Planetarium and Astronomy Museum	[A83, A94, A110, A124, A140, A342]
Dr. Gibor Basri	University of California, Berkeley	[A227]
Dr. Deborah Bass	NASA Jet Propulsion Laboratory	[A275, A344]
Dr. Pat Beauchamp	NASA Jet Propulsion Laboratory	[A373]
Dr. Brad Bebout	NASA Ames Research Center	[A346]
Dr. John Beck	Stanford University	[A221, A236, A270, A277, A358, A381]
Dr. Bernhard Beck-Winchatz	DePaul University	[A27, A133, A135, A209, A292]
Dr. Alberto Behar	NASA Jet Propulsion Laboratory	[A236]
Dr. Peter Beiersdorfer	Lawrence Livermore National Laboratory	[A35]
Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	[A26, A190, A222, A226, A236, A285, A300, A386]
Ms. Diane Bell	University of Tennessee at Martin	[A336]
Dr. Jim Bell	Cornell University	[A10]
Ms. Mary Sue Bell	Lockheed Martin Engineering and Sciences	[A257]
Ms. Kelly Bender	Arizona State University	[A108, A270, A276, A344]
Ms. Meredith Bene	NASA Goddard Space Flight Center	[A219]
Dr. Robert Benjamin	University of Wisconsin-Madison	[A294]
Mr. Boonsieng Benjauthrit	NASA Jet Propulsion Laboratory	[A277]
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Dr. Michael Bennett	Astronomical Society of the Pacific (ASP)	[A62, A144, A215, A225, A249, A374]
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Mr. Chuck Bergh	NASA Jet Propulsion Laboratory	[A278]
Ms. Sheryl Bergstrom	NASA Jet Propulsion Laboratory	[A343]
Mr. Richard Berk	NASA Jet Propulsion Laboratory	[A237]
Dr. David Bermudes	Yale University	[A179]
Dr. Ken Berry	NASA Jet Propulsion Laboratory	[A348]
Dr. Connie Bertka	American Association for the Advancement of Science (AAAS)	[A52]
Ms. Laura Berwin	NASA Jet Propulsion Laboratory	[A275]
Dr. Manfred Bester	University of California, Berkeley	[A355]
Ms. Rosalie Betrue	NASA Jet Propulsion Laboratory	[A22]
Ms. Kristina Beuning	NASA Jet Propulsion Laboratory	[A237]
Mr. Guy Beutelschies	NASA Jet Propulsion Laboratory	[A270]
Dr. Michael Bicay	California Institute of Technology	[A367]
Mr. Joseph Bishop	NASA Jet Propulsion Laboratory	[A278]
Mr. Leo Bister	NASA Jet Propulsion Laboratory	[A277]
Mr. William Bittman	Ball Aerospace Technologies Corporation	[A261, A327]
Mr. Brett Blacker	Space Telescope Science Institute	[A336]

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Dr. Diana Blaney	NASA Jet Propulsion Laboratory	[A275]
Mr. Gary Block	NASA Jet Propulsion Laboratory	[A49]
Mr. Ron Boain	NASA Jet Propulsion Laboratory	[A364]
Dr. Matthew Bobrowsky	Challenger Center for Space Science Education	[A52]
Ms. Donna Boccio	Queensborough Community College	[A40]
Ms. Angela Boehne	NASA Jet Propulsion Laboratory	[A237]
Dr. Donald Bogard	NASA Johnson Space Center	[A238]
Dr. Donna Bogner	Mid-continent Research for Education and Learning (McREL)	[A266]
Dr. Scott Bolton	NASA Jet Propulsion Laboratory	[A265, A270, A329]
Mr. Jeffrey Booth	NASA Jet Propulsion Laboratory	[A49]
Mr. Joseph Borovsky	Los Alamos National Laboratory	[A138, A228]
Mr. Wayne Bosze	NASA Jet Propulsion Laboratory	[A49]
Ms. Cassie Bowman	NASA Ames Research Center	[A275]
Dr. Patricia Boyd	NASA Goddard Space Flight Center	[A223]
Mr. James Boyer	NASA Jet Propulsion Laboratory	[A237]
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Ms. Heather Bradbury	Space Telescope Science Institute	[A98, A99, A336]
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Dr. Kenneth Brecher	Boston University	[A5, A16]
Dr. Roger Brissenden	Chandra X-Ray Center	[A5, A320]
Mr. James Bristol	Colorado School for the Deaf and the Blind	[A266]
Dr. Steve Brody	NASA Office of Space Science	[A52]
Dr. Taft Broome	Howard University	[A52]
Dr. Beth Brown	NASA Goddard Space Flight Center	[A40]
Dr. Donald Brownlee	University of Washington	[A364]
Mr. Enrico Bruno	NASA Jet Propulsion Laboratory	[A343]
Mr. Robert Bruntz	University of Texas at El Paso	[A36]
Mr. Larry Bryant	NASA Jet Propulsion Laboratory	[A270, A343]
Dr. Scott Budzein	Naval Research Laboratory	[A52]
Dr. Royce Buehler	Massachusetts Institute of Technology	[A287]
Dr. Ben Burress	Chabot Space and Science Center	[A221]
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Mr. Mike Butler	Johns Hopkins University Applied Physics Laboratory	[A290]
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Mr. Thomas Calderwood	Chandra X-Ray Center	[A320]
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Dr. Bruce Campbell	NASA Goddard Space Flight Center	[A290, A365]
Dr. Humberto Canate	Hostos Community College	[A40]
Dr. Claude Canizares	Massachusetts Institute of Technology	[A316]
Dr. Michael Carini	Western Kentucky University	[A295]
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Dr. Michael Carr	U.S. Geological Survey	[A10]
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Dr. George Carruthers	Naval Research Laboratory	[A52]
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Mr. Donald Carson	NASA Goddard Space Flight Center	[A193]
Dr. Sandra Castro	California Institute of Technology	[A5]
Mr. Joseph Catanzarite	NASA Jet Propulsion Laboratory	[A189]
Mr. David Cha	NASA Jet Propulsion Laboratory	[A270, A343, A344]
Dr. Deepto Chakrabarty	Massachusetts Institute of Technology	[A317]

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Dr. Eric Christian	NASA Goddard Space Flight Center	[A122, A165, A223, A282, A298, A381, A385]
Dr. Ed Churchwell	University of Wisconsin-Madison	[A294]
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Dr. Todd Clancy	Space Science Institute	[A10]
Dr. Benton C. Clark	Lockheed Martin Space Systems	[A10]
Mr. Gilbert Clark	NASA Jet Propulsion Laboratory	[A364]
Ms. Lindsay Clark	Arizona State University	[A78]
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Mr. Marc Clayton	Johns Hopkins University Applied Physics Laboratory	[A300]
Ms. Cathy Clemens	Museum of Science	[A336]
Dr. Simon Clemett	Lockheed Martin Engineering and Sciences	[A257, A346]
Mr. Troy Cline	NASA Goddard Space Flight Center	[A51, A59, A158, A188, A219, A221, A347, A381]
Mr. Jim Closs	NASA Goddard Space Flight Center	[A40]
Mr. David Clough	NASA Jet Propulsion Laboratory	[A344]
Dr. Anita Cochran	University of Texas at Austin	[A323, A364]
Dr. James Coffield	Wheeling Jesuit University	[A187]
Dr. Paul Coleman	University of Hawaii at Manoa	[A39]
Mr. Gilberto Colon	NASA Goddard Space Flight Center	[A193, A296]
Dr. Lynn Cominsky	Sonoma State University	[A5, A17, A31, A74, A78, A113, A114, A115, A116, A122, A172, A262, A384]
Dr. Mark Conde	University of Alaska Fairbanks	[A271]
Ms. Stacy Connaughton	NASA Jet Propulsion Laboratory	[A49]
Dr. Guy Consolmagno	University of Arizona	[A364]
Mr. Adam Contos	Harvard-Smithsonian Center for Astrophysics	[A375]
Mr. Brian Cook	NASA Jet Propulsion Laboratory	[A328]
Dr. Kem Cook	Lawrence Livermore National Laboratory	[A37]
Mr. Richard Cook	NASA Jet Propulsion Laboratory	[A187, A270]
Ms. Denise Cook-Clampert	Ball Aerospace Technologies Corporation	[A261, A327]
Dr. Adrienne Cool	San Francisco State University	[A220]
Dr. Clarence Cooper	University of Texas at El Paso	[A36]
Ms. Kimberly Cooper	Johns Hopkins University Applied Physics Laboratory	[A350]
Mr. Donald Cotten	Queensborough Community College	[A40]
Ms. Nagin Cox	NASA Jet Propulsion Laboratory	[A263, A343]
Dr. Robert Craddock	Smithsonian National Air and Space Museum	[A10]
Dr. Nahide Craig	University of California, Berkeley	[A55, A58, A122, A172, A221, A289, A297, A355, A356, A358]
Mr. Jim Crane	Ball Aerospace Technologies Corporation	[A326]
Dr. Carol Crannell	NASA Goddard Space Flight Center	[A12, A40, A365]
Ms. Michelle Creech-Eakman	NASA Jet Propulsion Laboratory	[A349]
Dr. Geoffrey Crew	Massachusetts Institute of Technology	[A316]

Dr. Joy Crisp	NASA Jet Propulsion Laboratory	[A24, A201, A236, A270, A275]
Dr. Richard Crowe	University of Hawaii at Hilo	[A39, A219, A381]
Mr. Gerald Cruse	NASA Jet Propulsion Laboratory	[A327]
Ms. Jenny Cruz	NASA Jet Propulsion Laboratory	[A344]
Dr. Frank Cucinotta	NASA Johnson Space Center	[A270, A364]
Dr. Kyle Cudworth	University of Chicago	[A209]
Mr. Alan Cummings	California Institute of Technology	[A364]
Mr. Noss Dale	Arizona State University	[A24]
Ms. Chantale Damas	Medgar Evers College	[A40]
Dr. Rudolf Danner	NASA Jet Propulsion Laboratory	[A39, A55, A119, A120, A189, A283, A349]
Ms. Doris Daou	SIRTF Science Center/California Institute of Technology	[A188, A203, A293, A347]
Dr. Laurence David	Chandra X-Ray Center	[A259]
Ms. Sandra Dawson	NASA Jet Propulsion Laboratory	[A364]
Mr. Rob Decker	NASA Goddard Space Flight Center	[A364]
Dr. Craig De Forest	Southwest Research Institute	[A236, A239]
Dr. Eric De Jong	NASA Jet Propulsion Laboratory	[A24, A236, A270]
Dr. Dot Delapp	Los Alamos National Laboratory	[A228]
Mr. Paul Delaune	NASA Johnson Space Center	[A270]
Ms. Dina Demara	Ball Aerospace Technologies Corporation	[A261]
Dr. Brian Dennis	NASA Goddard Space Flight Center	[A40, A355]
Dr. Georgia DeNolfo	NASA Goddard Space Flight Center	[A223]
Dr. David Des Marais	NASA Ames Research Center	[A346, A392]
Dr. Yasmine Detres	University of Puerto Rico at Mayagüez	[A208]
Ms. Edna DeVore	SETI Institute	[A62, A144, A159, A215, A225, A249, A305]
Mr. Ismael Diaz	University of Texas at El Paso	[A36]
Ms. Roberta Dilocker	NASA Jet Propulsion Laboratory	[A237]
Mr. George Dimitiglot	NASA Goddard Space Flight Center	[A40]
Dr. Eleanor Dixon	NASA Johnson Space Center	[A257]
Dr. Deborah Domingue	Johns Hopkins University Applied Physics Laboratory	[A52]
Dr. Megan Donahue	Space Telescope Science Institute	[A336]
Dr. Andrea Donnellan	NASA Jet Propulsion Laboratory	[A343]
Mr. David Doody	NASA Jet Propulsion Laboratory	[A314]
Dr. Peter Doran	University of Illinois at Chicago	[A307]
Ms. Barbara Dorritie	Cambridge Rindge and Latin School	[A179]
Dr. Eric Dors	Los Alamos National Laboratory	[A228]
Dr. Rodger Doxsey	Space Telescope Science Institute	[A351]
Ms. Mary Drake	NASA Johnson Space Center	[A160, A199]
Mr. Ron Draper	NASA Jet Propulsion Laboratory	[A258]
Dr. Andrea Dupree	Harvard-Smithsonian Center for Astrophysics	[A5]
Dr. Neb Duric	University of New Mexico	[A43]
Dr. Paul Dusenbery	Space Science Institute	[A398]
Ms. Mary Dussault	Harvard-Smithsonian Center for Astrophysics	[A16, A151, A216, A281]
Mr. Thomas Duxbury	NASA Jet Propulsion Laboratory	[A236]
Dr. Betsey Dyer	Wheaton College	[A179]
Ms. Susan Dyer	NASA Goddard Space Flight Center	[A40]
Mr. Stephen Edberg	NASA Jet Propulsion Laboratory	[A168, A313, A314]
Dr. Virginia Edgcomb	Woods Hole Oceanographic Institute	[A162, A179]
Dr. Ken Edgett	Malin Space Science Systems	[A10, A186, A270]
Ms. Karina Edmonds	NASA Jet Propulsion Laboratory	[A49, A54]
Mr. Howard Eisen	NASA Jet Propulsion Laboratory	[A187]
Ms. Bonnie Eisenhamer	Space Telescope Science Institute	[A98, A99, A336]
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Dr. Charles Elachi	NASA Jet Propulsion Laboratory	[A270, A343]

Mr. Lee Elson	NASA Jet Propulsion Laboratory	[A237]
Dr. Martin Elvis	Chandra X-Ray Center	[A320]
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Ms. Heather Enos	University of Arizona	[A270, A364]
Mr. Mike Ensminger	Ball Aerospace Technologies Corporation	[A327]
Ms. Daphna Enzer	NASA Jet Propulsion Laboratory	[A49]
Dr. Rob Eppler	Swales Aerospace	[A52]
Mr. Doug Equils	NASA Jet Propulsion Laboratory	[A49]
Mr. Jim Erickson	NASA Jet Propulsion Laboratory	[A270, A277]
Dr. Robert Erlandson	Johns Hopkins University Applied Physics Laboratory	[A284]
Dr. Mark Everett	Planetary Science Institute	[A37]
Mr. Kye Ewing	NASA Jet Propulsion Laboratory	[A237]
Dr. Sergio Fajardo	NASA Jet Propulsion Laboratory	[A293]
Dr. Emilio Falco	Harvard-Smithsonian Center for Astrophysics	[A5]
Ms. Christine Farguson	NASA Jet Propulsion Laboratory	[A343]
Dr. Jack D. Farmer	Arizona State University	[A392]
Dr. James Farquhar	University of Maryland	[A239]
Dr. Michael Fauerbach	Florida Gulf Coast University	[A381]
Dr. Eric Feigelson	Pennsylvania State University	[A229]
Dr. Bill Feldman	Los Alamos National Laboratory	[A187, A270]
Mr. Paul Feldman	Johns Hopkins University Applied Physics Laboratory	[A364]
Ms. Evelina Felicite-Maurice	NASA Goddard Space Flight Center	[A180, A181, A183, A184, A185, A193, A272]
Mr. Chuck Fellows	University of Arizona	[A270]
Ms. Robin Fergason	Arizona State University	[A270]
Ms. Kay Ferrari	NASA Jet Propulsion Laboratory	[A364]
Mr. Eric Fetzer	NASA Jet Propulsion Laboratory	[A237]
Mr. Orlando Figueroa	NASA Office of Space Science	[A270, A277, A343]
Mr. Ramon Figueroa	University of Texas at El Paso	[A36]
Mr. Daniel Finnerty	NASA Jet Propulsion Laboratory	[A270]
Mr. William Fish	NASA Jet Propulsion Laboratory	[A237]
Ms. Diane Fisher	NASA Jet Propulsion Laboratory	[A82, A188, A322, A368, A369, A371]
Dr. George Fisher	University of California, Berkeley	[A126]
Dr. Scott Fisher	Gemini Observatory	[A39]
Dr. Kathryn Flanagan	Massachusetts Institute of Technology	[A5, A191, A239, A287, A316]
Ms. Charlayne Fliege	NASA Jet Propulsion Laboratory	[A373]
Mr. Tim Flora	Ball Aerospace Technologies Corporation	[A261]
Ms. Adrian Flores	University of Texas at El Paso	[A36]
Ms. Priscilla Ford	NASA Jet Propulsion Laboratory	[A49]
Dr. William Forman	Harvard-Smithsonian Center for Astrophysics	[A247]
Mr. Larry Fowler	NASA Jet Propulsion Laboratory	[A278]
Mr. Craig Fox	NASA Jet Propulsion Laboratory	[A237]
Dr. Nicola Fox	NASA Goddard Space Flight Center	[A12, A69, A221, A236, A271, A348, A381]
Mr. Bill Frazier	Ball Aerospace Technologies Corporation	[A261]
Ms. Amy Fredericks	Massachusetts Institute of Technology	[A287, A316]
Mr. Lloyd French	NASA Jet Propulsion Laboratory	[A49, A239]
Dr. Herb Frey	NASA Goddard Space Flight Center	[A52]
Mr. Robert Friedberg	Diné College	[A43]
Mr. Jay Friedlander	NASA Goddard Space Flight Center	[A40]
Dr. Scott Friedman	Johns Hopkins University	[A336]
Mr. James Frost	LaGuardia Community College	[A40]
Dr. Andrew Fruchter	Space Telescope Science Institute	[A336, A351]
Ms. Suzy Fujita	Ball Aerospace Technologies Corporation	[A261]

Mr. Larry Fullerton	NASA Jet Propulsion Laboratory	[A237]
Ms. Sangeeta Gad	University of Houston-Downtown	[A33]
Dr. Bryan Gaensler	Harvard University	[A317]
Mr. Charles Galindo	Lockheed Martin Engineering and Sciences	[A33]
Dr. Antoinette (Toni) Galvin	University of New Hampshire	[A214]
Dr. Michael Garcia	Chandra X-Ray Center	[A5, A191, A259]
Dr. Ramon Garcia	NASA Jet Propulsion Laboratory	[A49, A277]
Mr. Leonard Garcineon	NASA Goddard Space Flight Center	[A40]
Dr. Lisa Gardiner	University Corporation for Atmospheric Research (UCAR)	[A245]
Mr. Mike Garrett	NASA Jet Propulsion Laboratory	[A343]
Dr. Jim Garvin	NASA Office of Space Science	[A187, A270, A343]
Dr. Peter Gary	Los Alamos National Laboratory	[A138, A228]
Ms. Olivia Garza	Raul Yzaguirre School for Success	[A33]
Mr. Nick Gautier	NASA Jet Propulsion Laboratory	[A49, A367]
Ms. Karen Gaydos	Space Telescope Science Institute	[A336]
Mr. S. Michael Gayle	NASA Jet Propulsion Laboratory	[A270]
Dr. Neil Gehrels	NASA Goddard Space Flight Center	[A74]
Dr. Harold Geller	George Mason University	[A52]
Dr. Steve Gemeny	Raytheon Company	[A300]
Ms. Consuelo Gennaro	NASA Jet Propulsion Laboratory	[A23, A49, A270, A275, A343, A344]
Dr. Andrea Ghez	University of California, San Diego	[A239]
Ms. Tracy Gibb	NASA Goddard Space Flight Center	[A271]
Mr. Roger Gibbs	NASA Jet Propulsion Laboratory	[A187, A270, A343]
Dr. Everett Gibson	NASA Johnson Space Center	[A87, A346]
Dr. Barbara Giles	NASA Goddard Space Flight Center	[A69]
Mr. Steve Gillam	NASA Jet Propulsion Laboratory	[A49]
Mr. Bernard Gilroy	NASA Jet Propulsion Laboratory	[A237]
Mr. Winston Gin	NASA Jet Propulsion Laboratory	[A277]
Dr. Owen Gingerich	Harvard-Smithsonian Center for Astrophysics	[A5]
Mr. Joseph Girard	Ball Aerospace Technologies Corporation	[A327]
Mr. Gary Glass	NASA Jet Propulsion Laboratory	[A328]
Mr. Tim Glotch	Arizona State University	[A186, A270]
Dr. Jennifer Goetz	University of Rochester	[A242]
Dr. Robert Gold	Johns Hopkins University Applied Physics Laboratory	[A350]
Mr. Barry Goldstein	NASA Jet Propulsion Laboratory	[A270]
Dr. Jeffrey Goldstein	Challenger Center for Space Science Education	[A52]
Mr. John Goldsten	Johns Hopkins University Applied Physics Laboratory	[A284]
Dr. Matthew Golumbek	NASA Jet Propulsion Laboratory	[A24, A187, A236, A270, A343]
Mr. Edward Gonzales	NASA Jet Propulsion Laboratory	[A188, A277, A347, A364]
Dr. Juan Gonzalez	University of Puerto Rico at Mayagüez	[A208]
Mr. Steven Gorevan	Honeybee Robotics, Ltd.	[A270]
Mr. Varoujan Gorjian	NASA Jet Propulsion Laboratory	[A265]
Mr. Zareh Gorjian	NASA Jet Propulsion Laboratory	[A270]
Dr. Roy Gould	Harvard-Smithsonian Center for Astrophysics	[A1, A16, A151, A281, A348]
Mr. Bob Gounley	NASA Jet Propulsion Laboratory	[A343]
Mr. Trevor Graff	Arizona State University	[A186, A270]
Mr. Tim Graves	Sonoma State University	[A172]
Dr. Kevin Grazier	NASA Jet Propulsion Laboratory	[A52, A258]
Dr. Ronald Greeley	Arizona State University	[A139]
Dr. Jacklyn Green	NASA Jet Propulsion Laboratory	[A85]
Dr. Steve Greenbaum	Hunter College	[A40]
Ms. Irene Greenberger	Johns Hopkins University Applied Physics Laboratory	[A350]
Dr. Raymond Greenwald	Johns Hopkins University Applied Physics Laboratory	[A386]
Mr. Bruce Gregory	Harvard-Smithsonian Center for Astrophysics	[A5]

Mr. Britt Griswold	NASA Goddard Space Flight Center	[A83, A94, A110, A124]
Mr. Rob Grover	NASA Jet Propulsion Laboratory	[A343]
Mr. David Gruel	NASA Jet Propulsion Laboratory	[A187]
Mr. John Gruener	Lockheed Martin Engineering and Sciences	[A257]
Dr. John Grunsfield	NASA Johnson Space Center	[A40, A364, A387]
Dr. Ming Gu	Massachusetts Institute of Technology	[A35]
Mr. Angel Guarnica	NASA Jet Propulsion Laboratory	[A270]
Ms. Carol Guerrero	NASA Jet Propulsion Laboratory	[A49]
Dr. Ricardo Guerrero	University of Barcelona	[A179]
Mr. Richard Guerrero	NASA Jet Propulsion Laboratory	[A49, A277]
Dr. Edward Guiness	Washington University	[A275]
Mr. Ani Guirakosyan	NASA Jet Propulsion Laboratory	[A49]
Dr. Jessie Gunnard	University of Massachusetts	[A179]
Dr. Robert Haberle	NASA Ames Research Center	[A10]
Mr. Geoffrey Haines-Stiles	Geoff Haines-Stiles Productions	[A270, A271]
Dr. Gerald Halpert	NASA Jet Propulsion Laboratory	[A344]
Dr. Vicky Hamilton	Arizona State University	[A105, A106, A107, A186, A187, A270, A343, A344]
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Mr. Christopher Hanley	Space Telescope Science Institute	[A336]
Mr. John Hardie	NASA Jet Propulsion Laboratory	[A237]
Dr. Wanda Harding	NASA Office of Human Resources and Education	[A52]
Mr. Laurence Harms	NASA Jet Propulsion Laboratory	[A343]
Dr. F. Rick Harnden, Jr.	Harvard-Smithsonian Center for Astrophysics	[A191, A320]
Mr. James Harold	Space Science Institute	[A339, A398]
Dr. Doyal Harper	University of Chicago	[A209]
Dr. James Harrington	NASA Goddard Space Flight Center	[A40, A52]
Mr. Roy Harris	NASA Jet Propulsion Laboratory	[A364]
Dr. Walt Harris	University of Wisconsin-Madison	[A294]
Ms. Robyn Harrison	National Radio Astronomy Observatory	[A149]
Dr. Ilana Harrus	NASA Goddard Space Flight Center	[A122]
Mr. Theodore Hartka	Johns Hopkins University Applied Physics Laboratory	[A284]
Mr. Peter Harvey	University of California, Berkeley	[A355]
Dr. David Hathaway	NASA Marshall Space Flight Center	[A270]
Dr. Isabel Hawkins	University of California, Berkeley	[A125, A219, A221, A271, A297, A348, A355, A358, A379, A380, A381]
Dr. Saeko Hayashi	Subaru Telescope	[A39]
Dr. Robert Hazen	Carnegie Institute of Washington	[A127]
Dr. William Heacox	University of Hawaii at Hilo	[A39]
Dr. Etta Heber	Chabot Space and Science Center	[A343]
Ms. Irene Hegarty	University of California, Berkeley	[A358]
Mr. Dan Helmick	NASA Jet Propulsion Laboratory	[A278]
Ms. Kelly Henderson-Nelson	NASA Jet Propulsion Laboratory	[A277]
Ms. Linda Hermans	SIRTF Science Center/California Institute of Technology	[A203]
Mr. Salvador Hernandez	University of Texas at El Paso	[A36]
Mr. Paul Herrera	NASA Jet Propulsion Laboratory	[A277]
Dr. Fred Herrero	NASA Goddard Space Flight Center	[A181, A182, A193, A296, A365]
Dr. Robert Herrick	Lunar and Planetary Institute	[A341]
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Ms. Lorna Hess-Frey	Ball Aerospace Technologies Corporation	[A261]
Ms. Inge Heyer	Space Telescope Science Institute	[A334, A335, A336]
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Dr. Klaus Hodapp	University of Hawaii at Manoa	[A39]
Mr. James Hodder	NASA Jet Propulsion Laboratory	[A329]
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Dr. Eugene Hoffman	Morgan State University	[A290]
Dr. Robert Hoffman	NASA Goddard Space Flight Center	[A12, A69]
Mr. Robert Hogg	NASA Jet Propulsion Laboratory	[A278]
Mr. Tim Hogle	NASA Jet Propulsion Laboratory	[A389]
Mr. Karl Holub	Johns Hopkins University Applied Physics Laboratory	[A284]
Mr. John Hopeck	NASA Jet Propulsion Laboratory	[A237]
Dr. Ayanna Howard	NASA Jet Propulsion Laboratory	[A55, A343]
Mr. Steve Howell	Planetary Science Institute	[A37]
Mr. Shouhua Huang	NASA Jet Propulsion Laboratory	[A278]
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Dr. David Huenemoerder	Massachusetts Institute of Technology	[A317]
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Mr. Scott Hulme	NASA Jet Propulsion Laboratory	[A270, A277]
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Dr. Terry Huntsberger	NASA Jet Propulsion Laboratory	[A344]
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Dr. Robert Hurt	California Institute of Technology	[A367]
Dr. Mark Hurwitz	University of California, Berkeley	[A355]
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Dr. Anthony Irving	University of Washington	[A163, A187]
Dr. Louis Irwin	University of Texas at El Paso	[A36]
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Dr. Don Jaffe	University of Texas at Austin	[A201]
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Dr. Bruce Jakosky	University of Colorado at Boulder	[A10]
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Dr. Philip James	University of Toledo	[A10]
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Mr. Willis Jenkins	NASA Goddard Space Flight Center	[A365]
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Ms. Holly Jessop	Chandra X-Ray Center	[A259]
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Mr. Roger Johnson	NASA Jet Propulsion Laboratory	[A237]
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Ms. Rhonda Jones	NASA Jet Propulsion Laboratory	[A49]
Mr. Steven Jones	NASA Jet Propulsion Laboratory	[A136, A211]
Dr. Thomas Jones	Cornell University	[A323]
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Ms. Robin Kantor	Space Telescope Science Institute	[A336]
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Mr. Mark Kochte	Space Telescope Science Institute	[A336]
Dr. Rocky Kolb	Fermilab	[A5]
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Mr. Satish Krishnan	NASA Jet Propulsion Laboratory	[A278]
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Ms. Alice Krueger	NASA Jet Propulsion Laboratory	[A237]
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Dr. Kim Kuhlman	NASA Jet Propulsion Laboratory	[A187]
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Dr. James Labelle	Dartmouth College	[A271]
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Mr. Russell Layman	Johns Hopkins University Applied Physics Laboratory	[A386]
Mr. David Lee	Johns Hopkins University Applied Physics Laboratory	[A284]
Dr. Julia Lee	Massachusetts Institute of Technology	[A317]
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Mr. Randell Lindemann	NASA Jet Propulsion Laboratory	[A270]

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Mr. Casey Lisse	University of Maryland	[A261, A327]
Mr. Ed Little	Diné College	[A50]
Dr. Charles Liu	American Museum of Natural History	[A40]
Dr. Timothy Livengood	Challenger Center for Space Science Education	[A52]
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Ms. Melinda Lopez	Museum of Science	[A14]
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Dr. Stephen Lord	NASA Jet Propulsion Laboratory	[A293]
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Mr. Matthew Lum	NASA Jet Propulsion Laboratory	[A343]
Dr. William Mackey	NASA Glenn Research Center	[A68]
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Mr. Lee Magnone	NASA Jet Propulsion Laboratory	[A344]
Dr. Paul Mahaffy	NASA Goddard Space Flight Center	[A364]
Mr. Farzad Mahootian	NASA Jet Propulsion Laboratory	[A237]
Ms. Nora Mainland	NASA Jet Propulsion Laboratory	[A270]
Mr. Paul Maley	NASA Jet Propulsion Laboratory	[A237]
Dr. Mike Malin	Malin Space Science Systems	[A10]
Ms. Diana Mann	Ball Aerospace Technologies Corporation	[A261]
Mr. Evan Manning	NASA Jet Propulsion Laboratory	[A237]
Mr. Rob Manning	NASA Jet Propulsion Laboratory	[A236, A270, A364]
Dr. Stephen Maran	NASA Goddard Space Flight Center	[A40]
Dr. Geoff Marcy	San Francisco State University	[A236]
Dr. Bruce Margon	Space Telescope Science Institute	[A351]
Dr. Lynn Margulis	University of Massachusetts	[A179]
Ms. Tibi Marin	Kansas State University	[A99]
Ms. Kristi Marren	Johns Hopkins University Applied Physics Laboratory	[A300]
Mr. John Marriott	Ball Aerospace Technologies Corporation	[A327]
Dr. Herman Marshall	Massachusetts Institute of Technology	[A191, A287, A317]
Ms. Linda Martel	NASA Jet Propulsion Laboratory	[A237]
Dr. Chris Martin	California Institute of Technology	[A332]
Ms. Erin Martin	Arizona State University	[A344]
Mr. Aramis Martinez	University of Texas at El Paso	[A36]
Dr. Luis Martinez	University of Texas at El Paso	[A36]
Mr. Robert Mase	NASA Jet Propulsion Laboratory	[A270]
Dr. Terry Matilsky	Rutgers University	[A148]
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Dr. Nancy Maynard	NASA Goddard Space Flight Center	[A40]
Mr. Louis Mayo	NASA Goddard Space Flight Center	[A12, A51, A52, A137, A221]
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Mr. Dennis McBride	W.M. Keck Observatory	[A39]
Ms. Kathleen McBride	Lockheed Martin Engineering and Sciences	[A257]
Mr. Dan McCallister	Space Telescope Science Institute	[A98, A99, A192, A336]
Dr. Dan McCammon	University of Wisconsin-Madison	[A294]

Ms. Elaina McCartney	Cornell University	[A275]
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Ms. Shannon McConnell	NASA Jet Propulsion Laboratory	[A49, A147, A160, A187, A263, A314, A348]
Dr. Tim McCoy	Smithsonian National Museum of Natural History	[A26]
Dr. Gene McDonald	NASA Jet Propulsion Laboratory	[A168]
Dr. Lucy McFadden	University of Maryland	[A80, A104, A152, A261, A327]
Dr. Patrick McGovern	Lunar and Planetary Institute	[A341]
Dr. Christopher McKay	NASA Ames Research Center	[A307]
Dr. David McKay	NASA Johnson Space Center	[A87, A346]
Dr. Gordon McKay	NASA Johnson Space Center	[A187, A238, A257]
Ms. Kathy McNair-Borin	NASA Jet Propulsion Laboratory	[A275]
Dr. Hap McSween	University of Tennessee	[A187]
Dr. Victoria Meadows	NASA Jet Propulsion Laboratory	[A237, A349]
Dr. Karen Meech	University of Hawaii at Manoa	[A50, A141, A152, A261, A326, A327]
Mr. Thomas Meehan	NASA Jet Propulsion Laboratory	[A278]
Mr. Greg Mehall	Arizona State University	[A22, A24, A108, A186, A270, A276, A343, A344, A364]
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Dr. Gary Melnick	Harvard-Smithsonian Center for Astrophysics	[A122]
Dr. Wendell Mendell	NASA Johnson Space Center	[A33]
Dr. Bryan Mendez	University of California, Berkeley	[A221, A358]
Dr. Robert Meneghini	NASA Goddard Space Flight Center	[A40]
Dr. Charles Mercer	NASA Goddard Space Flight Center	[A184, A193, A290]
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Dr. Ellen Metzger	San Jose State University	[A220, A221, A358]
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Dr. Donald Michels	Naval Research Laboratory	[A12, A222]
Dr. Kenneth Mighell	National Optical Astronomy Observatory (NOAO)	[A37]
Mr. Richard Miller	NASA Jet Propulsion Laboratory	[A364]
Mr. Thomas Milnes	Johns Hopkins University Applied Physics Laboratory	[A300]
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Ms. Margaret Mooney	University of Wisconsin-Madison	[A294]
Mr. John Moore	NASA Jet Propulsion Laboratory	[A237]
Dr. Marla Moore	NASA Goddard Space Flight Center	[A52]
Mr. William Moore	NASA Jet Propulsion Laboratory	[A277, A307]
Mr. Mauricio Morales	NASA Jet Propulsion Laboratory	[A278]
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Dr. Penny Morris	University of Houston-Downtown	[A33]
Mr. Andy Morrison	NASA Jet Propulsion Laboratory	[A270]
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Mr. Brian Muirhead	NASA Jet Propulsion Laboratory	[A261, A270]
Mr. Koji Mukai	NASA Goddard Space Flight Center	[A223]
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Ms. Michelle Munk	NASA Langley Research Center	[A270]
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Dr. Stephen Murray	Harvard-Smithsonian Center for Astrophysics	[A5, A259, A320, A375]
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Mr. Max Mutchler	Space Telescope Science Institute	[A335, A336]
Ms. Shannon Myers	NASA Johnson Space Center	[A336]
Mr. Tom Myrick	NASA Jet Propulsion Laboratory	[A270]
Dr. Firouz Naderi	NASA Jet Propulsion Laboratory	[A270, A343]
Mr. Albert Nakata	NASA Jet Propulsion Laboratory	[A270]
Ms. Annette Nasif	NASA Jet Propulsion Laboratory	[A278]
Ms. Marsha Neace	NASA Jet Propulsion Laboratory	[A237]
Dr. Kenneth Nealson	NASA Jet Propulsion Laboratory	[A236, A239, A277]
Mr. Greg Neat	NASA Jet Propulsion Laboratory	[A278]
Mr. George Nelson	NASA Jet Propulsion Laboratory	[A237]
Ms. Ruth Netting	NASA Office of Space Science	[A188, A347, A348]
Dr. Greg Neumann	NASA Goddard Space Flight Center	[A10]
Dr. Michael New	NASA Ames Research Center	[A346]
Mr. Ray Newburn	NASA Jet Propulsion Laboratory	[A29, A136, A373]
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Mr. Zoran Ninkov	Rochester Institute of Technology	[A39]
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Dr. Laurence Nyquist	NASA Johnson Space Center	[A187, A238]
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Dr. Sten Odenwald	NASA Goddard Space Flight Center	[A12, A100, A173, A229, A248, A269, A337, A338, A348, A379, A381]
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Mr. Steven Offenbacher	Johns Hopkins University Applied Physics Laboratory	[A284, A350]
Dr. Erika Offerdahl	University of Arizona	[A179]
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Ms. Karla Orosco	NASA Jet Propulsion Laboratory	[A237]
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Ms. Ruth Paglierani	University of California, Berkeley	[A219, A220, A221, A297, A355]
Mr. Tim Paglione	York College	[A40]
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Dr. Natasha Papitashvili	NASA Goddard Space Flight Center	[A40]
Dr. Timothy J. Parker	NASA Jet Propulsion Laboratory	[A270]
Dr. Claire Parkinson	NASA Goddard Space Flight Center	[A237]
Dr. Sid Parsons	Space Telescope Science Institute	[A335]
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Mr. William Patzert	NASA Jet Propulsion Laboratory	[A364]
Ms. Cheryl Pavlovsky	Space Telescope Science Institute	[A336]
Dr. Linda Payne	South Carolina State University	[A37]
Mr. B. Pearson, Jr.	NASA Jet Propulsion Laboratory	[A237]
Mr. Roger Pelland	NASA Jet Propulsion Laboratory	[A237]
Ms. Claire Perigaud	NASA Jet Propulsion Laboratory	[A49]
Ms. Judith Peritz	Harvard-Smithsonian Center for Astrophysics	[A217]
Ms. Arlene Peterson	NASA Goddard Space Flight Center	[A296]
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Dr. Andrew Pickles	University of Hawaii at Manoa	[A39]
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Mr. Peter Poon	NASA Jet Propulsion Laboratory	[A270]
Dr. Irene Porro	Massachusetts Institute of Technology	[A5, A16, A122, A216, A287, A316, A317]
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Mr. Robert Proctor	NASA Jet Propulsion Laboratory	[A49]
Dr. Lee Prufert-Bebout	NASA Ames Research Center	[A346]
Ms. Phyllis Pugh	NASA Jet Propulsion Laboratory	[A237]
Mr. Rex Quinn	NASA Jet Propulsion Laboratory	[A278]
Dr. Isabel Quita	San Francisco State University	[A220]
Ms. Shannon Range	Stanford University	[A172]
Ms. Trina Ray	NASA Jet Propulsion Laboratory	[A258, A314]
Ms. Gretchen Reavis	Ball Aerospace Technologies Corporation	[A327]
Mr. Glenn Reeves	NASA Jet Propulsion Laboratory	[A277]
Ms. Patty Reeves	Space Telescope Science Institute	[A336]
Dr. Patricia Reiff	Rice University	[A33, A173, A269, A338, A348, A381]
Mr. Richard Reinert	Ball Aerospace Technologies Corporation	[A261]
Ms. Erika Reinfeld	Harvard-Smithsonian Center for Astrophysics	[A151, A217]
Dr. Dan Reisenfeld	Los Alamos National Laboratory	[A138, A228]
Ms. Carole Rest	Space Telescope Science Institute	[A192, A336, A347, A348]
Ms. Patti Rhee	NASA Jet Propulsion Laboratory	[A364]
Dr. Jason Rhodes	NASA Goddard Space Flight Center	[A52]

Dr. James Rice	Arizona State University	[A105, A106, A270]
Dr. Annie Richardson	NASA Jet Propulsion Laboratory	[A364]
Mr. John Ristvey	Mid-continent Research for Education and Learning (McREL)	[A266]
Mr. Tommaso Rivellini	NASA Jet Propulsion Laboratory	[A187, A270]
Dr. Irving Robbins	College of Staten Island	[A40]
Mr. John Robinson	NASA Goddard Space Flight Center	[A365]
Mr. Paul Robinson, Jr.	NASA Jet Propulsion Laboratory	[A237]
Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	[A208, A221, A222, A296, A348, A365, A381]
Mr. Jon Robison	Ball Aerospace Technologies Corporation	[A327]
Dr. Dave Roddy	U.S. Geological Survey	[A186]
Dr. Dan Rogers	Woods Hole Oceanographic Institute	[A179]
Ms. Deanne Rogers	Arizona State University	[A270]
Ms. Gail Rohrbach	NASA Goddard Space Flight Center	[A194, A219, A223]
Dr. Nancy Grace Roman		[A52]
Mr. Tony Roman	Space Telescope Science Institute	[A99, A336]
Dr. Paul Romani	NASA Goddard Space Flight Center	[A52]
Ms. Cynthia Rosensweig	NASA Goddard Institute for Space Studies	[A239]
Ms. Lynn Rothschild	NASA Ames Research Center	[A346, A392]
Ms. Maura Rountree-Brown	NASA Jet Propulsion Laboratory	[A22, A49, A50, A136, A152, A261, A327]
Dr. Christine Anne Royce	Shippensburg University	[A172]
Ms. Ruth Rudd	Millcreek Education Center	[A270]
Mr. Igor Ruderman	University of California, Berkeley	[A355]
Dr. Luisa Ruebel	NASA Jet Propulsion Laboratory	[A293, A367]
Dr. Steve Ruff	Arizona State University	[A105, A106, A107, A186, A187, A210, A270, A343, A344]
Dr. Cassandra Runyon	College of Charleston	[A160]
Ms. Joy Runyon	NASA Jet Propulsion Laboratory	[A237]
Mr. Ed Ruskus	Ball Aerospace Technologies Corporation	[A261]
Dr. Eileen Ryan	New Mexico Highlands University	[A43]
Mr. Richard Ryan	NASA Goddard Space Flight Center	[A365]
Dr. William Ryan	New Mexico Highlands University	[A43]
Mr. Mark Ryne	NASA Jet Propulsion Laboratory	[A270]
Dr. Phillip Sadler	Harvard-Smithsonian Center for Astrophysics	[A206]
Dr. Hartmut Sadrozinski	University of California, Santa Cruz	[A172, A262]
Mr. Ali Safaeinili	NASA Jet Propulsion Laboratory	[A277]
Dr. Rex Saffer	Villanova University	[A262]
Dr. Kailash Sahu	Space Telescope Science Institute	[A351]
Mr. Jeff Sakamoto	NASA Jet Propulsion Laboratory	[A278]
Ms. Regina Sakurai	NASA Jet Propulsion Laboratory	[A343]
Dr. Rita Sambruna	George Mason University	[A320]
Ms. Jasmine Sandhu	NASA Jet Propulsion Laboratory	[A49]
Mr. Miguel San Martin	NASA Jet Propulsion Laboratory	[A343]
Mr. Stephen Sandstrom	NASA Jet Propulsion Laboratory	[A278]
Mr. Andrew Santo	Johns Hopkins University Applied Physics Laboratory	[A52, A284, A299]
Mr. Brett Sapper	NASA Goddard Space Flight Center	[A40]
Dr. Steve Saunders	NASA Jet Propulsion Laboratory	[A270, A364]
Mr. Anthony Scarpati	Johns Hopkins University Applied Physics Laboratory	[A284]
Dr. Terry Schalk	University of California, Santa Cruz	[A262]
Mr. Daniel Scharf	NASA Jet Propulsion Laboratory	[A278]
Mr. Greg Scharfen	NASA Jet Propulsion Laboratory	[A237]
Mr. Kevin Schindler	Lowell Observatory	[A186]
Dr. Eric Schlegel	Chandra X-Ray Center	[A320]
Dr. Al Schultz	Space Telescope Science Institute	[A336]

Dr. Greg Schultz	University of California, Berkeley	[A59, A220, A221, A355, A358, A381]
Dr. Peter Schultz	Brown University	[A261, A327]
Dr. Craig Schwandt	Lockheed Martin Engineering and Sciences	[A238, A257]
Ms. Carol Schwarz	Lockheed Martin Engineering and Sciences	[A257]
Ms. Maria Schwarz	University of Puerto Rico at Mayagüez	[A208]
Mr. Daniel Sedlacko	NASA Jet Propulsion Laboratory	[A364]
Dr. Richard Sedlock	San Jose State University	[A221]
Mr. Frank Seelos	Washington University	[A275]
Mr. David Seidel	NASA Jet Propulsion Laboratory	[A49, A237, A270]
Dr. Dereje Seifu	Morgan State University	[A290]
Ms. Anita Sengupta	NASA Jet Propulsion Laboratory	[A49]
Mr. John Sepikas	Pasadena City College	[A49]
Mr. Fred Sericchio	NASA Jet Propulsion Laboratory	[A278]
Dr. Frederick Seward	Chandra X-Ray Center	[A259]
Mr. Stuart Shaklan	NASA Jet Propulsion Laboratory	[A49, A189, A349]
Mr. Michael Shao	NASA Jet Propulsion Laboratory	[A349]
Dr. Irwin Shapiro	Harvard-Smithsonian Center for Astrophysics	[A206]
Ms. Colleen Sharkey	NASA Jet Propulsion Laboratory	[A49]
Mr. Richard Shelton	Johns Hopkins University Applied Physics Laboratory	[A284]
Ms. Diane Sherman	Cornell University	[A187, A275]
Dr. David Sherrod	Hawaiian Volcano Observatory, U.S. Geological Survey	[A10]
Mr. Chris Shinohara	University of Arizona	[A270]
Mr. Ron Shiri	NASA Goddard Space Flight Center	[A40]
Dr. Carolyn Shoemaker	Cornell University	[A260]
Mr. Richard Shope	NASA Jet Propulsion Laboratory	[A49, A50, A59, A152, A156, A219, A277, A364, A369]
Mr. Royce Short	Ball Aerospace Technologies Corporation	[A327]
Dr. Seth Shostak	SETI Institute	[A13, A210]
Mr. Chris Shrader	NASA Goddard Space Flight Center	[A223]
Mr. Wayne Sidney	Lockheed Martin Space Systems	[A270]
Mr. Mark Sierak	Pacific Visions Communications	[A279]
Ms. Maria Sieve	Augsburg College	[A336]
Ms. Sarah Silva	Sonoma State University	[A172, A262]
Mr. Steve Silverman	Santa Barbara Museum of Natural History	[A186, A343]
Dr. Amy Simon-Miller	NASA Goddard Space Flight Center	[A52]
Ms. Margaret Sipple-Srinivasan	NASA Jet Propulsion Laboratory	[A364]
Dr. Ruth Skoug	Los Alamos National Laboratory	[A138, A228]
Mr. William Skullney	Johns Hopkins University Applied Physics Laboratory	[A284]
Mr. Martin Slade	NASA Jet Propulsion Laboratory	[A329]
Dr. Patrick Slane	Chandra X-Ray Center	[A5, A259]
Dr. Timothy Slater	University of Arizona	[A141, A202, A210, A225, A398]
Dr. Daniel Smith	South Carolina State University	[A37]
Ms. DeLee Smith	NASA Goddard Space Flight Center	[A180, A181, A183, A193, A272, A296]
Dr. Denise Smith	Space Telescope Science Institute	[A52, A75, A89, A98, A99, A111, A118, A148, A192, A347, A348]
Dr. Howard Smith	Harvard-Smithsonian Center for Astrophysics	[A16]
Mr. Jason Smith	Challenger Center for Space Science Education	[A262]
Ms. Lesley Smith	University of Colorado at Boulder	[A398]
Dr. Peter Smith	Harvard-Smithsonian Center for Astrophysics	[A381]
Dr. Roger Smith	University of Alaska Fairbanks	[A271]
Mr. Shawn Smith	Ball Aerospace Technologies Corporation	[A327]
Dr. Sonya Smith	Howard University	[A52]

Mr. Vern Smith	NASA Goddard Space Flight Center	[A290]
Mr. Bill Smythe	NASA Jet Propulsion Laboratory	[A79, A136, A152]
Mr. Clark Snowdall	NASA Jet Propulsion Laboratory	[A277]
Mr. Jeff Snyder	NASA Jet Propulsion Laboratory	[A278]
Ms. Anita Sohus	NASA Jet Propulsion Laboratory	[A24, A49, A210, A236, A348]
Dr. Suzanne Sotheby	NASA Jet Propulsion Laboratory	[A293]
Dr. Gordon Spear	Sonoma State University	[A172, A384]
Mr. Tony Spear	NASA Jet Propulsion Laboratory	[A236]
Ms. Kathleen Spellman	NASA Jet Propulsion Laboratory	[A277]
Mr. David Spencer	NASA Jet Propulsion Laboratory	[A270, A343]
Dr. David Spergel	Princeton University	[A5, A83, A94, A110, A124, A140]
Ms. Linda Spilker	NASA Jet Propulsion Laboratory	[A258]
Dr. Rejane Spitz	University of California, Berkeley	[A358]
Ms. Suzanne Spitz	NASA Jet Propulsion Laboratory	[A277]
Dr. Paul Spudis	Lunar and Planetary Institute	[A341]
Dr. Steve Squyres	Cornell University	[A270, A275]
Mr. Robert Staehle	NASA Jet Propulsion Laboratory	[A49]
Dr. Eileen Stansbery	NASA Johnson Space Center	[A33]
Dr. Karl Stapelfeldt	NASA Jet Propulsion Laboratory	[A349]
Ms. Denise Stark	Arizona State University	[A344]
Mr. Joseph Statman	NASA Jet Propulsion Laboratory	[A364]
Dr. Simon Steel	Harvard-Smithsonian Center for Astrophysics	[A1, A217]
Mr. Rob Steele	NASA Jet Propulsion Laboratory	[A278]
Dr. Will Stefanov	Arizona State University	[A187, A343]
Dr. John Steinberg	Los Alamos National Laboratory	[A138, A228]
Mr. Jeffrey Steiner	City College of New York Educator Resource Center	[A40]
Mr. Adam Steltzner	NASA Jet Propulsion Laboratory	[A270]
Dr. Massimo Stiavelli	Space Telescope Science Institute	[A335]
Dr. Peter Stockman	Space Telescope Science Institute	[A351]
Mr. John Stoke	Space Telescope Science Institute	[A99, A336]
Dr. John Stolz	Duquesne University	[A141]
Dr. Edward Stone	California Institute of Technology	[A364]
Mr. Byron Storck	LaGuardia Community College	[A40]
Dr. Alex Storrs	Towson University	[A118]
Dr. Leonard Strachan	Harvard-Smithsonian Center for Astrophysics	[A6, A41, A381]
Dr. Thomas Strikwerda	Johns Hopkins University Applied Physics Laboratory	[A284, A285, A350]
Mr. Jason Suchman	NASA Jet Propulsion Laboratory	[A278]
Ms. Anne Sullivan	NASA Jet Propulsion Laboratory	[A49]
Dr. Robert Sullivan	Cornell University	[A187]
Dr. Frank Summers	Space Telescope Science Institute	[A118, A351]
Dr. Carolyn Sumners	Houston Museum of Natural Science	[A33, A236]
Ms. Anna Swamy	Morgan State University	[A290]
Dr. Jean Swank	NASA Goddard Space Flight Center	[A40]
Dr. James Sweitzer	DePaul University	[A133]
Ms. Marguerite Syvertson	NASA Jet Propulsion Laboratory	[A236, A237]
Ms. Dina Tady	Johns Hopkins University Applied Physics Laboratory	[A350]
Dr. Elsayed Talaat	Johns Hopkins University Applied Physics Laboratory	[A222, A226, A290, A300, A386]
Dr. Harvey Tananbaum	Chandra X-Ray Center	[A5, A148, A320]
Mr. Paul Tartabini	NASA Langley Research Center	[A210]
Dr. Jill Tarter	SETI Institute	[A244, A351]
Dr. William Taylor	NASA Goddard Space Flight Center	[A188]
Dr. Terry Teays	Space Telescope Science Institute	[A75, A98, A99, A192, A336, A347, A348]

Ms. Sarita Thakoor	NASA Jet Propulsion Laboratory	[A343]
Dr. Michelle Thaller	SIRTF Science Center/California Institute of Technology	[A52, A144, A203, A204, A225, A270, A364, A367]
Ms. Eilene Theilig	NASA Jet Propulsion Laboratory	[A49]
Mr. Pete Theisinger	NASA Jet Propulsion Laboratory	[A270]
Dr. James Thieman	NASA Goddard Space Flight Center	[A12, A40, A52, A219, A221, A347, A348, A398]
Dr. Peter Thomas	Cornell University	[A10, A323, A364]
Dr. Valerie Thomas	NASA Goddard Space Flight Center	[A40]
Ms. Kathie Thomas-Keprta	Lockheed Martin Engineering and Sciences	[A236, A346]
Mr. Art Thompson	NASA Jet Propulsion Laboratory	[A277]
Dr. Barbara Thompson	NASA Goddard Space Flight Center	[A236, A271]
Dr. Dave Thompson	NASA Goddard Space Flight Center	[A165, A262]
Ms. Pamela Thompson	Lunar and Planetary Institute	[A163, A187, A341]
Dr. Michelle Thomsen	Los Alamos National Laboratory	[A138, A228]
Ms. Marla Thornton	NASA Jet Propulsion Laboratory	[A270]
Dr. James Tilton	NASA Goddard Space Flight Center	[A40]
Dr. Peter Timbie	University of Wisconsin-Madison	[A294]
Ms. Aurelio Tinio	NASA Jet Propulsion Laboratory	[A24]
Dr. Tim Titus	U.S. Geological Survey	[A186]
Ms. Kay Tobola	Lockheed Martin Engineering and Sciences	[A160, A187, A199, A238, A257, A348]
Ms. Julie Townsend	NASA Jet Propulsion Laboratory	[A275]
Dr. Allan Treiman	Lunar and Planetary Institute	[A163, A187, A201, A341]
Mr. Robert Treuhaft	NASA Jet Propulsion Laboratory	[A49]
Dr. Tom Troland	University of Kentucky	[A52]
Dr. Jennifer H. Trosper	NASA Jet Propulsion Laboratory	[A270, A275]
Ms. Catherine Tsairides	NASA Ames Research Center	[A163, A392]
Mr. Matt Tuchscherer	NASA Jet Propulsion Laboratory	[A278]
Dr. Wallace Tucker	Chandra X-Ray Center	[A5, A259, A320]
Dr. Eddie Tunstel	NASA Jet Propulsion Laboratory	[A275]
Dr. Michael Turner	University of Chicago	[A239]
Dr. Niescja Turner	University of Texas at El Paso	[A12, A36, A210, A381]
Dr. Neil Tyson	American Museum of Natural History	[A40]
Mr. Mark Underwood	NASA Jet Propulsion Laboratory	[A261]
Ms. Jose Urech	NASA Jet Propulsion Laboratory	[A364]
Dr. Mary Urquhart	NASA Ames Research Center	[A10, A201]
Ms. Paige Valderrama	Arizona State University	[A186, A187, A270, A276, A277, A280, A343, A344]
Mr. Gerard Van Belle	NASA Jet Propulsion Laboratory	[A349]
Dr. Roland Vanderspek	Massachusetts Institute of Technology	[A316]
Mr. Frank Vanlandingham	NASA Jet Propulsion Laboratory	[A49]
Dr. Robin Vaughan	Johns Hopkins University	[A52]
Mr. Michael Vendrasco	University of California, Los Angeles	[A306]
Dr. Joseph Veverka	Cornell University	[A323, A364]
Dr. Alexander Vilenkin	Tufts University	[A5]
Mr. Chad Villacorta	NASA Jet Propulsion Laboratory	[A49]
Mr. Ray Villard	Space Telescope Science Institute	[A336]
Ms. Michelle Viotti	NASA Jet Propulsion Laboratory	[A24, A270, A343]
Dr. Mark Voit	Space Telescope Science Institute	[A336, A351]
Dr. Richard Vondrak	NASA Goddard Space Flight Center	[A271]
Dr. Tycho von Rosenvinge	NASA Goddard Space Flight Center	[A122]
Mr. Christopher Voorhees	NASA Jet Propulsion Laboratory	[A278]
Mr. Kenneth Voss	NASA Jet Propulsion Laboratory	[A237]
Dr. Jan Vrtilek	Harvard University	[A5, A259]
Mr. Joseph Wackley	NASA Jet Propulsion Laboratory	[A364]

Dr. George Waksman	Massachusetts Institute of Technology	[A179]
Ms. Gretchen Walker	University of Maryland	[A152, A261]
Dr. William Waller	Tufts University	[A191]
Dr. Donald Walter	South Carolina State University	[A37, A40]
Ms. Grace Wang	NASA Jet Propulsion Laboratory	[A270]
Mr. Dave Ward	Montana State University	[A163, A187, A392]
Ms. Elizabeth Warner	University of Maryland	[A261, A326, A327]
Ms. Adrienne Wasserman	U.S. Geological Survey	[A10]
Mr. Darryl Watanabe	NASA Infrared Telescope Facility (IRTF)	[A39]
Ms. Susan Watanabe	NASA Jet Propulsion Laboratory	[A49]
Dr. Mike Watkins	NASA Jet Propulsion Laboratory	[A270]
Mr. Kevin Watson	NASA Jet Propulsion Laboratory	[A278]
Mr. David Watt	NASA Jet Propulsion Laboratory	[A237]
Mr. Keith Watt	Arizona State University	[A59, A158, A186, A187, A270, A276, A277, A280, A343, A344]
Ms. Sally Watt	Arizona State University	[A276]
Ms. Linda Watts	Lockheed Martin Engineering and Sciences	[A257]
Dr. Tom Wdowiak	University of Alabama at Birmingham	[A275]
Dr. Charles Weatherford	Florida A&M University	[A35]
Dr. Kim Weaver	NASA Goddard Space Flight Center	[A52, A165]
Mr. Guy Webster	NASA Jet Propulsion Laboratory	[A364]
Mr. Thomas Weeks	NASA Jet Propulsion Laboratory	[A49, A302]
Ms. Stacy Weinstein	NASA Jet Propulsion Laboratory	[A270]
Ms. Charlotte Weiss	NASA Jet Propulsion Laboratory	[A302, A390]
Dr. Catherine Weitz	NASA Office of Space Science	[A343]
Ms. Kathy Welch-Martin	NASA Jet Propulsion Laboratory	[A237]
Mr. Ben Wentworth	Colorado School for the Deaf and the Blind	[A266]
Mr. Michael Wenz	NASA Goddard Space Flight Center	[A111]
Dr. Randii Wessen	NASA Jet Propulsion Laboratory	[A277]
Dr. Michael West	University of Hawaii at Hilo	[A39]
Ms. Aimee Whalen	NASA Jet Propulsion Laboratory	[A136, A152, A153, A211, A364]
Mr. Charles Whetsel	NASA Jet Propulsion Laboratory	[A270]
Dr. Martin White	Harvard-Smithsonian Center for Astrophysics	[A5]
Dr. Laura Whitlock	Sonoma State University	[A229, A303, A383]
Dr. Bernard Widynski	NASA Jet Propulsion Laboratory	[A49]
Dr. Roger Wiens	Los Alamos National Laboratory	[A228]
Dr. Belinda Wilkes	Chandra X-Ray Center	[A259]
Mr. Mark Wilkinson	NASA Jet Propulsion Laboratory	[A343]
Mr. David Williams	NASA Jet Propulsion Laboratory	[A237]
Ms. Lynda Williams	San Francisco State University	[A172]
Ms. Tracy Williams	NASA Jet Propulsion Laboratory	[A343]
Mr. Jason Willis	NASA Jet Propulsion Laboratory	[A328]
Mr. Robert Winsor	Space Telescope Science Institute	[A335, A336]
Mr. Steve Wissler	NASA Jet Propulsion Laboratory	[A261]
Ms. Shirley Wolff	NASA Jet Propulsion Laboratory	[A136, A153, A166, A328, A364]
Mr. Harry Woo	NASA Jet Propulsion Laboratory	[A277]
Dr. Nathaniel Woodrick	Howard University	[A52]
Mr. James Wooten	Houston Museum of Natural Science	[A33]
Ms. Diana Worrall	University of Bristol	[A259, A320]
Dr. Shonte Wright	NASA Jet Propulsion Laboratory	[A270, A275, A278, A301, A343]
Dr. Gilbert Yanow	NASA Jet Propulsion Laboratory	[A168, A188, A347]
Dr. Sam Yee	Johns Hopkins University Applied Physics Laboratory	[A226, A290, A300, A386]

Dr. Donald Yeomans	NASA Jet Propulsion Laboratory	[A168, A323, A327, A364]
Mr. Alex Young	NASA Goddard Space Flight Center	[A40]
Ms. Donna Young	Tufts University	[A148]
Ms. Candice Yui	NASA Jet Propulsion Laboratory	[A49]
Mr. Robert Zafran	NASA Jet Propulsion Laboratory	[A237]
Mr. Ed Zaron	NASA Jet Propulsion Laboratory	[A237]
Dr. Esther Zirbel	College of Staten Island	[A40]
Mr. Victor Zlotnicki	NASA Jet Propulsion Laboratory	[A237]

APPENDIX D. OSS E/PO Partners

The NASA Office of Space Science (OSS) is indebted to the more than 500 institutions and organizations that partnered with OSS in FY 2002 to carry out the OSS Education and Public Outreach (E/PO) program. These partners are listed below, grouped by the type of institution or organization. This list includes only the institutions and organizations that made contributions by leading the E/PO efforts for OSS mission(s) or program(s) and/or by leading or contributing substantially to developing OSS E/PO product(s) or activity(ies) in FY 2002. The numbers in the brackets to the right of each partner refer to the mission or program in Appendix B or the product or activity in Appendix A to which the partner contributed.

Science Centers, Museums, and Planetariums

	References in Appendices A and B
A. C. Gilbert's Discovery Village, Salem, OR	[A370]
Adler Planetarium and Astronomy Museum, Chicago, IL	[A24, A30, A83, A94, A110, A124, A140, A342, A397, B5, B79]
Air Victory Museum, Medford, NJ	[A370]
American Museum of Natural History, New York, NY	[A24, A40]
Arkansas Air Museum, Fayetteville, AR	[A370]
Arts and Science Center for Southeast Arkansas, Pine Bluff, AR	[A370]
Baltimore Museum of Industry, Baltimore, MD	[A290]
Bassett Planetarium, Amherst, MA	[A370]
Bays Mountain Park and Planetarium, Kingsport, TN	[A370]
Bishop Museum, Honolulu, HI	[A141]
Bootheel Youth Museum, Malden, MO	[A370]
Brazos Valley Family Museum, Bryan, TX	[A370]
Buehler Planetarium & Observatory, Davie, FL	[A370]
Cable Natural History Museum, Cable, WI	[A370]
Calusa Nature Center and Planetarium, Fort Myers, FL	[A370]
Casper Planetarium, Casper, WY	[A370]
Central Wisconsin's Children's Museum, Stevens Point, WI	[A370]
Chabot Space and Science Center, Oakland, CA	[A24, A30, A227, A331, A362, A382, B116]
Challenger Center, Chattanooga, TN	[A370]
Challenger Center for Space Science Education, Alexandria, VA	[A52, B6]
Chesapeake Planetarium, Chesapeake, VA	[A370]
Children's Metamorphosis Museum, Londonderry, NH	[A370]
Children's Museum, Boca Raton, FL	[A370]
Children's Museum, Egg Harbor Township, NJ	[A370]
Children's Museum at Yunker Farm, Fargo, ND	[A370]
Children's Museum of La Crosse, La Crosse, WI	[A370]
Children's Museum of New Braunfels, New Braunfels, TX	[A370]
Children's Museum of Northern Nevada, Carson City, NV	[A370]
Children's Museum of Portsmouth, Portsmouth, NH	[A370]
Children's Museum of South Carolina, Myrtle Beach, SC	[A370]
Children's Museum of Stockton, Stockton, CA	[A370]
Cincinnati Museum Center, Cincinnati, OH	[A370]
Coca-Cola Space Science Center, Columbus, GA	[A370]
Combat Air Museum, Topeka, KS	[A370]
Cumberland Science Museum, Nashville, TN	[A370]
Curious Kids Museum, Saint Joseph, MI	[A370]
Delta College Planetarium, Bay City, MI	[A370]
Denver Museum of Nature and Science, Denver, CO	[A24]
Discovery Center, Rockford, IL	[A370]
Discovery Center of Springfield, Springfield, MO	[A370]
Discovery Museum, Sacramento, CA	[A370]
Discovery Science Place, Tyler, TX	[A370]
Don Harrington Discovery Center, Amarillo, TX	[A370]

Erie Historical Museum and Planetarium, Erie, PA . . . . . .[A370]
Estrella Squadron, Warbird Museum, Paso Robles, CA . . . . . .[A370]
Ethyl Universe Planetarium, Richmond, VA . . . . . .[A370]
Evansville Museum of Arts, History and Science, Evansville, IN . . . . . .[A370]
Evergreen Airventure, McMinnville, OR . . . . . .[A370]
Exploration Place, Wichita, KS . . . . . .[A24]
Exploration Station, Bourbonnais, IL . . . . . .[A370]
Exploratorium, San Francisco, CA . . . . . .[A24, A30]
Family Museum, Bettendorf, IA . . . . . .[A370]
Fascinate-U Children's Museum, Fayetteville, NC . . . . . .[A370]
Fleischmann Planetarium, Reno, NV . . . . . .[A370]
Flint Cultural Center-Longway Planetarium, Flint, MI . . . . . .[A370]
Gayle Planetarium, Montgomery, AL . . . . . .[A370]
Gheens Science Center and Rauch Planetarium, Louisville, KY . . . . . .[A370]
Golden Pond Planetarium, Golden Pond, KY . . . . . .[A370]
Great Lakes Aquarium, Duluth, MN . . . . . .[A370]
Griffith Observatory, Los Angeles, CA . . . . . .[A42]
Hands-On Science Central Museum, Fort Wayne, IN . . . . . .[A370]
Highlands Museum and Discovery Center, Ashland, KY . . . . . .[A370]
Hoover Price Planetarium, Canton, OH . . . . . .[A370]
Houston Museum of Natural Science, Houston, TX . . . . . .[A33]
Howard B. Owens Science Center, Lanham, MD . . . . . .[A18]
Hummel Planetarium, Eastern Kentucky University, Richmond, KY . . . . . .[A370]
Illinois State University Planetarium, Normal, IL . . . . . .[A370]
Imaginarium Science Discovery Center, Anchorage, AK . . . . . .[A370, A378]
Insights El Paso Science Museum, El Paso, TX . . . . . .[A36]
John May Museum Center, Colorado Springs, CO . . . . . .[A370]
Judith W. Freeman Astronomy Center, New Orleans, LA . . . . . .[A370]
Junior Museum of Bay County, Panama City, FL . . . . . .[A370]
Kansas Aviation Museum, Wichita, KS . . . . . .[A370]
Lafayette Natural History Museum and Planetarium, Lafayette, LA . . . . . .[A370]
Lakeview Museum, Peoria, IL . . . . . .[A370]
Laredo Children's Museum, Laredo, TX . . . . . .[A370]
Las Cruces Museum of Natural History, Las Cruces, NM . . . . . .[A370]
Lawrence Hall of Science, Berkeley, CA . . . . . .[A3, A30, A241]
Little Rock Zoo, Little Rock, AR . . . . . .[A370]
Living Science Center, Arlington, TX . . . . . .[A370]
Lower Hudson Valley Challenger Center, Suffern, NY . . . . . .[A370]
Lutz Children's Museum, Manchester, CT . . . . . .[A370]
Mallory Kountze Planetarium, Omaha, NE . . . . . .[A370]
March Field Museum, Riverside, CA . . . . . .[A370]
Maryland Science Center, Baltimore, MD . . . . . .[A24, A30, A38]
McClellan Aviation Museum, North Highlands, CA . . . . . .[A370]
Mid-America Air Museum, Liberal, KS . . . . . .[A370]
Montgomery Zoo, Montgomery, AL . . . . . .[A370]
Morehead Planetarium, Chapel Hill, NC . . . . . .[A370]
Museo del Nino, San Juan, PR . . . . . .[A370]
Museum of Arts and Sciences, Macon, GA . . . . . .[A370]
Museum of Discovery and Science, Fort Lauderdale, FL . . . . . .[A25]
Museum of Science, Boston, MA . . . . . .[A1, A5, A6, A14, A15, A17, A24, A31, A151, A191, A375, B18]
Museum of Southwest/Blakemore Planetarium, Midland, TX . . . . . .[A370]
Museum of the Rockies, Bozeman, MT . . . . . .[A4, A370]
National Soaring Museum, Elmira, NY . . . . . .[A370]
Natural History Museum of Los Angeles County, Los Angeles, CA . . . . . .[A11]
New England Air Museum, Windsor Locks, CT . . . . . .[A370]

New Mexico Museum of Natural History and Science, Albuquerque, NM . . . . . .[A24]
Newport Aquarium, Newport, KY . . . . . .[A370]
Niagara Aerospace Museum, Niagara Falls, NY . . . . . .[A370]
North Museum of Natural History and Science, Lancaster, PA . . . . . .[A370]
Northern Stars Planetarium, Fairfield, ME . . . . . .[A370]
Novins Planetarium, Toms River, NJ . . . . . .[A370]
Oglebay's Good Zoo & Benedum Planetarium, Wheeling, WV . . . . . .[A370]
Oregon Coast Aquarium, Newport, OR . . . . . .[A370]
Owls Head Transportation Museum, Owls Head, ME . . . . . .[A370]
Paulucci Space Theater, Hibbing, MN . . . . . .[A370]
Perkins Observatory, Delaware, OH . . . . . .[A370]
Pima Air and Space Museum, Tucson, AZ . . . . . .[A370]
Port Defiance Zoo and Aquarium, Tacoma, WA . . . . . .[A370]
Portsmouth Museums, Portsmouth, VA . . . . . .[A370]
Rainwater Observatory and Planetarium, French Camp, MS . . . . . .[A312]
Riverside Zoo, Scottsbluff, NE . . . . . .[A370]
Roberson Museum & Science Center, Binghamton, NY . . . . . .[A370]
Rocky Mount Children's Museum, Rocky Mount, NC . . . . . .[A370]
Russell C. Davis Planetarium, Jackson, MS . . . . . .[A370]
Sanford Museum and Planetarium, Cherokee, IA . . . . . .[A370]
Santa Maria Museum of Flight, Santa Maria, CA . . . . . .[A370]
Science Museum of Minnesota, St. Paul, MN . . . . . .[A24]
Science Station, Cedar Rapids, IA . . . . . .[A370]
Sharpe Planetarium/Memphis Pink Palace Museum, Memphis, TN . . . . . .[A370]
Shenandoah Valley Discovery Museum, Winchester, VA . . . . . .[A370]
Smithsonian National Air and Space Museum, Washington, DC . . . . . .[A19, A52]
South Carolina Museum Foundation, Columbia, SC . . . . . .[A28]
South Carolina State Museum, Columbia, SC . . . . . .[A28]
South Florida Science Museum, West Palm Beach, FL . . . . . .[A370]
South Shore Natural Science Center, Norwell, MA . . . . . .[A370]
Southern Forest World, Waycross, GA . . . . . .[A370]
Southworth Planetarium, Portland, ME . . . . . .[A370]
Springfield Children's Museum, Springfield, IL . . . . . .[A370]
Staerkel Planetarium, Champaign, IL . . . . . .[A370]
Stanback Planetarium, Orangeburg, SC . . . . . .[A370]
Storer Planetarium, Prince Frederick, MD . . . . . .[A370]
Texas Air Museum, Rio Hondo, TX . . . . . .[A370]
Turkey Run State Park Planetarium, Marshall, IN . . . . . .[A370]
Turtle Bay Museum, Redding, CA . . . . . .[A370]
Universe Theater and Planetarium, Kalamazoo, MI . . . . . .[A370]
University of Guam Planetarium, Mangilao, GU . . . . . .[A370]
Utica Zoo, Utica, NY . . . . . .[A370]
Venango Museum of Art, Science, and Industry, Oil City, PA . . . . . .[A370]
Victor Valley College Planetarium, Victorville, CA . . . . . .[A370]
Virginia Air and Space Museum, Hampton, VA . . . . . .[A376]
Wallace Planetarium, Fitchburg, MA . . . . . .[A370]
Warhawk Air Museum, Nampa, ID . . . . . .[A370]
Western Aerospace Museum, Oakland, CA . . . . . .[A370]
Western Museum of Flight, Hawthorne, CA . . . . . .[A370]
Willamette Science and Transportation Museum, Eugene, OR . . . . . .[A370]
Wonderscope Children's Museum, Shawnee, KS . . . . . .[A370]
Zoo Atlanta, Atlanta, GA . . . . . .[A370]

Educational Institutions and Organizations

School Districts

El Paso Independent School District, El Paso, TX . . . . . .[A370]

Kamehameha Schools, Hilo, HI . . . . . [A39]
Madison Metropolitan School District, Madison, WI . . . . . [A288]
Pasadena Independent School District, Pasadena, TX . . . . . [A238]
Prince George's County Public Schools, Upper Marlboro, MD . . . . . [A234]

Other Federal Agencies

National Endowment for the Arts, Washington, DC . . . . . [A279]
National Park Service, Yellowstone National Park, WY . . . . . [A392]

Professional Education Societies

Association of Science-Technology Centers (ASTC), Washington, DC . . . . . [A10]
Middle Atlantic Planetarium Society, Clifton, NJ . . . . . [A271]
National Capital Astronomers, Washington, DC . . . . . [A52]
National Science Teachers Association (NSTA), Arlington, VA . . . . . [A281, A348]
Texas Education Association, Austin, TX . . . . . [A322]

Education Nonprofits

Colorado Outward Bound School, Golden, CO . . . . . [A210, A233]
International Planetarium Society, Bozeman, MT . . . . . [A20, A24]
Lewis Center for Educational Research, Apple Valley, CA . . . . . [A166, A167, A264, A265]
Lowcountry Hall of Science and Math, Charleston, SC . . . . . [A212]
Mid-continent Research for Education and Learning (McREL), Aurora, CO . . . . . [A90, A169, A170, A266, A353]
Project Universe, Minneapolis, MN . . . . . [A49]
Space Science Institute, Boulder, CO . . . . . [A2, A10, A12, A13, A24, A56, A176, A210, A233, A339, A398, B20]

Commercial

Academic Research Lab, Phoenix, AZ . . . . . [A50]
Geoff Haines-Stiles Productions, Morristown, NJ . . . . . [A236, A239, A270, A271, B9]
Space Explorers, Inc., De Pere, WI . . . . . [A207]

Colleges and Universities

Nonminority Colleges and Universities

Arizona State University, Tempe, AZ . . . . . [A22, A37, A53, A105, A106, A107, A108, A109, A139, A163, A186, A187, A210, A250, A270, A275, A276, A280, A310, A346, A360, A391]
Boston University, Boston, MA . . . . . [A57]
Brown University, Providence, RI . . . . . [A198, A354]
Buffalo State College, Buffalo, NY . . . . . [A149]
California Institute of Technology, Pasadena, CA . . . . . [A2, A37, A42, A52, A168, A332]
Carnegie Mellon University, Pittsburgh, PA . . . . . [A24, A275]
Clemson University, Clemson, SC . . . . . [A155]
College of Charleston, Charleston, SC . . . . . [A155, A158, A161, A212, A243, A281, A312, A376, B19]
College of Staten Island, Staten Island, NY . . . . . [A40]
Community College of Southern Nevada, North Las Vegas, NV . . . . . [A370]
Cornell University, Ithaca, NY . . . . . [A260, A275, A323, B41]
DePaul University, Chicago, IL . . . . . [A27, A57, A133, A135, A205, A209, A246, A292, A397, B15]
George Mason University, Fairfax, VA . . . . . [A52]
Glendale Community College, Glendale, AZ . . . . . [A139]
Harvard University, Cambridge, MA . . . . . [A346]
Johns Hopkins University, Baltimore, MD . . . . . [A52, A239]
Lesley University, Cambridge, MA . . . . . [A5]

Louisiana State University, Baton Rouge, LA . . . . . [A41]
Massachusetts Institute of Technology, Cambridge, MA . . . . . [A281, A287, A316, A317, A319, B78]
Montana State University, Bozeman, MT . . . . . [A62, A163, A202, A225]
Montgomery College, Germantown, MD . . . . . [A52]
New Jersey Institute of Technology, Newark, NJ . . . . . [A377]
Old Dominion University, Norfolk, VA . . . . . [A245]
Pennsylvania State University, University Park, PA . . . . . [A53, A61, A65, A142, A175, A308, A346, A366]
Princeton University, Princeton, NJ . . . . . [A46, A140, A273, A342, B79]
Raritan Valley Community College, Somerville, NJ . . . . . [A370]
Rice University, Houston, TX . . . . . [A37, A100, A338]
SIRTF Science Center/California Institute of Technology, Pasadena, CA . . . . . [A42, A67, A71, A84, A95, A101, A102, A103, A112, A117, A128, A132, A202, A203, A204, A270, A293, A367, B24]
Sonoma State University, Rohnert Park, CA . . . . . [A17, A31, A74, A113, A114, A115, A116, A122, A172, A229, A262, A303, A348, A383, A384, B70, B83]
South Dakota State University, Brookings, SD . . . . . [A339]
Stanford University, Stanford, CA . . . . . [A91, A92, A93, A157, A381, B71]
Tufts University, Medford, MA . . . . . [A148]
University of Alabama at Huntsville, Huntsville, AL . . . . . [A44]
University of Alaska Fairbanks, Fairbanks, AK . . . . . [A271]
University of Arizona, Tucson, AZ . . . . . [A202, A210, A398]
University of California, Santa Cruz, Santa Cruz, CA . . . . . [A262]
University of Chicago, Chicago, IL . . . . . [A37]
University of Colorado at Boulder, Boulder, CO . . . . . [A10, A32, A53, A210, A346, B105]
University of Connecticut, Storrs-Mansfield, CT . . . . . [A141, A162, A177, A179, A231]
University of Florida, Gainesville, FL . . . . . [A359]
University of Idaho, Moscow, ID . . . . . [A197]
University of Kentucky, Lexington, KY . . . . . [A52]
University of Maryland, College Park, MD . . . . . [A52, A152, A261, A326, A327, B42, B43]
University of Michigan, Ann Arbor, MI . . . . . [A245]
University of New Hampshire, Durham, NH . . . . . [A214]
University of Rhode Island, Narragansett, RI . . . . . [A346]
University of South Carolina, Columbia, SC . . . . . [A37]
University of Washington, Seattle, WA . . . . . [A53, A60, A195, A255, A315, A346, B21]
University of Wisconsin-Madison, Madison, WI . . . . . [A294]
University of Wyoming, Laramie, WY . . . . . [A339]
Washington University, St. Louis, MO . . . . . [A275]
Western Kentucky University, Bowling Green, KY . . . . . [A37, A268, A295, A352, B10]
Wheeling Jesuit University, Wheeling, WV . . . . . [A200, B17]

Historically Black Colleges and Universities

Alabama A&M University, Normal, AL . . . . . [A44]
Florida A&M University, Tallahassee, FL . . . . . [A35]
Hampton University, Hampton, VA . . . . . [A32, B99]
Howard University, Washington, DC . . . . . [A52]
Morgan State University, Baltimore, MD . . . . . [A290]
Norfolk State University, Norfolk, VA . . . . . [A38]
South Carolina State University, Orangeburg, SC . . . . . [A37, A134]
Southern University and A&M College, Baton Rouge, LA . . . . . [A41]
Tennessee State University, Nashville, TN . . . . . [A37, A47]
Texas Southern University, Houston, TX . . . . . [A33, A395]

Hispanic-Serving Institutions
City College of New York, New York, NY . . . . . [A40]
LaGuardia Community College, Long Island, NY . . . . . [A40]
New Mexico Highlands University, Las Vegas, NM . . . . . [A43]
Pasadena City College, Pasadena, CA . . . . . [A42]
University of Houston-Downtown, Houston, TX . . . . . [A33, A395]
University of New Mexico, Albuquerque, NM . . . . . [A43, A45, A139, A163]
University of Puerto Rico at Mayagüez, Mayagüez, PR . . . . . [A180, A193]
University of Texas at El Paso, El Paso, TX . . . . . [A12, A36, A210, A339]

Tribal Colleges and Universities
Diné College, Shiprock, NM . . . . . [A43]
Salish Kootenai College, Pablo, MT . . . . . [A34]
Southwestern Indian Polytechnic Institute, Albuquerque, NM . . . . . [A45]

Other Minority Universities
Hostos Community College, Bronx, NY . . . . . [A40]
Hunter College, New York, NY . . . . . [A40]
Medgar Evers College, Brooklyn, NY . . . . . [A37, A40]
Queensborough Community College, Bayside, NY . . . . . [A40]
University of California, Berkeley, Berkeley, CA . . . . . [A3, A30, A43, A57, A58, A59, A126, A150, A213, A220, A221, A241, A289, A325, A338, A347, A348, A355, A356, A358, A379, A380, B14, B75, B81, B100, B101, B117]
University of California, Los Angeles, Los Angeles, CA . . . . . [A53, A306, A346]
University of Hawaii at Hilo, Hilo, HI . . . . . [A39]
University of Hawaii at Manoa, Honolulu, HI . . . . . [A141]
York College, Jamaica, NY . . . . . [A37, A40, A46]

Organizations Promoting Minority Participation in Science

American Indian Science and Engineering Society (AISES), Albuquerque, NM . . . . . [A57]
Coalition to Diversify Computing (CDC), Evanston, IL . . . . . [A57]
Council for African-American Researchers in the Mathematical Sciences (CAARMS), Buffalo, NY . . . . . [A57]
Institute for African-American e-Culture, Boston, MA . . . . . [A57]
National Association of Black Geologists and Geophysicists, Houston, TX . . . . . [A57, A395]
National Association of Mathematicians, Atlanta, GA . . . . . [A57]
National Institutes of Health Black Scientists Association, Clarksburg, MD . . . . . [A57]
National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), Washington, DC . . . . . [A57, A58, A395]
National Society of Black Physicists (NSBP), Greensboro, NC . . . . . [A55, A57]
National Society of Hispanic Physicists, Nashville, TN . . . . . [A57]
Society for the Advancement of Chicanos and Native Americans in Science, Santa Cruz, CA . . . . . [A57]
World Hope Foundation, Boulder, CO . . . . . [A50, A59, A381]

Science Institutions and Organizations

NASA Headquarters Offices

NASA Office of Aerospace Technology, Washington, DC . . . . . [A271]
NASA Office of Biological and Physical Research, Washington, DC . . . . . [A271]
NASA Office of Earth Science, Washington, DC . . . . . [A236, A239, A270, A271]
NASA Office of Equal Opportunity Programs, Washington, DC . . . . . [A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A52, A240]
NASA Office of Human Resources and Education, Washington, DC . . . . . [A143, A236, A398]

NASA Office of Public Affairs, Washington, DC . . . . . .[A236, A239, A270, A271]
NASA Office of Space Flight, Washington, DC . . . . . .[A236, A239, A271]

NASA Centers

NASA Ames Research Center, Moffett Field, CA . . . . . .[A2, A52, A77, A163, A175, A224, A230, A236, A239, A245, A249, A270, A271, A275, A381, A392, A393]
NASA Dryden Flight Research Center, Edwards, CA . . . . . .[A271]
NASA Glenn Research Center, Cleveland, OH . . . . . .[A270, A271]
NASA Goddard Institute for Space Studies, New York, NY . . . . . .[A40, A236, A239]
NASA Goddard Space Flight Center, Greenbelt, MD . . . . . .[A12, A18, A30, A37, A38, A40, A44, A52, A59, A69, A78, A86, A96, A97, A100, A121, A125, A129, A130, A131, A137, A145, A165, A171, A173, A178, A180, A181, A182, A183, A184, A185, A188, A193, A194, A208, A210, A218, A219, A221, A222, A223, A234, A236, A239, A240, A245, A246, A252, A269, A270, A271, A272, A282, A290, A296, A297, A298, A324, A337, A338, A340, A347, A348, A365, A381, A385, A398, B14, B45, B80, B86, B87, B89, B98, B102, B103, B104, B111, B112, B113, B114, B119]
NASA Jet Propulsion Laboratory, Pasadena, CA . . . . . .[A2, A11, A22, A23, A24, A29, A39, A42, A48, A49, A50, A51, A54, A55, A72, A73, A79, A80, A81, A82, A85, A90, A104, A119, A120, A136, A147, A152, A153, A156, A166, A168, A169, A170, A175, A186, A187, A188, A189, A207, A211, A236, A237, A239, A240, A258, A261, A263, A264, A265, A266, A270, A271, A275, A276, A277, A278, A279, A280, A283, A301, A302, A313, A314, A322, A327, A328, A329, A332, A343, A344, A349, A353, A363, A364, A368, A369, A370, A371, A372, A373, A381, A388, A389, A390, A394, B12, B27, B28, B29, B30, B31, B32, B33, B34, B37, B38, B39, B40, B43, B44, B47, B48, B49, B57, B58, B60, B61, B72, B77, B96, B97, B120]
NASA Johnson Space Center, Houston, TX . . . . . .[A2, A33, A52, A87, A143, A160, A199, A236, A238, A239, A257, A270, A271, A381, B59]
NASA Kennedy Space Center, Kennedy Space Center, FL . . . . . .[A52, A168, A236, A270, A271]
NASA Langley Research Center, Hampton, VA . . . . . .[A236, A239, A270, A271, A381]
NASA Marshall Space Flight Center, Marshall Space Flight Center, AL . . . . . .[A44, A236, A239, A271, A359, A381]
NASA Stennis Space Center, Stennis Space Center, MS . . . . . .[A381]

NASA-Affiliated Organizations

Chandra X-Ray Center, Cambridge, MA . . . . . [A35, A70, A76, A88, A123, A148, A236, A239, A259, A318, A319, A320, B67]
District of Columbia Space Grant, Washington, DC . . . . . [A243]
Goldstone Deep Space Communications Complex, Fort Irwin, CA . . . . . [A236, A267, A333]
Lunar and Planetary Institute, Houston, TX . . . . . [A2, A163, A201, A224, A291, A330, A341, A395, B16]
Mississippi Space Grant Consortium, Oxford, MS . . . . . [A163, A312]
NASA Astrobiology Institute (NAI), Moffett Field, CA . . . . . [A11, A13, A53, A61, A63, A64, A65, A66, A77, A127, A141, A142, A146, A162, A164, A175, A176, A177, A179, A195, A224, A230, A231, A232, A235, A236, A239, A244, A250, A251, A253, A254, A255, A256, A271, A304, A306, A307, A308, A310, A315, A346, A360, A366, A391, A392, A393, A396, B35]
NASA Infrared Telescope Facility (IRTF), Honolulu, HI . . . . . [A39, A236]
Planetary Data System, Pasadena, CA . . . . . [A236, A270]
South Carolina Space Grant Consortium, Charleston, SC . . . . . [A155]
South Dakota Space Grant Consortium, Rapid City, SD . . . . . [A339]
Space Telescope Science Institute, Baltimore, MD . . . . . [A2, A4, A7, A8, A9, A19, A20, A21, A52, A68, A75, A89, A98, A99, A111, A118, A149, A154, A174, A188, A192, A196, A197, A236, A239, A242, A247, A248, A271, A288, A334, A335, A336, A347, A348, A351, A387, B1, B11, B22, B23]
Universities Space Research Association (USRA)/SOFIA, Moffett Field, CA . . . . . [A305]
Virginia Space Grant Consortium, Hampton, VA . . . . . [A376]
Washington Space Grant Consortium, Seattle, WA . . . . . [A163]
Wyoming Space Grant Consortium, Laramie, WY . . . . . [A163]

Other Federal Agencies

Air Force Research Laboratory/VSBXR, Hanscom Air Force Base, MA . . . . . [A271]
Fermilab, Batavia, IL . . . . . [A236, A239]
Lawrence Berkeley National Laboratory, Berkeley, CA . . . . . [A236, A239, A271]
Lawrence Livermore National Laboratory, Livermore, CA . . . . . [A35, A37, A44, A271]
Los Alamos National Laboratory, Los Alamos, NM . . . . . [A43, A138, A168, A228, A236, A239, A270, A271, B107]
National Center for Atmospheric Research (NCAR), Boulder, CO . . . . . [A236, A239, A245, A270, A271]
National Oceanic and Atmospheric Administration (NOAA), Boulder, CO . . . . . [A236, A239, A271]
National Optical Astronomy Observatory (NOAO), Tucson, AZ . . . . . [A12, A37, A154, A236, A271]
National Radio Astronomy Observatory, Socorro, NM . . . . . [A12, A236, A239, A271]
National Science Foundation, Arlington, VA . . . . . [A5, A10, A168, A236, A239, A245, A271, A398]
National Severe Storms Laboratory, Norman, OK . . . . . [A236, A239]
National Solar Observatory, Sunspot, NM . . . . . [A236, A239, A271]
Naval Research Laboratory, Washington, DC . . . . . [A52, A243, A271]
Smithsonian Institution, Washington, DC . . . . . [A239, A271]
U.S. Air Force, Patrick Air Force Base, Patrick Air Force Base, FL . . . . . [A271]
U.S. Department of Education, Washington, DC . . . . . [A322]
U.S. Geological Survey, Flagstaff, AZ . . . . . [A2, A236, A239, A271]
U.S. Naval Observatory, Washington, DC . . . . . [A271]
University Corporation for Atmospheric Research (UCAR), Boulder, CO . . . . . [A236, A245, A271]

Professional Science Societies

American Association for the Advancement of Science (AAAS), Washington, DC . . . . . .[A52]
American Astronomical Society (AAS), Washington, DC . . . . . .[A203]
American Geophysical Union (AGU), Washington, DC . . . . . .[A245, A271]
American Institute for Aeronautics and Astronautics, Reston, VA . . . . . .[A271]
American Institute of Physics, College Park, MD . . . . . .[A387]
Astronomical Society of the Pacific (ASP), San Francisco, CA . . . . . .[A62, A144, A159, A210, A215, A225, A249, A271, A286, A305, A309, A361, A374, B25]

Industry

Ball Aerospace Technologies Corporation, Boulder, CO . . . . . .[A152, A327]
Coronado Instruments, Tucson, AZ . . . . . .[A12]
Lockheed Martin Advanced Technology Center, Palo Alto, CA . . . . . .[A239, A271]
Lockheed Martin Engineering and Sciences, Houston, TX . . . . . .[A164, A175, A232, A257]
Lockheed Martin Management and Data Systems, Philadelphia, PA . . . . . .[A271]
Lockheed Martin Solar and Astrophysics Laboratory, Palo Alto, CA . . . . . .[A236, A271, B106]
Lockheed Martin Space Systems, Littleton, CO . . . . . .[A236, A239, A270, A271]
Malin Space Science Systems, San Diego, CA . . . . . .[A2]
Raytheon Company, Lanham, MD . . . . . .[A271, A381]
Science Systems and Applications, Inc., Lanham, MD . . . . . .[A271]
Swales Aerospace, Beltsville, MD . . . . . .[A52]
The Boeing Company, Cape Canaveral Air Station, FL . . . . . .[A271]
The Boeing Company, Everett, WA . . . . . .[A271]

Other Nonprofits

Carnegie Institute of Washington, Washington, DC . . . . . .[A53, A63, A64, A66, A127, A146, A236, A239, A271]
Carnegie Observatories, Pasadena, CA . . . . . .[A236, A239]
European Southern Observatory, Santiago, Chile . . . . . .[A236, A239]
European Space Agency, Paris, France . . . . . .[A2, A236, A239, A271]
Gemini Observatory, Hilo, HI . . . . . .[A39, A236, A239]
Harvard-Smithsonian Center for Astrophysics, Cambridge, MA . . . . . .[A1, A5, A14, A15, A16, A41, A151, A206, A216, A217, A236, A239, A271, A281, A311, A321, A345, A357, A375, B13]
Institute for Astronomy, Hilo, HI . . . . . .[A39, A236, A239]
Johns Hopkins University Applied Physics Laboratory, Laurel, MD . . . . . .[A12, A26, A52, A190, A226, A236, A239, A270, A271, A274, A284, A285, A290, A299, A300, A350, A386, B26, B46, B118]
Marine Biological Laboratory, Woods Hole, MA . . . . . .[A177, A179, A231, A236, A239, A346]
McDonald Observatory, Austin, TX . . . . . .[A236, A271]
Pisgah Astronomical Research Institute, Rosman, NC . . . . . .[A37]
Planetary Science Institute, Tucson, AZ . . . . . .[A37, A239, A270]
SETI Institute, Mountain View, CA . . . . . .[A2, A13, A62, A144, A159, A215, A225, A236, A239, A244, A249, A305, A374, B25]
Southwest Research Institute, Boulder, CO . . . . . .[A236, A239, A271]
Southwest Research Institute, San Antonio, TX . . . . . .[A236, A239]
Space Education Initiatives, Inc., Green Bay, WI . . . . . .[A135, A207]
Space Explorers, Inc., Green Bay, WI . . . . . .[A236]
Subaru Telescope, Hilo, HI . . . . . .[A39, A236]
W.M. Keck Observatory, Kamuela, HI . . . . . .[A39, A236, A239, A281, A375]
Woods Hole Oceanographic Institute, Woods Hole, MA . . . . . .[A162]

Yerkes Observatory, Williams Bay, WI . . . . . [A209]

Community Organizations

4-H Arkansas, Little Rock, AR . . . . . [A322]
4-H Delaware, Newark, DE . . . . . [A322]
4-H Florida, Gainesville, FL . . . . . [A322]
4-H Kansas, Colby, KS . . . . . [A322]
4-H Kentucky, Lexington, KY . . . . . [A322]
4-H Maine, Bangor, ME . . . . . [A322]
4-H Maryland, College Park, MD . . . . . [A322]
4-H Massachusetts, Walpole, MA . . . . . [A322]
4-H Michigan, East Lansing, MI . . . . . [A322]
4-H Minnesota, Minneapolis, MN . . . . . [A322]
4-H Missouri, Columbia, MO . . . . . [A322]
4-H Montana, Bozeman, MT . . . . . [A322]
4-H National, Auburn, AL . . . . . [A322]
4-H Nebraska, Lincoln, NE . . . . . [A322]
4-H New Hampshire, Durham, NH . . . . . [A322]
4-H North Carolina, Raleigh, NC . . . . . [A322]
4-H Oregon, Corvallis, OR . . . . . [A322]
4-H South Dakota, Brookings, SD . . . . . [A322]
4-H Texas, Dallas, TX . . . . . [A322]
4-H Virginia, Blacksburg, VA . . . . . [A322]
4-H Wisconsin, Madison, WI . . . . . [A322]
Andrews Air Force Base Youth Center, Andrews Air Force Base, MD . . . . . [A370]
Barksdale Air Force Base Youth Center, Bossier, LA . . . . . [A370]
Boys & Girls Clubs, National Headquarters, Atlanta, GA . . . . . [A322]
Brooks Air Force Base Youth Center, Brooks Air Force Base, TX . . . . . [A370]
Camp Lejeune Marine Corps Base Youth Center, Camp Lejeune, NC . . . . . [A370]
Cayce-West Columbia Jaycees, West Columbia, SC . . . . . [A370]
Elgin Air Force Base Youth Center, Elgin Air Force Base, FL . . . . . [A370]
Ellsworth Air Force Base Youth Center, Ellsworth Air Force Base, SD . . . . . [A370]
Fairchild Air Force Base Youth Center, Fairchild Air Force Base, WA . . . . . [A370]
Fort Benning Youth Services, Fort Benning, GA . . . . . [A370]
Fort Bliss Youth Center, Fort Bliss, TX . . . . . [A370]
Fort Campbell Child and Youth Services, Fort Campbell, KY . . . . . [A370]
Fort Drum Youth Services, Fort Drum, NY . . . . . [A370]
Fort Gordon Youth Center, Fort Gordon, GA . . . . . [A370]
Fort Hood Youth Center, Fort Hood Army Base, TX . . . . . [A370]
Fort Jackson Youth Center, Fort Jackson, SC . . . . . [A370]
Fort Knox Youth Center, Fort Knox, KY . . . . . [A370]
Fort Lewis Youth Services, Fort Lewis, WA . . . . . [A370]
Fort Meade Youth Center, Fort Meade, MD . . . . . [A370]
Fort Polk Siegfried Youth Center, Fort Polk, LA . . . . . [A370]
Fort Sill Youth Center, Fort Sill, OK . . . . . [A370]
Girl Scouts of the USA (GSUSA) National Headquarters, New York, NY . . . . . [A51]
Girls, Inc., Pasadena, CA . . . . . [A54]
Great Lakes Region Civil Air Patrol, Wright-Patterson Air Force Base, OH . . . . . [A322]
Holloman Air Force Base Youth Center, Holloman Air Force Base, NM . . . . . [A370]
Los Angeles' Better Educated Students for Tomorrow (LA's BEST), Los Angeles, CA . . . [A49]
Maxwell-Gunter Air Force Base Youth Center, Montgomery, AL . . . . . [A370]
McConnell Air Force Base Youth Center, McConnell Air Force Base, KS . . . . . [A370]
McGuire Air Force Base, McGuire Air Force Base, NJ . . . . . [A370]
Middle East Region Civil Air Patrol, Andrews Air Force Base, MD . . . . . [A322]
Mountain Home Air Force Base Youth Center, Mountain Home, ID . . . . . [A370]
National Headquarters Civil Air Patrol, Maxwell Air Force Base, AL . . . . . [A322]

North Central Region Civil Air Patrol, Minneapolis, MN . . . . . .[A322]
Northeast Region Civil Air Patrol, McGuire Air Force Base, NJ . . . . . .[A322]
Pacific Region Civil Air Patrol, Beale Air Force Base, CA . . . . . .[A322]
Patrick Air Force Base Youth Center, Satellite Beach, FL . . . . . .[A370]
Peterson Air Force Base Youth Center, Peterson Air Force Base, CO . . . . . .[A370]
Rocky Mountain Civil Air Patrol, Littleton, CO . . . . . .[A322]
Scott Air Force Base Youth Center, Scott Air Force Base, IL . . . . . .[A370]
Selfridge Air National Guard Base, Sang, MI . . . . . .[A370]
Shaw Youth Center, Shaw Air Force Base, SC . . . . . .[A370]
Southeast Region Civil Air Patrol, Maxwell Air Force Base, AL . . . . . .[A322]
Southwest Region Civil Air Patrol, Lewisville, TX . . . . . .[A322]
Subase Youth Center, Groton, CT . . . . . .[A370]
Tinker Air Force Base Youth Services, Tinker Air Force Base, OK . . . . . .[A370]
YWCA of America, New York, NY . . . . . .[A322]

Libraries

Alaska State Library Association, Juneau, AK . . . . . .[A322]
American Library Association (ALA), Chicago, IL . . . . . .[A322]
Arizona Library Association, Tempe, AZ . . . . . .[A322, A370]
Arkansas Library Association, Conway, AR . . . . . .[A322]
Billings Public Library, Billings, MT . . . . . .[A370]
California Library Association, Sacramento, CA . . . . . .[A322]
Carbondale Public Library, Carbondale, IL . . . . . .[A370]
Charleston Community Library, Charleston, SC . . . . . .[A370]
City of Riverside Public Library, Riverside, CA . . . . . .[A370]
Coeur d'Alene Public Library, Coeur d'Alene, ID . . . . . .[A370]
Daniel Boone Regional Library, Columbia, MO . . . . . .[A370]
Dodge City Public Library, Dodge City, KS . . . . . .[A370]
Dover Public Library, Dover, DE . . . . . .[A370]
Ewa Beach Public Library, Ewa Beach, HI . . . . . .[A370]
Farmington Public Library, Farmington, NM . . . . . .[A370]
Fletcher Free Library, Burlington, VT . . . . . .[A370]
Fort Smith Public Library, Fort Smith, AR . . . . . .[A370]
Gadsden Public Library, Gadsden, AL . . . . . .[A370]
Grand Junction Public Library, Grand Junction, CO . . . . . .[A370]
Illinois Library Association, Chicago, IL . . . . . .[A322]
Iowa Library Association, Des Moines, IA . . . . . .[A322]
Johnson County Library, Buffalo, WY . . . . . .[A370]
Joplin Public Library, Joplin, MO . . . . . .[A370]
Kent District Library, Wyoming, MI . . . . . .[A370]
Meridian Public Library, Meridian, MS . . . . . .[A370]
Mesa Union School Library, Somis, CA . . . . . .[A370]
Minnesota Valley Regional Library, Mankato, MN . . . . . .[A370]
Minot Public Library, Minot, ND . . . . . .[A370]
Missouri Library Association, Columbia, MO . . . . . .[A322]
Morgantown Public Library, Morgantown, WV . . . . . .[A370]
Norfolk Public Library, Norfolk, NE . . . . . .[A370]
Northside Branch Library, Chillicothe, OH . . . . . .[A370]
Ouachita Public Library, Monroe, LA . . . . . .[A370]
Parker Public Library, Parker, AZ . . . . . .[A370]
Parkersburg Public Library, Parkersburg, WV . . . . . .[A370]
Pensacola Public Library, Pensacola, FL . . . . . .[A370]
Peter White Public Library, Marquette, MI . . . . . .[A370]
Provo Library, Provo, UT . . . . . .[A370]
Public Library of Enid and Garfield County, Enid, OK . . . . . .[A370]
Putnam County Library System, Cookeville, TN . . . . . .[A370]

Rawlins Municipal Library, Pierre, SD . . . . . .[A370]
Rhode Island Library Association, Cranston, RI . . . . . .[A322]
Rock Springs Public Library, Rock Springs, WY . . . . . .[A370]
Sheridan County Public Library, Sheridan, WY . . . . . .[A370]
State Library of Hawaii, Honolulu, HI . . . . . .[A322]
State Library of Iowa, Des Moines, IA . . . . . .[A370]
To'Hajiilee Community School Library, Canoncito, NM . . . . . .[A370]
Tulsa Central Public Library, Tulsa, OK . . . . . .[A370]
Tuzzy Consortium Library, Barrow, AK . . . . . .[A370]
Washington County Free Library, Hagerstown, MD . . . . . .[A370]
Wilmington Public Library, Wilmington, DE . . . . . .[A370]
Wyoming Library Association, Buffalo, WY . . . . . .[A322]

Mass Media

Public Radio/TV Stations(s)

WPSX-TV, Channel 3/Clearfield, University Park, PA . . . . . .[A303]

Commercial Radio/TV Station(s)

CBS Corporation, New York, NY . . . . . .[A10]

Newspapers and Magazines

Al Dia, Philadelphia, PA . . . . . .[A371]
Brownsville Herald, Brownsville, TX . . . . . .[A371]
Chronicle Telegram, Elyria, OH . . . . . .[A371]
Daily Courier, Kelowna, Canada . . . . . .[A371]
Daily Herald, Elgin, IL . . . . . .[A371]
Denver Post, Denver, CO . . . . . .[A371]
El Tiempo Latino, Arlington, VA . . . . . .[A371]
Herald-Standard, Uniontown, PA . . . . . .[A371]
La Noticia, Charlotte, NC . . . . . .[A371]
La Oferta, San Jose, CA . . . . . .[A371]
La Opinion, Los Angeles, CA . . . . . .[A371]
Los Angeles Times, Los Angeles, CA . . . . . .[A371]
Noticias del Mundo, Long Island City, NY . . . . . .[A371]
Sentinal, Seabrook, MD . . . . . .[A371]
South Bend Tribune, South Bend, IN . . . . . .[A371]
Stillwater News Press, Stillwater, OK . . . . . .[A371]
Times Record, Brunswick, ME . . . . . .[A371]
Vistazo, San Jose, CA . . . . . .[A371]

Other Organizations

Condit Exhibits, Denver, CO . . . . . .[A12]
Jeff Kennedy Associates, Inc., Somerville, MA . . . . . .[A5, A10]
Loch Ness Productions, Groton, MA . . . . . .[A2]
Mystic Scenic Studios, Dedham, MA . . . . . .[A10]
New Curiosity Shop, Bethesda, MD . . . . . .[A223]
Pacific Visions Communications, Los Angeles, CA . . . . . .[A279]
Randi Korn and Associates, Inc., Alexandria, VA . . . . . .[A10]
Superior Exhibits and Design, Inc., Elk Grove Village, IL . . . . . .[A5]
TIAA-CREF, Boston, MA . . . . . .[A206]

APPENDIX E. Conferences

The conferences at which the Office of Space Science (OSS) Education and Public Outreach (E/PO) program had a substantial presence in FY 2002 are listed below. Numbers in brackets to the right of each conference refer to the listing(s) in Appendix A of the activity(ies) that were carried out at that conference.

National Education and Outreach

American Association of Physics Teachers (AAPT) Meeting,
Philadelphia, PA, January 2002 . . . . . [A37, A148, A171, A172, A219]

American Indian Science and Engineering Society (AISES) Meeting,
Albuquerque, NM, November 2001 . . . . . [A56, A219]

Americans for the Arts Convention,
Nashville, TN, June 2002 . . . . . [A279]

Association for Supervision and Curriculum Development (ASCD) Conference,
San Antonio, TX, March 2002 . . . . . [A170, A322]

Association of Science-Technology Centers (ASTC) Conference,
Phoenix, AZ, October 2001 . . . . . [A210, A215, A216, A336]

International Planetarium Society Conference,
Wichita, KS, July 2002 . . . . . [A99, A147, A210, A219, A314, A328]

International Technology Education Association (ITEA) Conference,
Columbus, OH, March 2002 . . . . . [A170, A188, A322]

Mexican American Engineers and Scientists Meeting,
Houston, TX, October 2001 . . . . . [A33]

National Alliance of Black School Educators (NABSE) Conference,
Los Angeles, CA, November 2001 . . . . . [A55, A166]

National Congress on Aviation and Space Education,
Arlington, VA, May 2002 . . . . . [A207]

National Council for the Teachers of Mathematics (NCTM) Conference,
Las Vegas, NV, April 2002 . . . . . [A152, A189, A203, A229, A336, A347]

National Education Association Expo, Dallas,
TX, June 2002 . . . . . [A279]

National Organization for the Professional Advancement of
Black Chemists and Chemical Engineers (NOBCChE) Conference,
New Orleans, LA, March 2002 . . . . . [A57, A58, A356]

National Science Teachers Association (NSTA) National Convention,
San Diego, CA, March 2002 . . . . . [A32, A99, A133, A136, A140, A144, A145, A147, A152, A156, A160, A166, A169, A170, A172, A175, A187, A189, A192, A194, A199, A203, A204, A207, A210, A211, A215, A216, A219, A229, A244, A253, A323, A336, A364, A388]

National Society of Black Physicists Meeting,
Huntsville, AL, March 2001 . . . . . [A55]

National Urban League Conference,
Los Angeles, CA, July 2002 . . . . . [A55]

Natives, Africans, Asians, Latinos(as) and Allies (NAALA) Gathering,
Mission, SD, June 2002 . . . . . [A56]

Office of Space Science Education and Public Outreach Conference,
Chicago, IL, June 2002 . . . . . [A356]

Parent Teacher Association (PTA) Convention,
San Antonio, TX, June 2002 . . . . . [A279]

Public Library Association Conference,
Phoenix, AZ, March 2002 . . . . . [A330]

Richard Tapia Celebration of Diversity in Computing,
Houston, TX, October 2001 . . . . . [A57]

Society for Advancement of Native Americans and Chicanos in Science National Conference,
Anaheim, CA, September 2002 . . . . . .[A56, A152, A153, A349]

Regional Education and Outreach

Altamont Journey through the Universe Week,
Altamont, KS, April 2002 . . . . . .[A52]
Association for Experiential Education Rocky Mountain Regional Conference,
Prescott, AZ, April 2002 . . . . . .[A210]
Balticon SciFi Convention,
Baltimore, MD, May 2002 . . . . . .[A336]
California Association for the Gifted Conference,
Palm Springs, CA, February 2002 . . . . . .[A156]
California Science Teachers Association Meeting,
Palm Springs, CA, October 2001 . . . . . .[A156, A159, A166, A203, A215, A229, A349]
Capricon Science Fiction Convention XXII,
Arlington Heights, IL, February 2002 . . . . . .[A363]
Cybercamp 2002,
Riverton, WY, August 2002 . . . . . .[A169]
DucKon 11 Science Fiction Convention,
Schaumburg, IL, June 2002 . . . . . .[A363]
Expanding Your Horizons,
Rohnert Park, CA, March 2002 . . . . . .[A262]
Farpoint SciFi Convention,
Elkridge, MD, February 2002 . . . . . .[A336]
Georgia Science Teachers Association Conference,
Jekyll Island, GA, February 2002 . . . . . .[A169]
Illinois Technical Conference for Educators,
St. Charles, IL, March 2002 . . . . . .[A363]
KATS KAMP 2002: Kansas Association of Teachers of Science,
Junction City, KS, April 2002 . . . . . [A169, A170]
Louisiana Library Association Conference, Baton
Rouge, LA, March 2002 . . . . . .[A330]
Marquette Journey to the Universe Week,
Marquette, MI, March 2002 . . . . . .[A52]
Mathematics, Science and Technology Conference,
Bakersfield, CA, February 2002 . . . . . .[A349, A363]
Mid Atlantic Planetarium Society Meeting,
Worchester, MA, May 2002 . . . . . .[A99, A320]
NASA Awareness Days: North Dakota Tribal Colleges,
Spirit Lake, ND, April 2002 . . . . . .[A56]
National Science Teachers Association (NSTA) Midwestern Area Convention,
Columbus, OH, November 2001 . . . . . .[A171, A207]
National Science Teachers Association (NSTA) Southern Area Convention,
Memphis, TN, December 2001 . . . . . .[A229]
National Science Teachers Association (NSTA) Western Area Convention,
Salt Lake City, UT, October 2001 . . . . . .[A207, A210]
National Teacher Training Institute,
Tucson, AZ, August 2001 . . . . . .[A270]
Nogales Journey to the Universe Week,
Nogales, AZ, February 2002 . . . . . .[A52]
Pennsylvania State Science Teachers Association,
Hershey, PA, December 2001 . . . . . .[A148]
Rural Technology Institute (RTI),
Lawrence, KS, July 2002 . . . . . .[A169]

Science Olympiad Eastern Regional,
Newark, DE, January 2002 . . . . . .[A148]
Science Teachers Association of New York State (STANYS) Conference,
Ellenville, NY, November 2001 . . . . . .[A219]
Science Teachers Association of Texas Meeting,
Austin, TX, November 2001 . . . . . .[A160, A199]
Science Teachers' 2001 Workshop,
University Park, PA, September 2001 . . . . . .[A270]
South Carolina Science Council 26th Annual Convention,
Myrtle Beach, SC, October 2001 . . . . . .[A37]
Texas Library Association Conference,
Dallas, TX, April 2002 . . . . . .[A330]
Texas Middle School Association Conference,
Houston, TX, February 2002 . . . . . .[A187]
Tuskegee-Montgomery Journey to the Universe Week,
Tuskegee-Montgomery, AL, January 2002 . . . . . .[A52]
Washington Journey to the Universe Week,
Washington, DC, October 2001 . . . . . .[A52]
Western Alliance Conference of Planetarium Associations, Eugene, OR,
October 2001 . . . . . .[A210]

Science

AAS Division of Planetary Sciences Meeting,
New Orleans, LA, November 2001 . . . . . .[A329, A394]
ALCON,
Salt Lake City, UT, July 2002 . . . . . .[A309]
American Association of Variable Star Observers (AAVSO) Meeting,
Waikoloa Beach, HI, June 2002 . . . . . .[A384]
American Astronautical Society (AAS) Meeting,
Pasadena, CA, November 2001 . . . . . .[A349]
American Astronomical Society (AAS) Meeting,
Albuquerque, NM, June 2002 . . . . . .[A40, A259, A349]
American Astronomical Society (AAS) Meeting,
Washington, DC, January 2002 . . . . . .[A40, A98, A259, A349, A384]
American Geophysical Union (AGU) Meeting,
San Francisco, CA, December 2001 . . . . . .[A364, A398]
American Geophysical Union (AGU) Meeting,
Washington, DC, May 2002 . . . . . .[A398]
Coral Gables Conference 2001,
Fort Lauderdale, FL, December 2001 . . . . . .[A384]
Eye to the Future,
Minneapolis, MN, May 2002 . . . . . .[A336]
Lunar and Planetary Science Conference,
League City, TX, March 2002 . . . . . .[A343, A395]
Maryland Technology Showcase,
Baltimore, MD, December 2001 . . . . . .[A327]
Multiwavelength Observations of Coronal Structure and Dynamics,
Kailua-Kona, HI, January 2002 . . . . . .[A356]
National Astronomical League Conference,
Salt Lake City, UT, August 2002 . . . . . .[A147, A320]
Royal Astronomical Society Meeting,
Bristol, United Kingdom, April 2002 . . . . . .[A320]
SPIE's Astronomical Telescopes and Instrumentation 2002,
Waikoloa, HI, August 2002 . . . . . .[A349]
World Congress on Information Technology,
Adelaide, Australia, February 2002 . . . . . .[A320]

APPENDIX F. Awards

Awards and other forms of public recognition received by the Office of Space Science (OSS) Education and Public Outreach (E/PO) program in FY 2002 are listed below. Each listing contains the following information:

Organization:
Organization making or sponsoring the award.

Award:
Name of the award.

Mission/Program:
OSS mission or program receiving the award.

Activity/Person:
OSS E/PO product or activity, or OSS-affiliated individual receiving the award.

Sponsor	
Organization	**Award**
American Library Association	Great Web Sites for Kids
AOL.com	AOL Hot Link
Ask Jeeves (*http://www.askjeeves.com*)	Silver Platter Site Award
Association of Universities for Research in Astronomy	AURA Achievement Award
CPSnet	Ocean of Knowledge Seal
Discover Magazine	Pick of the Web
Docherty Family	Red Stag Bronze Award
Eisenhower National Clearinghouse	Digital Dozen Award
Geetha Zone Awards	Geetha's Great Design Award
Griffith Observatory	Star Award
lightOS.com	8th Annual Golden Ace Award for Science
MarcoPolo Education Foundation	Science NetLinks
Maxim Magazine	Guide to the Web—Hot 99 Sites
NASA Goddard Space Flight Center (GSFC)	NASA GSFC Award for Excellence in Outreach
NASA Jet Propulsion Laboratory	NASA Exceptional Achievement Medal
NASA Jet Propulsion Laboratory	NASA Group Achievement Award
NASA Jet Propulsion Laboratory (JPL)	NASA JPL Award for Excellence (Quality)
National Academy Press	Coolest Science Site
National Science Teachers Association (NSTA)	NSTA sciLINKS
National Science Teachers Association (NSTA)	NSTA sciLINKS
New Scientist Magazine	Web Pick
PC World Magazine	Best of the Web
President of the United States	Presidential Meritorious Executive Award
Suite101.com	Top Five Web Sites: Science
Time Warner Cable	Best of the Web
UKBest50	Best 50 Astronomy Sites
USA Today	Hot Site
Yahoo! International	Best Spanish Science and Technology Web Site
Yahoo.com	Yahoo! Picks
Yahoo.com	Yahooligan's Five Coolest Sites

Recipient	
Mission/Program	**Activity/Person**
Galileo	Galileo: Journey to Jupiter Web Site
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
New Millennium	Space Place Web Site
Hubble Space Telescope/ViewSpace	John Stoke
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Navigator	Planet Quest: The Search for Another Earth
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Navigator	Planet Quest: The Search for Another Earth
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Navigator	Planet Quest: The Search for Another Earth
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Solar System Exploration Theme Lead	NASA Solar System Exploration Web Site
Hubble Space Telescope	Hubble Space Telescope Online Outreach
Solar and Heliospheric Observatory (SOHO)	Dr. Steele W. Hill
New Millennium/Space Place	Nancy Leon
Mars Public Engagement Program	Odyssey Mars Orbit Insertion
Solar System Exploration Forum	Rosalie Betrue, Rebecca Knudsen, Edward Gonzales
Navigator	Planet Quest: The Search for Another Earth
Astromaterials Program	Astromaterials Curation Web Site
Hubble Space Telescope	Amazing Space
Hubble Space Telescope	Hubble Space Telescope Online Outreach
Hubble Space Telescope	Hubble Space Telescope Online Outreach
Office of Space Science Education and Public Outreach Program	Dr. Jeffrey D. Rosendhal
Hubble Space Telescope	Hubble Space Telescope Online Outreach
Navigator	Planet Quest: The Search for Another Earth
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Science Data and Computing Technology Program	Science@NASA
Navigator	Planet Quest: The Search for Another Earth
Navigator	Planet Quest: The Search for Another Earth

APPENDIX G. NASA Education Leads

The Office of Space Science (OSS) Education and Public Outreach (E/PO) program products and activities described in this report are only one part of a broad, coordinated NASA Education Program that is led by the NASA Office of Education and spans all of the NASA Strategic Enterprises and Field Centers. The persons responsible for conducting education programs at each of these locations are listed below.

NASA HEADQUARTERS

Office of Education
Dr. Adena Williams Loston
Associate Administrator for Education
NASA Headquarters
Code N
202-358-0103
Adena.Loston@nasa.gov
http://education.nasa.gov/

Office of Aerospace Technology
Mr. Bill Anderson
NASA Headquarters
Code RP
202-358-4732
William.e.Anderson@nasa.gov
http://www.aerospace.nasa.gov/edu/

Office of Biological and Physical Research
Ms. Bonnie McClain
Chief, Education
NASA Headquarters
Code U
202-358-2181
Bonnie.j.McClain@nasa.gov
http://spaceresearch.nasa.gov/fun_learning/edu.html

Office of Earth Science
Dr. Ming-Ying Wei
Manager, Earth Science Enterprise Education Programs
NASA Headquarters
Code YO
202-358-0771
Ming-Ying.Wei-1@nasa.gov
http://www.earth.nasa.gov/

Office of Space Flight
Mr. Melvin De Gree
NASA Headquarters
Code MP
202-358-4779
Melvin.Degree-1@nasa.gov
http://spaceflight.nasa.gov

Office of Space Science
Dr. Jeffrey Rosendhal
Education and Public Outreach Director
NASA Headquarters
Code S
202-358-2470
Jeffrey.d.Rosendhal@nasa.gov
http://spacescience.nasa.gov/education/

NASA CENTERS

NASA Ames Research Center (ARC)
Mr. Donald James
Director of Education
NASA Ames Research Center
650-604-4967
http://www.arc.nasa.gov/kids.html

NASA Dryden Flight Research Center (DFRC)
Ms. Jennifer L. Baer-Riedhart
Chief, Public Affairs, Commercialization, and Education Office
NASA Dryden Flight Research Center
Mail Stop 4839A
661-276-3689
http://www.dfrc.nasa.gov/Education/

NASA Glenn Research Center (GRC)
Mr. John Hairston, Jr.
Director of Education
NASA Glenn Research Center
External Programs Directorate
216-433-8686
http://www.grc.nasa.gov/Doc/educatn.htm

NASA Goddard Space Flight Center (GSFC)
Dr. Robert Gabrys
Director of Education
NASA Goddard Space Flight Center
301-286-7205
http://education.gsfc.nasa.gov/

NASA Jet Propulsion Laboratory (JPL)
Dr. Parvin Kassaie
Director of Education
NASA Jet Propulsion Laboratory
Mail Stop 180-109
818-354-8814
http://education.jpl.nasa.gov/

NASA Johnson Space Center (JSC)
Mr. Mike Kincaid
Chief, Education and Student Programs Branch
NASA Johnson Space Center
Human Resources Office/AH2
281-483-6848
http://education.jsc.nasa.gov/

NASA Kennedy Space Center (KSC)
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APPENDIX H. Geographical Index

This index lists by geographical location the institutions and organizations involved in the Office of Space Science (OSS) Education and Public Outreach (E/PO) program during FY 2002. It includes institutions and organizations that contributed to leading the E/PO efforts of OSS missions or programs, carrying out OSS E/PO activities, developing new OSS E/PO products, serving as host sites for OSS E/PO events or exhibits, and/or to serving as the media outlet for OSS E/PO materials or programs. The numbers in the brackets to the right of each listing refer to entries in Appendix A or B in which the institution's or organization's participation is described.

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Analemma Society [A337]

Hampton
Hampton Public Library [A32]
Hampton University [A32]
NASA Langley Research Center [A32, A210, A236, A239, A270, A271, A282, A381]
Virginia Air and Space Museum [A10, A22, A32, A187, A210, A376]
Virginia Space Grant Consortium [A376]

Harrisonburg
Massanutten Regional Library [A363]
National Teacher Training Institute [A194]
WVPT-TV, Channel 51/Harrisonburg [A270]

Herndon
Herndon High School [A336]
St. Joseph's Parochial School [A363]

Manassas
Saunders Middle School [A336]

Norfolk
Cooperating Hampton Roads Organizations for Minorities in Engineering (CHROME) [A32]
Norfolk State University [A38, A165]
Old Dominion University [A245]
WHRO-TV, Channel 15/Norfolk [A270]

Portsmouth
Portsmouth Museums [A370]
Renaissance Hotel [A37]

Radford
Radford University [A2]

Reston
American Institute for Aeronautics and Astronautics [A271]
Technology and Children Magazine [A368]
The Technology Teacher [A369]

Richmond
Brookland Middle School [A207]
Ethyl Universe Planetarium [A370]
Science Museum of Virginia [A207]

Virginia Academy of Science	[A32]
Virginia Educational Satellite Network	[A236, A270]

Roanoke

WBRA-TV, Channel 15/Roanoke	[A270]
WMSY-TV, Channel 52/Marion	[A270]
WSBN-TV, Channel 47/Norton	[A270]

St. George

Blue Ridge School	[A363]

Vienna

Flint Hill Elementary School	[A363]

Virginia Beach

Boy Scouts	[A363]
Kiwanis Club	[A363]
North Landing Elementary School	[A363]
Redwing Park	[A363]
Virginia Beach Central Library	[A363]

Winchester

Shenandoah Valley Discovery Museum	[A370]

Washington

Airway Heights

Sunset Elementary School	[A363]

Anacortes

Flounder Bay Cafe	[A363]
Guemes Island Community Center	[A363]
Guemes Isle Community Church	[A363]
Village Pizza	[A363]

Battle Ground

Battle Ground Lake State Park	[A363]
Maple Grove Middle School	[A363]

Bothell

Cedar Wood Elementary School	[A201]
Northshore Pool	[A363]

Castle Rock

Seaquest State Park	[A363]

Cheney

Eastern Washington University	[A207]

Edgewood

Alice V. Hedden Elementary School	[A211]

Everett

The Boeing Company	[A271, A363]

Fairchild Air Force Base

Fairchild Air Force Base Youth Center	[A370]

Fairfield

Young Amateur Astronomers Club	[A363]

Ferndale

Whatcom Association of Celestial Observers	[A334]

Forks

Olympic Resource Education Center	[A207]

Fort Lewis

Fort Lewis Youth Services	[A370]

Issaquah

Illusionz Entertainment Center	[A363]

Kenmore

Bastyr University	[A363]

Liberty Lake

Liberty Lake Elementary School	[A363]

Lynnwood

KSER Radio	[A363]
Meadowdale Middle School	[A264, A265]

Marysville

Marysville Co-op Elementary School	[A363]

Milton

Discovery Primary School	[A211]
Endeavor Intermediate School	[A261]

Mount Vernon

Best Western Conference Center	[A363]
Mount Vernon Senior Center	[A363]

North Bend

Cedar River Watershed Education Center	[A363]

Orting

Orting Middle School	[A264, A265]
Ptarmigan Ridge Intermediate School	[A264]

Port Angeles

Juan de Fuca Festival	[A363]
Olympic National Park	[A343, A363]
Vern Burton Center	[A280, A343]

Pullman

Washington State University	[A383]

Seattle

Ballard Firehouse	[A363]

Boeing Astronomy Club [A363]
Museum of Flight [A336, A363]
Pacific Science Center [A363]
Seattle Waldorf School [A363]
University of Washington [A53, A60, A163, A187, A195, A207, A255, A315, A346, A364, B21]
Washington Space Grant Consortium [A163]

Spokane
Chester Elementary School [A363]
Cub Scout Den #7 [A363]
Girl Scouts Space Day Camp [A363]
Roosevelt Elementary School [A277]
Spokane Astronomical Society [A334, A363]
Spokane Central Lions Club [A363]
Spokane Daybreak Rotary Club [A363]
Spokane Falls Community College [A363]
Step Star Network's Young Astronauts [A336]
Washington State University [A363]

Tacoma
Port Defiance Zoo and Aquarium [A370]

Vancouver
Hazel Dell Sewer District [A363]
Shahala Middle School [A363]

Veradale
Sunrise Elementary School [A363]

Woodinville
Woodinville Library [A363]
Woodinville Weekly Newspaper [A363]

Yakima
Yakima Conference Center [A207]

West Virginia

Beckley
WSWP-TV, Channel 9/Beckley [A270]

Charleston
National Youth Science Foundation [A262]

Elkins
Davis & Elkins College [A148]

Fairmont
Fairmont State College [A336]

Glenville
Glenville State College [A363]

Hambleton
Tucker Valley Elementary/Middle School [A363]

Huntington
West Virginia Educational Broadcasting Authority [A236]
WPBY-TV, Channel 33/Huntington [A270]

Kingwood
Kingwood Elementary School [A336]

Morgantown
Morgantown Public Library [A370]
West Virginia University [A381]
WNPB-TV, Channel 24/Morgantown [A270]

Moundsville
Grand Vue Park [A363]

Parkersburg
Parkersburg Public Library [A370]

Parsons
Parsons Public Library [A363]
The Parsons Advocate [A363]

Wellsburg
Wellsburg Primary School [A363]

West Liberty
West Liberty College [A363]

Wheeling
Oglebay's Good Zoo & Benedum Planetarium [A370]
Wheeling Jesuit University [A187, A200, B17]

Wisconsin

Amery
Amery High School [A207]

Cable
Cable Natural History Museum [A370]

De Pere
Space Explorers, Inc. [A207]

Franklin
Wehr Nature Center [A207]

Green Bay
Brown County Arena [A207]
Holiday Inn [A207]
Lombardi Middle School [A207]
Space Education Initiatives, Inc. [A135, A207]
Space Explorers, Inc. [A207, A236]

Howard
Bay Port High School [A207]

Kenosha
Kenosha Public Museum [A363]

La Crosse
Children's Museum of La Crosse [A370]
Onalaska High School [A207]

Madison
4-H Wisconsin [A322]
Madison Metropolitan School District [A288]
University of Wisconsin-Madison [A204, A288, A294, A336]
Wisconsin Department of Public Instruction [A239]
Wisconsin Educational Telecommunications Board [A236, A270]

Milwaukee
Milwaukee Public Schools [A135, A207]
University of Wisconsin-Milwaukee [A207]
West Milwaukee Middle School [A207]

Oregon
Oregon High School [A207]

Racine
Wisconsin Parkside University [A207]

Rhinelander
Tesomas Scout Ranch [A363]

Shawano
Shawano Church [A207]

Sheboygan
Ice Age Nature Center [A363]
Maywood Park [A363]
Optimist Club [A363]
Sanderling Nature Center [A363]
University of Wisconsin-Sheboygan [A363]

Stevens Point
Central Wisconsin's Children's Museum [A370]

Sturgeon Bay
Cross Roads Learning Center [A295]

Wausau
Newmann High School [A363]
University of Wisconsin-Marathon County [A363]

Williams Bay
Yerkes Observatory [A209, A268]

Wyoming

Buffalo
Johnson County Library [A370]
Wyoming Library Association [A322]

Casper
Casper Planetarium [A29, A363, A370]
Woods Learning Center [A363]

Douglas
Douglas Grade School [A363]

Laramie
University of Wyoming [A339]
Wyoming Space Grant Consortium [A163]
Wyoming State Science Fair [A210, A339]

Riverton
Wyoming Public Television [A270]

Rock Springs
Rock Springs Public Library [A370]

Sheridan
Sheridan County Public Library [A370]

Worland
Worland Middle School [A363]

Yellowstone National Park
National Park Service [A392]

International

Canada

Kelowna
Daily Courier [A371]

Montreal
Telequebec [A270]

Vancouver
Society of Canadian Women in Science and Technology [A384]

Germany

Berlin
Curtius Elementary School [A336]
Technical University of Berlin [A327]

Obercunnersdorf
Nach Clausnitzers [A327]

Wilhelm Tempel Schuele [A327]

Mexico

Tecate

Tecate Elementary School [A363]

New Zealand

Aukland

Meteorite Quarterly Magazine [A363]

Dunedin

National Geographic/
Natural History New Zealand [A385]

Spain

Barcelona

University of Barcelona [A179]

United Kingdom

Birmingham

Abbey Junior School [A336]

Bristol

University of Bristol [A259, A320]

Cumbria

Cockermouth Astronomical Society [A372]

Godalming

The Science Discovery Clubs Network [A381]

APPENDIX I. Mission/Program Acronym Index

Listed below are the more than 100 Office of Space Science (OSS) missions and programs that contributed to OSS Education and Public Outreach (E/PO) program activities in FY 2002. The listing is alphabetized by acronym, with the exception that missions/programs without acronyms are inserted alphabetically according to their full name. Numbers in brackets to the right of each entry refer to that mission or program's listing in Appendix B.

Acronym	Mission/Program	Reference in Appendices
	2001 Mars Odyssey	B49
2MASS	Two Micron All Sky Survey	B36
ACCESS	Advanced Cosmic-ray Composition Experiment for the Space Station	B84
ACE	Advanced Composition Explorer	B98
Adler	Adler Center for Space Science Education	B5
AIM	Aeronomy of Ice in the Mesosphere	B99
AMS-2	Alpha Magnetic Spectrometer	B85
ARISE	Advanced Radio Interferometry between Space and Earth	B66
ASO Forum	Astronomical Search for Origins Forum	B11
	Astro-E2	B87
Astromaterials	Astromaterials Program	B59
BeppoSAX	Satellite per Astronomia X	B91
	Cassini/Huygens Probe	B37
CATSAT	Cooperative Astrophysics and Technology Satellite	B73
CGRO	Compton Gamma-Ray Observatory	B68
Challenger Center	Challenger Center for Space Science Education	B6
CHIPS	Cosmic Hot Interstellar Plasma Spectrometer	B75
	Cluster II	B109
COBE	Cosmic Background Explorer	B74
Con-X	Constellation X	B69
CONTOUR	Comet Nucleus Tour	B41
CXO	Chandra X-Ray Observatory	B67
	Dawn	B42
	Deep Impact	B43
DePaul B/F	DePaul Broker/Facilitator	B15
DPSO	Discovery Program Support Office	B40
DS-1	Deep Space 1 [New Millennium]	B61
DSMS	Deep Space Mission System	B60
	Europa Orbiter	B58
EUVE	Extreme Ultraviolet Explorer	B76
FAST	Fast Auroral Snapshot Explorer	B100
FIRST	Herschel Space Observatory	B88
FUSE	Far-Ultraviolet Spectroscopic Explorer	B26
GALEX	Galaxy Evolution Explorer	B77
	Galileo	B38
	Genesis	B44
	Geotail	B110
GLAST	Gamma-ray Large Area Space Telescope	B70
GP-B	Gravity Probe B Relativity Mission	B71
HEASARC	High-Energy Astrophysics Science Archive Research Center	B86
HETE-2	High Energy Transient Explorer 2	B78
HST	Hubble Space Telescope	B22
IDEAS	Initiative to Develop Education through Astronomy and Space Science	B1
IMAGE	Imager for Magnetopause-to-Aurora Global Exploration	B102
IMP-8	Interplanetary Monitoring Platform	B103
INTEGRAL	International Gamma-Ray Astrophysics Laboratory	B89
IS	Interstellar Probe	B95

ISTP	International Solar-Terrestrial Physics Program Office	B108
JPL SSE Theme	Jet Propulsion Laboratory Solar System Exploration Theme Lead	B39
JWST	James Webb Space Telescope	B23
KECK	Keck Interferometer	B29
LBTI	Large Binocular Telescope Interferometer	B30
LISA	Laser Interferometer Space Antenna	B72
LPI B/F	Lunar and Planetary Institute Broker/Facilitator	B16
LWS	Living With a Star	B119
MAP	Microwave Anisotropy Probe	B79
Mars E/PO	Mars Public Engagement	B48
	Mars Express	B63
	Mars NetLander	B64
	Mars Pathfinder	B52
	Mars Scout	B55
MARSSB	Mid-Atlantic Region Space Science Broker/Facilitator	B17
MER	Mars Exploration Rover Mission	B50
MESSENGER	Mercury Surface, Space Environment, Geochemistry and Ranging	B45
MGS	Mars Global Surveyor	B51
MI Initiative	Minority Institution Initiative	B2
MMS	Magnetospheric Multiscale	B115
MRO	Mars Reconnaissance Orbiter	B53
MSC	Michelson Science Center	B28
MSL	Mars Science Laboratory	B54
NAI	NASA Astrobiology Institute	B35
Navigator	Navigator Program	B27
NEAR	Near-Earth Asteroid Rendezvous	B46
NEAT	Near-Earth Asteroid Tracking	B62
NESSIE B/F	New England Space Science Initiative in Education Broker/Facilitator	B18
OP E/PO	Outer Planets/Education and Public Outreach Program	B57
OSS/Outreach	OSS Outreach Activities	B7
OSS/Sci. Ctr. Dev.	OSS Science Center Development	B8
P2K	Passport to Knowledge	B9
PI	Planetary Imager	B31
Planck	Planck Surveyor	B90
	Polar	B111
RHESSI	Reuven Ramaty High Energy Solar Spectroscopic Imager	B101
	Rosetta	B65
RXTE	Rossi X-ray Timing Explorer	B80
S2N2 B/F	Space Science Network Northwest Broker/Facilitator	B21
SAMPEX	Solar Anomalous and Magnetospheric Particle Explorer	B104
SECEF	Sun-Earth Connection Education Forum	B14
SERCH B/F	Southeast Regional Clearinghouse Broker/Facilitator	B19
SEU Forum	Structure and Evolution of the Universe Forum	B13
SIM	Space Interferometry Mission	B32
SIRTF	Space Infrared Telescope Facility	B24
SNOE	Student Nitric Oxide Explorer	B105
SOFIA	Stratospheric Observatory for Infrared Astronomy	B25
SOHO	Solar and Heliospheric Observatory	B112
	Solar-B	B116
SPIDR	Spectroscopy and Photometry of the IGMs Diffuse Radiation	B81
SRT	Supporting Research and Technology	B3
SSE Forum	Solar System Exploration Forum	B12
SSI B/F	Space Science Institute Broker/Facilitator	B20
ST-3	StarLight [New Millennium]	B33
ST-5	Space Technology-5 [New Millennium]	B120

STARBASE	Students Training for Achievement in Research Based on Analytical Space Science Experiences	B10
	Stardust	B47
STEREO	Solar-Terrestrial Relations Observatory	B117
STP	Solar-Terrestrial Probes Program Office	B114
SWAS	Submillimeter Wave Astronomy Satellite	B82
Swift	Swift Gamma-Ray Burst MIDEX Mission	B83
SXG	Spectrum-X-Gamma	B92
TIMED	Thermosphere Ionosphere Mesosphere Energetics and Dynamics	B118
TPF	Terrestrial Planet Finder	B34
TRACE	Transition Region and Coronal Explorer	B106
TWINS	Two Wide-angle Imaging Neutral-atom Spectrometers	B107
	Ulysses	B96
URCs	University Research Centers at Minority Institutions	B4
	Viking	B56
	Voyager	B97
VSOP	VLBI Space Observatory Programme	B93
	Wind	B113
XMM-Newton	X-ray Multi-mirror Mission	B94
	Yohkoh	B121

APPENDIX B. Directory of OSS E/PO Programs

This directory provides overview information on the overall Education and Public Outreach (E/PO) program activities of each Office of Space Science (OSS) mission or program. Each listing contains the following information:

Title:
Title of the mission or program.

Description:
Overview description of the E/PO activities conducted by the mission or program.

Lead:
Person or organization with lead E/PO responsibility for the mission or program.

Contact:
Person or organization with contact E/PO responsibility for the mission or program.

URL:
Web address for further information on the mission's or program's E/PO activities.

Activities (or Grants):
Indexed listing of all E/PO products and activities conducted or supported by the mission or program (or of all active E/PO grants supported by the program).

The listings are grouped into categories as follows:

Office of Space Science
Grants Programs
Major Partnerships

Education and Public Outreach (E/PO) Support Network
Forums
Broker/Facilitators

Astronomical Search for Origins (ASO) Missions
Major Missions
Explorers
Navigator
Other NASA Programs

Solar System Exploration (SSE) Missions
Major Missions
Discovery
Mars Exploration Program
Outer Planets Program
Other NASA Programs
International Missions with NASA Participation

Structure and Evolution of the Universe (SEU) Missions
Major Missions
Explorers
Attached Payloads
Other NASA Programs
International Missions with NASA Participation

Sun-Earth Connection (SEC) Missions
Major Missions
Explorers
International Solar-Terrestrial Physics (ISTP)
Solar-Terrestrial Probes (STP)
Other NASA Programs
International Missions with NASA Participation

OFFICE OF SPACE SCIENCE

Grants Programs

B1. Initiative to Develop Education through Astronomy and Space Science (IDEAS)

Description: The IDEAS Grant Program is one component of the NASA Office of Space Science (OSS) education and public outreach (E/PO) strategy. It is administered by the Space Telescope Science Institute (STScI) on behalf of NASA OSS. As part of the overall OSS E/PO program, the IDEAS Grant Program provides start-up funding for innovative, creative education and public outreach projects that feature active collaboration between astronomers/space scientists and formal/informal education professionals. Through this effort, the IDEAS objective is to enhance science, mathematics, and/or technology education in the United States for K-14 students, teachers, and the general public by promoting partnerships that explore new ways to translate astronomy and space science into contexts that will educate and stimulate the interest of students, teachers, and the general public. The reporting programs have completed their projects which span multiple years. Thirteen new proposals were selected for funding in FY 2002.

Contact: Ms. Heather Bradbury, Space Telescope Science Institute, Formal Education Division, 3700 San Martin Drive, Baltimore, MD 21218.
E-mail: *hbradbur@stsci.edu.* Phone: 410-338-4968.

URL: *http://ideas.stsci.edu/*

Grant(s):
A Multi-Wavelength International Exploration of the Universe [A247]
Acknowledging Under-Resourced Outer Reaches of Alaska (AURORA) [A248]
Astronomy Foundations Through Art and Paper Plates (AFTAPP)—Serving the Universe on a Paper Plate [A68]
Connections: Image Processing, Mars, and Science [A149]
Did You See the Moon Last Night? [A154]
Institute of Astronomy for Elementary Science Teachers [A174]
Project REACH for the Stars [A196]
Project SEARCH [A197]
Project SPARK—Student Program for Aeronautics Resources and Knowledge (SPARK) [A288]
Space Science Education at the University of Wisconsin [A294]
Teacher Training to Enhance Space Science Curriculum [A242]
The Dynamic Sun Planetarium Project [A4]

B2. Minority Institution Initiative (MI Initiative)

Description: The Office of Space Science (OSS) and the Office of Equal Opportunity Programs Minority University Education and Research Partnership Initiative in Space Science is a grant program with the long-term goals of enhancing minority college and university participation in space science and increasing the understanding of science, technology, and the role of research in contemporary society in a broad and diverse segment of the American population. It emphasizes partnerships among OSS, the space science research community, and Minority Institutions. During FY 2002, 15 projects were funded under this initiative, including 6 at Historically Black Colleges or Universities, 3 at Hispanic Serving Institutions, 3 at Tribal Colleges, and 3 at other Minority Institutions. Collectively, they were engaged in research collaborations with 9 NASA space science missions or suborbital projects and in more than 30 working partnerships with major space science research groups. In academic programs, they established on their campuses 22 new or redirected space science faculty positions, 11 new or revised space science degree programs, and 66 new or revised space science courses. They also engaged in a wide variety of teacher training, precollege outreach, and public outreach programs that serve constituencies in their local communities.

Lead Dr. Philip Sakimoto, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *phil.sakimoto@hq.nasa.gov.* Phone: 202-358-0949.

Grant(s):
A Space Science Curriculum at Hampton University: Development of a Minor, Faculty Enhancement, and K-14 Outreach [A32]
An Urban Outreach Program in Space Science: A Collaborative Effort Among NASA, Hispanic-Serving and Black Universities, and School Age Minority Students [A33]
Astronomy and Astrophysics Course Development at Salish Kootenai College [A34]
Collision Processes in Astrophysical Plasmas [A35]
Connecting Sun City with Sun-Earth Connections [A36]
Enhancement of the Space Science Research Program at South Carolina State University [A37]

NASA-HBCU Partnership To Enhance Minority Education and Research Participation in the Space Sciences [A38]
New Opportunities Through Minority Initiatives in Space Science [A39]
New York City Space Science Research Alliance [A40]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]
Southwest Internet Program for the Enhancement of Minority Education [A43]
Space Science Education and Sun-Earth Connection [A44]
Stars on Earth: Providing Underrepresented New Mexico High School Students with Research Experience in Space Science and Preparation for Math, Science, and Technology [A45]
York College Observatory Educational Outreach Program (YCOOP) [A46]

B3. Supporting Research and Technology (SRT)

Description: The NASA Office of Space Science (OSS) SRT Program provides grants for basic research and instrument development and data analysis for OSS missions. Each grantee also has the opportunity to propose a supplementary education and public outreach (E/PO) project to be conducted in conjunction with the research project. The outcomes of the funded E/PO projects are reported here.

Contact: Dr. Larry Cooper, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *Larry.P.Cooper@nasa.gov.* Phone: 202-358-1531.

URL: *http://spacescience.nasa.gov/education/scientists/index.html*

Grant(s): A Space Science Module for Los Alamos Space Science Outreach (LASSO) [A138]
A Tale of Two Deserts: Training Educators to Understand Water-Formed Features in the Desert Southwest and on Mars Using Image-Based Exercises [A139]
Astromaterials-Astrobiology Student Presentations [A257]
Heliostat Spectroscopy [A18]
Lesson Plan Development: Convection, Spectroscopy, and Velocity and Acceleration [A234]
NASA-HBCU Partnership To Enhance Minority Education and Research Participation in the Space Sciences [A38]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Regional Planetary Image Facility (RPIF) Open Houses [A354]
Regional Planetary Image Facility (RPIF) Teacher Workshops [A198]
Rocks from Space in the Classroom [A238]
"Rocks from Space" Teacher Workshops [A199]
Science Education Gateway/National Virtual Observatory [A358]
Science@NASA [A359]
Space Science Education at the University of Wisconsin [A294]
Studies of Solar Magnetic Fields and Solar Activity [A377]
Windows to the Universe [A245]

B4. University Research Centers at Minority Institutions (URCs)

Description: The URCs at Minority Institutions is an Office of Equal Opportunity Programs (OEOP)-managed program that is intended to achieve a broadly based, competitive aerospace research capability at Historically Black Colleges and Universities (HBCUs) and Other Minority Universities (OMUs) that will 1) expand the Nation's base for aerospace research and development, 2) foster new aerospace science and technology concepts, 3) develop mechanisms for increased participation by faculty and students of HBCUs and OMUs in the research programs of NASA's science and technology Enterprises, and 4) increase the numbers of underrepresented minorities at HBCUs and OMUs who attain advanced degrees in NASA-related fields. Each URC is a multidisciplinary scientific or engineering research center at the host university that contributes to the research program of one or more of the NASA Strategic Enterprises. The Office of Space Science provides funding and technical support to URCs that are working in space science areas.

Lead: Dr. Jeffrey Rosendhal, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *jeffrey.rosendhal@hq.nasa.gov.* Phone: 202-358-2470.

Grant(s): Center for Automated Space Science [A47]

Major Partnerships

B5. Adler Center for Space Science Education (Adler)

Description: The Center for Space Science Education at the Adler Planetarium and Astronomy Museum serves as a nexus between the research and education communities. Its goal is to bring a broad program of astronomy and space science education to the half-million annual visitors to the museum and to reach beyond the traditional museum setting to provide educational support for students, teachers, and families.

Lead: Dr. Paul Knappenberger, Adler Planetarium and Astronomy Museum, 1300 S. Lake Shore Drive, Chicago, IL 60605.
E-mail: *paul@adlernet.org.* Phone: 312-322-0325.

URL: *http://adlerplanetarium.org*

B6. Challenger Center for Space Science Education (Challenger Center)

Description: The Challenger Center for Space Science Education is a global, not-for-profit education organization. Our mission is to use the excitement of space exploration as a theme to create positive learning experiences that raise students' expectation of success; foster in them a long-term interest in mathematics, science, and technology; and help them develop critical communication, decisionmaking, and team-building skills. Challenger Center works to develop and maintain a scientifically literate world where every individual has a reasonable understanding of science, mathematics, and technology, and the role they play in our lives. During the past 16 years, Challenger Center has proven its commitment to education through a wide variety of innovative educational programs. Each program is designed to help improve math and science scores. Challenger Center employs three astrophysicists who work as both educators and researchers. As researchers, they work part-time focusing on their individual research interests. As educators, they serve as science content reviewers and writers, workshop leaders, featured speakers, and speakers in the classroom and in other venues. Challenger Center's staff scientists reach thousands of educators, students, parents, and members of the general public each year. "Window on the Universe" and "Voyage: A Journey Through Our Solar System" are two of the Challenger Center's education and public outreach programs that are funded in part by NASA's Office of Space Science. "Window on the Universe" is an education initiative that uses the fields of human space flight and the space sciences to engage entire communities in sustained science, mathematics, and technology education. "Voyage" is a permanent, outdoor scale model of our Solar System on The National Mall.

Lead: Dr. Jeffrey Goldstein, Challenger Center for Space Science Education, 1250 North Pitt Street, Alexandria, VA 22314.
E-mail: *journey@challenger.org.* Phone: 703-683-9740.

URL: *http://www.challenger.org*

Activities: Journey through the Universe [A52]

B7. OSS Outreach Activities (OSS/Outreach)

Description: In keeping with our education outreach goal of enhancing the quality of education, the Office of Space Science (OSS) participates in a number of education and outreach activities at both the regional and national levels. OSS supports a number of regional and national education conferences that are attended by thousands of educators in mathematics, science, and technology. OSS supports various professional conferences that are attended by thousands of scientists from all fields of space science. Such activities at these conferences usually entail showcasing an exhibit, distributing educational and outreach material (lithograph sets, posters, educator guides, strategic plans, etc.), conducting educational workshops, giving keynote speeches, highlighting various space science Web pages, and having NASA employees and scientists answer questions about space science. Finally, OSS staff members participate in more localized events such as conducting talks in local classrooms.

Lead: Ms. Ruth Netting, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *rnetting@hq.nasa.gov.* Phone: 202-358-0539.

URL: *http://spacescience.nasa.gov/education*

Activities: Professional Societies of Minority Scientists/OSS Collaboration [A57]
U.S. Physics Team Tribute [A387]

B8. OSS Science Center Development (OSS/Sci. Ctr. Dev.)

Description: In keeping with our public outreach goal of sharing the excitement of space science discoveries with the public, the Office of Space Science supports a number of major development projects at science centers and

planetariums across the country. Such projects typically entail the development or renovation of exhibit galleries or planetariums, coupled with the development of new exhibits, shows, and education programs that are based on the results of recent NASA space science missions and discoveries. These efforts make a substantial contribution to the general public's understanding of science and to communicating to students and the public the new understanding of the Universe as it has been derived from NASA's space science program.

Lead: Dr. Jeffrey Rosendhal, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *jeffrey.rosendhal@hq.nasa.gov.* Phone: 202-358-2470.

Contact: Dr. Philip Sakimoto, NASA Office of Space Science, Code S, Washington, DC 20546.
E-mail: *phil.sakimoto@hq.nasa.gov.* Phone: 202-358-0949.

URL: *http://spacescience.nasa.gov/education*

Activities: Museum of Discovery and Science/NASA Space Science Education Partnership [A25]
National Convention for the National Science Teachers Association (NSTA) [A348]
South Carolina State Museum Observatory, Planetarium, and Theater Project [A28]

B9. Passport to Knowledge (P2K)

Description: P2K is a series of interactive learning adventures that connect essential life, Earth, space, and physical science concepts with exciting real-world phenomena. P2K uses a powerful, integrated suite of video programs, hands-on activities, and online resources to deliver real science, real scientists, real locations, and real learning, while students experience some of the most exciting and challenging places on Earth and beyond.

Lead: Mr. Geoffrey Haines-Stiles, Geoff Haines-Stiles Productions, 27 Washington Valley Road, Morristown, NJ 07960.
E-mail: *ghs@passporttoknowledge.com.* Phone: 973-656-9403.

URL: *http://passporttoknowledge.com*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
"Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]

B10. Students Training for Achievement in Research Based on Analytical Space Science Experiences (STARBASE)

Description: STARBASE is a combination of dedicated hardware, professional astronomers, teachers, and students who are working together in scientific investigations and education. The purpose is to involve motivated high school and college students as direct and integral participants in the research of space scientists. The initial efforts are centered on developing the first two nodes in a network of longitudinally spaced, meter-class, CCD-imaging telescopes that can be operated remotely or robotically over the Internet or operated locally for training and research. A 0.6-meter telescope at Western Kentucky University and the 1.3-meter Remotely Controlled Telescope (RCT) at Kitt Peak National Observatory are being refurbished and automated. A network of universities that share common interests in research and education is being developed, and more than a dozen undergraduate students are currently involved in developing various aspects of STARBASE.

Lead: Dr. Charles McGruder, Western Kentucky University, Department of Physics and Astronomy, Bowling Green, KY 42101.
E-mail: *charles.mcgruder@wku.edu.* Phone: 270-745-4357.

Activities: Hands-On Universe Workshop [A268]
Public Education in Astronomy [A352]
STARBASE Teachers and Students [A295]

EDUCATION AND PUBLIC OUTREACH (E/PO) SUPPORT NETWORK

Forums

B11. Astronomical Search for Origins Forum (ASO Forum)

Description: The Origins program is the scientific study of the long chain of events, from the birth of the Universe in the Big Bang through the formation of galaxies, stars and planets, and the chemical elements of life to the profusion of life on Earth and possibly elsewhere. The overarching program, funded by NASA, that enables researchers to pursue these questions is called the Astronomical Search for Origins and Planetary Systems, or Origins for

short. The Forum is the public gateway to the research results, the data, the information, and the people behind this quest.

Lead: Dr. Ian Griffin, Space Telescope Science Institute, Office of Public Outreach, 3700 San Martin Drive, Baltimore, MD 21218.
E-mail: *griffin@stsci.edu.* Phone: 410-338-4567.

URL: *http://origins.stsci.edu/*

Activities: Exceptional Space Science Materials for Exceptional Students [A158]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Origins Presentations and Workshops [A192]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Science@NASA [A359]

B12. Solar System Exploration Forum (SSE Forum)

Description: The Office of Space Science Solar System Exploration Education and Public Outreach Forum serves as the entry point and coordinator for education and outreach activities and materials for NASA's Solar System exploration missions and research activities. Our content includes the planets beyond Earth, comets, asteroids, other planetary bodies, and moons.

Lead: Ms. Leslie Lowes, NASA Jet Propulsion Laboratory, Mail Stop 180-109, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Leslie.L.Lowes@jpl.nasa.gov.* Phone: 818-393-7734.

Contact: Dr. Ellis Miner, NASA Jet Propulsion Laboratory, Mail Stop 230-260, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Ellis.D.Miner@jpl.nasa.gov.* Phone: 818-354-4450.

URL: *http://sseforum.jpl.nasa.gov*

Activities: AAS Division of Planetary Sciences Activities [A394]
Exceptional Space Science Materials for Exceptional Students [A158]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
"MarsQuest" Planetarium Show [A2]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Practical Uses of Math and Science (PUMAS) [A237]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Science Education Standards Matrix (Quilt) Outreach [A240]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Science Workshops for Educators [A210]
Summer Solstice Celebration [A378]

B13. Structure and Evolution of the Universe Forum (SEU Forum)

Description: The SEU Education Forum shares the exciting discoveries and knowledge from NASA SEU missions and research programs with educators, students, and the general public. The SEU partnership brings together the rich expertise of scientists, science educators, and education researchers to develop innovative products and programs. Our goal is to contribute to the improvement of precollege science education and increase science literacy at all levels, focusing attention on the human quest to understand the Universe and our place in the cosmos.

Lead: Dr. Roy Gould, Harvard-Smithsonian Center for Astrophysics, Mail Stop 71, 60 Garden Street, Cambridge, MA 02138.
E-mail: *rgould@cfa.harvard.edu.* Phone: 617-496-7689.

Contact: Ms. Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Mail Stop 71, 60 Garden Street, Cambridge, MA 02138.
E-mail: *mdussault@cfa.harvard.edu.* Phone: 617-496-7962.

URL: *http://cfa-www.harvard.edu/seuforum/*

Activities: Authors' Nights at the Harvard-Smithsonian Center for Astrophysics (CfA) [A311]
Chandra X-Ray Center Teacher Workshops and Presentations [A148]
Children's Nights at the Harvard-Smithsonian Center for Astrophysics [A321]
"Cosmic Questions" Informal Science Education Programs [A14]
"Cosmic Questions" Interpretation/Docent Activities [A15]
"Cosmic Questions" Professional Development for Classroom Educators [A151]
"Cosmic Questions" Professional Development for Informal Science Educators [A16]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Exceptional Space Science Materials for Exceptional Students [A158]
"Exploring the Solar System: A Multisensory Approach" [A161]
"Journey to the Edge of Space and Time" Planetarium Show [A1]
MicroObservatory Online Telescopes [A281]
Monthly Observatory Nights at the Harvard-Smithsonian Center for Astrophysics [A345]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Sci-Fi Movie Nights at the Harvard-Smithsonian Center for Astrophysics [A357]
Smithsonian Teacher's Night [A206]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Structure and Evolution of the Universe (SEU) Forum Informal Science Education Programs [A375]
Structure and Evolution of the Universe (SEU) in the Classroom [A217]

B14. Sun-Earth Connection Education Forum (SECEF)

Description: The SEC Education Forum shares the exciting discoveries and knowledge from NASA Sun-Earth connection missions and research programs with educators, students, and the general public. The Sun-Earth connection partnership brings together the rich expertise of scientists, educators, and museum personnel to develop innovative products and programs. Our goal is to contribute to the improvement of precollege science education and increase science literacy at all levels, focusing attention on the active Sun and its effects on Earth.

Lead: Dr. Richard Vondrak, NASA Goddard Space Flight Center, Mail Code 690, Greenbelt, MD 20771.
E-mail: *rvondrak@pop600.gsfc.nasa.gov.* Phone: 301-286-8112.

Contact: Dr. Isabel Hawkins, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *isabelh@ssl.berkeley.edu.* Phone: 510-643-5662.

URL: *http://sunearth.gsfc.nasa.gov*

Activities: Exceptional Space Science Materials for Exceptional Students [A158]
From the Sun to the Star Nations [A50]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Interactive Exhibits at Community Events [A339]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
"Northern Lights" Planetarium Show [A3]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Shares Sun-Earth Connection Science Through Conferences [A356]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Science Workshops for Educators [A210]
"Space Weather Center" Traveling Exhibit [A12]
STEREO/IMPACT Formal Education Teacher Inservice Preparation [A213]
Sun-Earth Connection Education and Public Outreach Electronic Newsletter [A379]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]

Sun-Earth Connection Education Forum (SECEF) Formal Education Curriculum Development [A241]
Sun-Earth Connection Education Forum (SECEF) Formal Education Student Support [A297]
Sun-Earth Connection Education Forum (SECEF) Formal Education Systemic Improvement [A137]
Sun-Earth Connection Education Forum (SECEF) Informal and Public Outreach [A30]
Sun-Earth Connection Education Forum (SECEF) Outreach Workshops: Science of the Sun [A380]
Sun-Earth Connection Education Forum (SECEF) Preservice Teacher Education [A220]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Connection Education Forum (SECEF) Targeted Outreach to Native Americans [A59]
Sun-Earth Day [A381]
Workshops, Sessions, and Seminars for Scientists on K-14 Education and Public Outreach [A398]

Broker/Facilitators

B15. DePaul Broker/Facilitator (DePaul B/F)

Description: The DePaul University Broker/Facilitator assists space scientists and members of the education community in the States of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, and Wisconsin to form partnerships that realize high-leverage opportunities for education and outreach.

Lead: Dr. Lynn Narasimhan, DePaul University, Interdisciplinary Science and Technology Center, 1 East Jackson Street, Chicago, IL 60604.
E-mail: *cnarasim@depaul.edu.* Phone: 773-325-1854.

URL: *http://analyzer.depaul.edu/NASABroker/*

Activities: Chicago Teacher Advisory [A133]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Planetarium Learning and Teaching Opportunities [A27]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Small-Grants Program for Midwestern Teachers [A205]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Day in Chicago [A292]
Space Science Curriculum Development and Training for the Milwaukee Public Schools [A135]
Space Science for Illinois/Indiana Teachers [A209]

B16. Lunar and Planetary Institute Broker/Facilitator (LPI B/F)

Description: This is one of seven brokers/facilitators for education and public outreach within the NASA Office of Space Science Education Support Network. The six-State region served includes Texas, Louisiana, Oklahoma, Kansas, New Mexico, and Arizona.

Lead: Dr. Robert Herrick, Lunar and Planetary Institute, 3600 Bay Area Boulevard, Houston, TX 77058-1113.
E-mail: *herrick@lpi.usra.edu.*

URL: *http://www.lpi.usra.edu/education*

Activities: Explore! Fun with Science [A330]
Field Workshops for Scientist-Teacher Teams [A163]
Lunar and Planetary Institute (LPI) Speakers Bureau [A341]
Lunar and Planetary Science Conference (LPSC) Workshop for Scientists[A395]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Scientist-Teacher Cooperation Projects [A201]
Space Day at Bacliff, TX [A291]

B17. Mid-Atlantic Region Space Science Broker/Facilitator (MARSSB)

Description: The Mid-Atlantic Region Space Science Broker assists space scientists and members of the education community in the States of Delaware*, Kentucky*, Maryland*, New Jersey, New York, Ohio, Pennsylvania, Virginia*, West Virginia, and Washington, DC.* Its goal is to form partnerships that realize high-leverage opportunities for education and public outreach (E/PO) events and services. (*These areas are shared with the SERCH Broker/Facilitator.) The Center for Educational Technologies established the MARSSB program as a newly organized Broker/Facilitator. It has served as a regional point of contact for scientists and educators seeking

information or involvement in the Office of Space Science (OSS) E/PO program through the Web site, mailings, and personal communications. As part of its program "ramp-up," it created a database inventory of educators, scientists, and science centers in the mid-Atlantic region. This resource is designed to match individuals with institutions and groups based on the geographic location and areas of interest. MARSSB initiated contact with stakeholders in its region (such as the University of Pittsburgh and Allegheny Observatory) to introduce the services it has to offer and identify E/PO needs.

Lead: Dr. Nitin Naik, Wheeling Jesuit University, 316 Washington Avenue, Wheeling, WV 26003.
E-mail: *nitin.naik-1@nasa.gov.* Phone: 202-358-1110.

Contact: Dr. Laurie Ruberg, Wheeling Jesuit University, 316 Washington Avenue, Wheeling, WV 26003.
E-mail: *lruberg@cet.edu.* Phone: 304-243-2480.

URL: *http://www.cet.edu/ossbroker*

Activities: Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Science Education, Communication, and Math Experience (SECME) [A200]

B18. New England Space Science Initiative in Education Broker/Facilitator (NESSIE B/F)

Description: Founded in January 2002, NESSIE is the Broker/Facilitator for the New England States of Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine. NESSIE is charged with catalyzing and fostering collaborations among space scientists and educators within both the formal and informal education communities. NESSIE itself is a collaboration of scientists and science educators at the Museum of Science, Harvard-Smithsonian Center for Astrophysics, and Tufts University. Its primary goals are to 1) broker partnerships between space scientists and educators, 2) facilitate a wide range of educational and public outreach activities, and 3) examine and improve space science education methods. NESSIE's unique strengths reside in its prime location (the Museum of Science), its diverse mix of scientists and educators, and its dedicated board of advisors. NESSIE's role as a clearinghouse and facilitator of space science education is being realized through its interactive Web site and via its targeted meetings, workshops, and conferences that involve scientists and educators. Special efforts are being made to reach underserved groups by tailoring programs to their particular education needs and interests. These efforts are building on the experiences of prior and ongoing programs in space science education at the Museum of Science, Harvard-Smithsonian Center for Astrophysics, Tufts University, and NASA.

Lead: Dr. Cary Sneider, Museum of Science, Programs Division, Science Park, Boston, MA 02114-1099.
E-mail: *nessie@mos.org.* Phone: 617-589-0227.

Contact: Dr. William Waller, Museum of Science, Programs Division, Science Park, Boston, MA 02114-1099.
E-mail: *wwaller@mos.org.* Phone: 617-589-0227.

URL: *http://www.mos.org/nessie*

Activities: Current Science and Technology Center [A6]
"Exploring the Solar System: A Multisensory Approach" [A161]
New England Space Science Initiative in Education (NESSIE) Outreach to Formal Educators [A191]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]

B19. Southeast Regional Clearinghouse Broker/Facilitator (SERCH B/F)

Description: SERCH is a NASA Office of Space Science (OSS)-funded program whose purpose is to promote space science awareness and enhance interest in science, math, and technology through the use of NASA OSS mission data, information, and educational products. SERCH works closely with 14 Space Grant consortia (in Alabama; Arkansas; Washington, DC; Florida; Georgia; Kentucky; Louisiana; Maryland; Mississippi; North Carolina; Puerto Rico; South Carolina; Tennessee; and Virginia) throughout the southeastern United States. SERCH serves as a Broker and Facilitator of services between the region's education community and researchers who are involved in OSS missions. The goals of SERCH are to 1) develop a network of educators and researchers interested in space science; 2) be an effective interface between researchers and educators in the area of space science; 3) be a primary information and resource clearinghouse for space science data, information, and educational products; 4) support OSS mission scientists in their education and public outreach activities; 5) facilitate the modification of OSS materials to meet the needs of diverse education environments; 6) be a leader in serving exceptional students and the general public; 7) enhance minority involvement across NASA OSS programs; and 8) develop an accessible nationwide Geographic Information System (GIS) database that provides spatially related information of targeted NASA education resources.

Lead: Dr. Cassandra Runyon, College of Charleston, Geology Department, 66 George Street, Charleston, SC 29424.

E-mail: *cass@cofc.edu.* Phone: 843-953-8279.
URL: *http://serch.cofc.edu/serch/*
Activities: Backyard Astronomy [A312]
"Earth in Space"—Capturing Student Curiosity [A155]
Enhancement of the Space Science Research Program at South Carolina State University [A37]
Exceptional Space Science Materials for Exceptional Students [A158]
"Exploring the Solar System: A Multisensory Approach" [A161]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
South Carolina Coalition for Science and Mathematics Education (SCCSME) [A134]
STARLAB Portable Planetarium Training [A212]
Students Acquiring Real Science [A376]
Video and Laboratory Curriculum in NASA OSS Themes for DC Public Schools [A243]

B20. Space Science Institute Broker/Facilitator (SSI B/F)

Description: The Space Science Institute (SSI) of Boulder, CO, is home to one of seven regional broker/facilitator programs that support the education and public outreach (E/PO) efforts of the NASA Office of Space Science (OSS). The core mission of Broker/Facilitators is to cultivate opportunities and partnerships between the education and space science communities that can address important education needs in their respective regions. The SSI B/F program now serves a large swath of the United States, starting in the upper Midwest in North Dakota and extending to California (Arizona, California, Colorado, Nebraska, North Dakota, New Mexico, Nevada, South Dakota, and Utah). SSI is building on 4 years of "lessons learned" in the broker/facilitator role. The goals of our SSI B/F program are to provide strategically valuable support for 1) space scientists' effective E/PO involvement, 2) formal education (emphasizing State-based agendas), 3) informal education (emphasizing planetarium associations, Girl Scouts, and traveling science exhibits), and 4) underserved populations (emphasizing indigenous and Latino educators). This strategic support includes providing professional development opportunities, facilitating access to and use of exemplary materials, and facilitating E/PO participation and/or partnership. Key collaborators of the SSI B/F program include leaders from two western planetarium associations, the Girl Scouts-Mile Hi Council, mobile education programs, traveling exhibit programs, and E/PO leads at major scientific research institutions in our region. To begin to address the vastness of our region, we are developing new electronic resources (E-Brokering) that include the quarterly "Bulletin of NASA Space Science Education Opportunities in the Western U.S.," and a Web-based "Menu of Opportunities for Scientists in Education" ("MOSIE").
Lead: Dr. Cherilynn Morrow, Space Science Institute, 3100 Marine Street, Suite A353, Boulder, CO 80303-1058.
E-mail: *camorrow@colorado.edu.* Phone: 303-492-7321.
Contact: Ms. Christy Edwards, Space Science Institute, 3100 Marine Street, Suite A353, Boulder, CO 80303-1058.
E-mail: *edwardcl@colorado.edu.* Phone: 303-735-4880.
URL: *http://ssibroker.colorado.edu/broker/*
Activities: Astrobiology Workshop for Planetarium Educators [A13]
From the Sun to the Star Nations [A50]
Interactive Exhibits at Community Events [A339]
Kinesthetic Astronomy Curricular Materials Development [A233]
Mars: Informal Educator Workshops [A22]
"MarsQuest" Planetarium Show [A2]
"MarsQuest" Traveling Exhibit [A10]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Outreach to Native Americans in the Western Region [A56]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Space Science Workshops for Educators [A210]
"Space Weather Center" Traveling Exhibit [A12]
Workshops, Sessions, and Seminars for Scientists on K-14 Education and Public Outreach [A398]

B21. Space Science Network Northwest Broker/Facilitator (S2N2 B/F)

Description: S2N2 uses a variety of approaches to make formal and informal educators aware of NASA Office of Space Science (OSS) programs, materials, and opportunities. S2N2 helps to create sustainable partnerships among formal and informal educators and NASA OSS missions, forums, and space scientists. S2N2 operates by having

a central office at the University of Washington and representatives in the partner States of Washington, Arkansas, Hawaii, Oregon, Montana, Idaho, and Wyoming.

Lead: Dr. Julie Lutz, University of Washington, 60 Johnson Hall, Seattle, WA 98195-1310.
E-mail: *nasaerc@u.washington.edu.* Phone: 206-543-0214.

Activities: Field Workshops for Scientist-Teacher Teams [A163]
Office of Space Science (OSS) Conference on Education and Public Outreach [A397]
Professional Societies of Minority Scientists/OSS Collaboration [A57]
Summer Solstice Celebration [A378]
Sun-Earth Day Information for Tribal Schools [A60]

ASTRONOMICAL SEARCH FOR ORIGINS (ASO) MISSIONS

Major Missions

B22. Hubble Space Telescope (HST)

Description: The Office of Public Outreach (OPO) at the Space Telescope Science Institute (STScI) was created to share the amazing discoveries of the Hubble Space Telescope with the American public. We are privileged to be the focal point of public attention for a storied NASA/European Space Agency (ESA) space science mission to which thousands of engineers, programmers, technicians, administrators, and scientists have devoted their professional gifts. We have developed a multitude of products and programs that have capitalized on the intense interest in Hubble to inform and inspire millions of Americans and many others around the globe.

Lead: Dr. Ian Griffin, Space Telescope Science Institute, Office of Public Outreach, 3700 San Martin Drive, Baltimore, MD 21218.
E-mail: *griffin@stsci.edu.* Phone: 410-338-4567.

URL: *http://hubblesite.org/*

Activities: "Center of Galaxy M51: The Whirlpool Galaxy" [A75]
"Galaxy Hunter" [A89]
Hubble Space Telescope (HST) Amateur Astronomical Community Events [A334]
Hubble Space Telescope (HST) Formal Education [A98]
Hubble Space Telescope (HST) Speakers Bureau [A335]
Hubble Space Telescope (HST) Workshops and Presentations [A336]
Hubble Space Telescope (HST): Amazing Space [A99]
Hubble Space Telescope: Immersive Dome Visualizations for Planetariums [A19]
Hubble Space Telescope: International Planetarium Society Slide Service [A20]
Hubble Space Telescope: Online Broadcast-Quality Hubble Video Clip Library [A21]
"Hubble Space Telescope: New Views of the Universe" (version 1) [A7]
"Hubble Space Telescope: New Views of the Universe" (version 2) [A8]
Hubble Space Telescope: ViewSpace [A9]
"Mission Mastermind" [A111]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Open Night at the Space Telescope Science Institute [A351]
"Planet Impact" [A118]
Science Concepts in Context [A239]
Science@NASA [A359]
U.S. Physics Team Tribute [A387]
Windows to the Universe [A245]

B23. James Webb Space Telescope (JWST)

Description: The JWST education and public outreach program (E/PO) is led by the Office of Public Outreach (OPO) of the Space Telescope Science Institute (STScI). With the launch planned for 2009 or 2010, a modest level of resources is planned until 2006 or 2007. As OPO at STScI is also responsible for Hubble E/PO, we are using the interest in Hubble to introduce the public to this future mission as the next major leap forward in space discovery. Through the Origins Education Forum, we are keeping abreast of the activities of the SIRTF and SOFIA missions to promote public understanding of infrared light and will seek opportunities to partner with them.

One new program will be initiated in the upcoming year by the University of Arizona Near Infrared Camera (NIRCam) science team to develop astronomy camps specifically designed for Girl Scouts.

Lead: Ms. Peg Stanley, Space Telescope Science Institute, Office of Public Outreach, 3700 San Martin Drive, Baltimore, MD 21218.
E-mail: *pstanley@stsci.edu.* Phone: 410-338-4536.

URL: *http://nextgen.stsci.edu*

B24. Space Infrared Telescope Facility (SIRTF)

Description: The SIRTF Science Center's education and public outreach program is actively promoting public understanding of infrared and other invisible forms of light. We have designed a suite of Web sites, audiovisual products, and classroom activities to achieve our education goals. We are also currently conducting an international naming contest for the SIRTF spacecraft as well as preparing launch support materials.

Lead: Dr. Michelle Thaller, SIRTF Science Center/California Institute of Technology, Mail Stop 220-6, 1200 East California Boulevard, Pasadena, CA 91125.
E-mail: *thaller@ipac.caltech.edu.* Phone: 626-395-8670.

URL: *http://sirtf.caltech.edu*

Activities:
"Astronomia Multi-Onda!" [A67]
"Beyond the Visible Universe: Teaching Invisible Astronomy" [A144]
"Calor y Temperatura" [A71]
"El Experimento del Herschel!" [A84]
From the Outer Planets to the Inner City [A49]
"Heat and Temperature" Web Site [A95]
"Infrared Image Gallery" Web Site [A101]
"Infrared Yellowstone" Web Site [A102]
"Infrared Zoo" Web Site [A103]
Multiwavelength Astronomy Web Site [A112]
National Convention for the National Science Teachers Association (NSTA) [A348]
"Our Infrared World" Web Site [A117]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]
SIRTF and SOFIA Online Course [A202]
SIRTF Conference Support [A203]
SIRTF Teacher Workshops/Inservices [A204]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Infrared Telescope Facility (SIRTF) Classroom Visits [A293]
Space Infrared Telescope Facility (SIRTF) Large Public Presentations [A367]
Space Place Contributions to ITEA's "The Technology Teacher" [A369]
Space Place Newspaper Contributions [A371]
The Invisible Universe Online: The Search for Astronomical Origins for Teachers [A225]
"The Multiwavelength Universe" [A128]
"What Is It? Learn About Infrared Images" Web Site [A132]

B25. Stratospheric Observatory for Infrared Astronomy (SOFIA)

Description: SOFIA's education and public outreach (E/PO) program contributes to the improvement of the American public's scientific, mathematical, and technological literacy and to an awareness and understanding of the importance and value of research in science. SOFIA will be a world-class research observatory, designed from the ground up with the capability to allow visiting educators and journalists to closely observe and participate in the research process. SOFIA's E/PO program will bring the excitement, hardships, challenges, discoveries, teamwork, and educational value of the observatory to students (precollege, undergraduate, and graduate), teachers, and the general public on a national and international scale, as SOFIA is a joint U.S.-German project. Programs include 1) Airborne Astronomy Ambassadors—trained educators fly on research missions and compose a national network of master educators who conduct teacher workshops and public presentations; 2) Education Partners Program—SOFIA scientists, observers, instrument builders, engineers, technicians, flight crews, and educators partner with teachers in their local communities who may fly on SOFIA; 3) Science Literacy and Education Program—annual symposia are held at the SOFIA Science and Mission Operations Center for undergraduate instructors, science and technology center staff, and planetarium directors who may fly on SOFIA; 4) SOFIA Visiting Educators—each year, a small number of experienced educators will join the SOFIA E/PO staff

as flight facilitators and E/PO outreach personnel; and 5) SOFIA's Web site—the E/PO program will support a public affairs team that works closely with the NASA Office of Public Affairs to communicate SOFIA science effectively. SOFIA is being developed and will be operated for NASA and the German Aerospace Center by the Universities Space Research Association (USRA). The E/PO program is jointly conducted by the SETI Institute, the Astronomical Society of the Pacific, and members of the USRA SOFIA team.

Lead: Ms. Edna DeVore, SETI Institute, 2035 Landings Drive, Mountain View, CA 94043.
E-mail: *edevore@seti.org.* Phone: 650-960-4538.

Contact: Dr. Michael Bennett, Astronomical Society of the Pacific (ASP), 390 Ashton Avenue, San Francisco, CA 94112.
E-mail: *mbennett@astrosociety.org.* Phone: 415-337-1100.

URL: *http://sofia.arc.nasa.gov*

Activities: Active Astronomy: Classroom Activities for Learning About Infrared (IR) Light [A62]
Aeronautical Exposition for Students [A249]
Air Expo for the Public [A305]
"Astronomy at 41,000 Feet—The Story of SOFIA" [A309]
"Beyond the Visible Universe: Teaching Invisible Astronomy" [A144]
"Explore the Invisible Universe" [A159]
National Convention for the National Science Teachers Association (NSTA) [A348]
Parsons School of Design Student Web Project [A286]
SIRTF and SOFIA Online Course [A202]
SIRTF Conference Support [A203]
SIRTF Teacher Workshops/Inservices [A204]
"SOFIA—Astronomy From 41,000 Feet" [A361]
Stratospheric Observatory for Infrared Astronomy (SOFIA) Exhibit at Conferences [A215]
Stratospheric Observatory for Infrared Astronomy (SOFIA) Visitors' Center Exhibit [A374]
The Invisible Universe Online: The Search for Astronomical Origins for Teachers [A225]

Explorers

B26. Far-Ultraviolet Spectroscopic Explorer (FUSE)

Description: FUSE is designed for a very specialized and unique task that is complementary to other NASA missions. FUSE looks at light in the far ultraviolet portion of the electromagnetic spectrum (approximately 90 to 120 nanometers), which is unobservable with other telescopes. FUSE observes these wavelengths with much greater sensitivity and resolving power than instruments previously used to study light in this wavelength range. The FUSE education and public outreach program has developed educational kits for middle and high school students, conducts educator workshops, and provides exhibits for museums.

Lead: Ms. Luciana Bianchi, Johns Hopkins University Applied Physics Laboratory, 11100 Johns Hopkins Road, Laurel, MD 20723-6099.
E-mail: *bianchi@skysrv.pha.jhu.edu.* Phone: 410-516-4009.

URL: *http://fuse.pha.jhu.edu/outreach/*

Activities: Science@NASA [A359]

Navigator

B27. Navigator Program (Navigator)

Description: The Navigator projects are united in their goal to find and characterize planets like Earth in orbit around stars other than the Sun. Collectively, they represent a voyage of unprecedented scope and ambition, promising insight into humankind's most timeless questions: Where did we come from? and Are we alone? The goal of the Navigator public engagement plan is to invite all Americans to participate in this journey of discovery.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov*

Activities: From the Outer Planets to the Inner City [A49]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Minority Outreach Program [A55]

Navigator: Science Events [A349]
Navigator: Student Support [A283]
New Opportunities Through Minority Initiatives in Space Science [A39]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B28. Michelson Science Center (MSC)

Description: The Michelson Science Center is a science operations and analysis service organization for selected NASA Origins theme projects and the scientists and engineers who use them. The MSC facilitates the timely and successful execution of Origins theme science by providing software infrastructure, science operations, and consulting to Navigator projects and their user communities. The Michelson Science Center participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov/*

Activities: Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Science Events [A349]
Navigator: Student Support [A283]

B29. Keck Interferometer (KECK)

Description: The Keck Interferometer participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov*

Activities: Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Minority Outreach Program [A55]
Navigator: Science Events [A349]
Navigator: Student Support [A283]
"Planet Quest" Activities for Students [A119]
"Planet Quest: The Search for Another Earth" [A120]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B30. Large Binocular Telescope Interferometer (LBTI)

Description: The Large Binocular Telescope Interferometer participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov/*

B31. Planetary Imager (PI)

Description: The Planetary Imager participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.

URL: *http://planetquest.jpl.nasa.gov/*

B32. Space Interferometry Mission (SIM)

Description: The Space Interferometry Mission participates in the overall Navigator education and public outreach program.

Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.

E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.
URL: *http://planetquest.jpl.nasa.gov/*
Activities: National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Minority Outreach Program [A55]
Navigator: Science Events [A349]
Navigator: Student Support [A283]
"Planet Quest" Activities for Students [A119]
"Planet Quest: The Search for Another Earth" [A120]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B33. StarLight [New Millennium] (ST-3)

Description: A technology pathfinder, StarLight is a technology precursor to Terrestrial Planet Finder (TPF), a future mission designed to search for and characterize habitable planets around stars other than the Sun. Previously scheduled for launch in 2006, StarLight has been redirected to focus on the development of ground demonstration of technologies that support formation flying interferometry for TPF. Space Place has involved ST3 in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and the NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that 1 day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to the "Technology and Children" magazine four times a year and to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches up to an estimated 1,400 teachers and their students (up to 42,000 children), and each "The Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium program. It reaches an average of 3,000 viewers a day.
Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.
URL: *http://spaceplace.jpl.nasa.gov*
Activities: Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]
Navigator: Minority Outreach Program [A55]
"Planet Quest" Activities for Students [A119]
"Planet Quest: The Search for Another Earth" [A120]

B34. Terrestrial Planet Finder (TPF)

Description: The Terrestrial Planet Finder participates in the overall Navigator education and public outreach program.
Lead: Mr. W. Michael Greene, NASA Jet Propulsion Laboratory, Mail Stop 301-486, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *william.m.greene@jpl.nasa.gov.* Phone: 818-354-1277.
URL: *http://planetquest.jpl.nasa.gov/*
Activities: Navigator: Educator Workshops [A189]
Navigator: Imagine A New World Program [A54]

Navigator: Minority Outreach Program [A55]
Navigator: Science Events [A349]
Navigator: Student Support [A283]
"Planet Quest" Activities for Students [A119]
"Planet Quest: The Search for Another Earth" [A120]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

Other NASA Programs

B35. NASA Astrobiology Institute (NAI)

Description: At NAI, we are building a future community of astrobiologists while expanding the public's understanding of the nature and importance of our work. NAI's education and public outreach (E/PO) program is distributed to all its lead teams. Each team directs a local effort with specific emphasis on that team's research and expertise while contributing to larger collaborative projects. These include Web sites, print products, and curriculum supplements, as well as educational programs and activities, internships, presentations, and exhibits. Educating and training the next generation is another important aspect of NAI's mission, essential to ensuring the continuity and longevity of the field of astrobiology. Many of our members train new researchers directly in their academic programs and laboratories. While some of these courses and programs are called "astrobiology," many of them reside within traditional astronomy, biology, chemistry, geology, and planetary science departments. In this way, NAI members are growing the field of astrobiology, both as an independent discipline and through the expansion of traditional approaches.

Lead: Ms. Krisstina Wilmoth, NASA Astrobiology Institute (NAI), Mail Stop 240-1, Ames Research Center, Moffett Field, CA 94035.
E-mail: *kwilmoth@mail.arc.nasa.gov.* Phone: 650-604-6137.

Contact: Ms. Karen Dodson, NASA Astrobiology Institute (NAI), Mail Stop 240-1, Ames Research Center, Moffett Field, CA 94035.
E-mail: *kdodson@mail.arc.nasa.gov.* Phone: 650-604-4145.

URL: *http://nai.arc.nasa.gov*

Activities: Arizona State University (ASU) Space Photography Laboratory Tours [A250]
"Ask an Astrobiologist" [A251]
"Astro-Venture" [A253]
Astrobiology Academy [A254]
Astrobiology Article in "Science Scope" [A63]
Astrobiology at UCLA [A306]
Astrobiology High School Curriculum Review Panel [A230]
"Astrobiology Micro*Scope" Web Site [A231]
Astrobiology Module for Toward Other Planetary Systems (TOPS) Teacher Workshop [A141]
Astrobiology on the School Front: Interning and Mentoring [A255]
Astrobiology Pathfinder [A256]
Astrobiology Science Conference Public Talks [A307]
Astrobiology Television Program: "The Stories Rocks Tell" [A308]
Astrobiology Workshop for Planetarium Educators [A13]
"Astrobiology: Discovering New Worlds of Life" Poster [A64]
Astrobiology: "The Origins and Early Evolution of Life" Educator Workshop [A142]
Astrobiology: "The Search for Life in the Universe" Magazine [A65]
Astrobiology: "The Search for Water" [A66]
Astromaterials-Astrobiology Student Presentations [A257]
ASU Earth Science Day [A310]
Carnegie Academy for Science Education Summer Institute [A146]
Center for Astrobiology and Early Evolution (CABEE) Newsletter [A315]
Chemistry and Astrobiology Educational Films [A77]
"Extremophiles: Life on the Edge" Astrobiology Teacher Workshop [A162]
"Fingerprints of Life" CD and Web Site [A87]
"Fingerprints of Life?"—Development of Classroom Activities, Web Site, and CD-ROM [A232]
Formal and Informal Education Workshops with an Astrobiology Component [A164]

Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
"It's Out There—Extreme Life!" NSTA Short Course [A175]
"Kinesthetic Astronomy" for Educators and Scientists [A176]
"Life and Living in Space" Teacher Workshop [A177]
"Living in the Microbial World" Teacher Workshop [A179]
Mysteries of Microbes: Fascinating Fieldwork [A235]
NASA Astrobiology Institute (NAI) Lead Team Presentations and Lectures [A346]
NASA Astrobiology Institute (NAI) Minority Faculty Fellowship Program [A53]
NASA Astrobiology Institute (NAI) Video Collection Project [A396]
Project AstroBio [A195]
Science Concepts in Context [A239]
Science@NASA [A359]
See ASU 2002 [A360]
Skymobile [A11]
Space Day 2002 at Penn State [A366]
Space Science Workshops for Educators [A210]
"The Extremities: Geology and Life in Yellowstone and Implications for Other Worlds" [A224]
"The Joy of Science" Video Series [A127]
Voyages Through Time (VTT) Curriculum [A244]
What Is Nature Doing? Campfire Reflections on the History of Life in the Cosmos [A391]
Women in Science and Engineering (WISE) Camp—Science Projects in Astrobiology [A61]
Yellowstone National Park Resources and Issues Guide [A392]
Yellowstone National Park Wayside Sign Exhibit [A393]
Young Astronauts [A304]

B36. Two Micron All Sky Survey (2MASS)

Description: The Two Micron All Sky Survey project was designed to close the gap between our current technical capability and our knowledge of the near-infrared sky. In addition to providing a context for the interpretation of results obtained at infrared and other wavelengths, 2MASS is providing direct answers to immediate questions on the large-scale structure of the Milky Way and the local Universe. The optimal use of the next generation of infrared space missions, such as the Hubble Space Telescope Near Infrared Camera and Multi-Object Spectrometer (HST NICMOS), the Space Infrared Telescope Facility (SIRTF), and the Next Generation Space Telescope (NGST) as well as powerful ground-based facilities, such as Keck I, Keck II, and Gemini, required a new census with vastly improved sensitivity and astrometric accuracy than was previously available. To achieve these goals, 2MASS uniformly scanned the entire sky in three near-infrared bands to detect and characterize point sources brighter than about 1 mJy in each band, with a signal-to-noise ratio (SNR) greater than 10, using a pixel size of 2.0 arcseconds. This achieved an 80,000-fold improvement in sensitivity, relative to earlier surveys.

URL: *http://www.ipac.caltech.edu/2mass/*

Activities: Science Concepts in Context [A239]
Scientists Mentoring Astronomy Research Teams of Tomorrow (SMARTT) [A42]

SOLAR SYSTEM EXPLORATION (SSE) MISSIONS

Major Missions

B37. Cassini/Huygens Probe

Description: The Cassini-Huygens education and public outreach mission is dedicated to bringing the excitement of the Cassini mission and the Saturn system to audiences throughout the Nation and abroad. Educational activities, cooperative educator programs, educator conferences, public Web access, media support and releases, museum participation, and the Cassini speakers group are just a few of the ways we seek to engage the public in this multinational exploration program to Saturn.

Contact: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Mail Stop 230-101, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.

URL: *http://saturn.jpl.nasa.gov*

Activities: Cassini Classroom Visits [A258]
Cassini Conferences [A147]
Cassini Sky Watching Events [A313]
Cassini Talks [A314]
"Cassini Unveils the Myth" [A72]
From the Outer Planets to the Inner City [A49]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Space Science Workshops for Educators [A210]
Windows to the Universe [A245]

B38. Galileo

Description: The Galileo mission has a 6-year legacy of the exploration of Jupiter and its moons. Since arriving at Jupiter in 1995, the Galileo spacecraft has orbited the planet and its moons more than 30 times. Ongoing volcanic activity on Io, a magnetic field at Ganymede, and water on Europa are only a few of the thought-provoking discoveries made during Galileo's mission. Educational activities, Web access, information, media support, and educator and student conferences compose a sampling of the engaging and exciting ways that Galileo outreach continues to reach out into the community to bring Jupiter to people around the world.

Lead: Ms. Shannon McConnell, NASA Jet Propulsion Laboratory, Mail Stop 230-101, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Shannon.L.Mcconnell@jpl.nasa.gov.* Phone: 818-393-6780.

URL: *http://www.jpl.nasa.gov/galileo/*

Activities: American Association of University Women (AAUW) Math and Science Conference [A48]
From the Outer Planets to the Inner City [A49]
Galileo Classroom Visits [A263]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Windows to the Universe [A245]

B39. Jet Propulsion Laboratory Solar System Exploration Theme Lead (JPL SSE Theme)

Description: The Jet Propulsion Laboratory (JPL) Solar System Theme Lead coordinates the activities of JPL's Solar System exploration mission outreach coordinators and specialists in media relations, television production, Internet services, and education (both formal and informal). The Lead also coordinates the science data analysis and research activities of the missions.

Lead: Ms. Anita Sohus, NASA Jet Propulsion Laboratory, Mail Stop 233-201, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Anita.M.Sohus@jpl.nasa.gov.* Phone: 818-354-6613.

URL: *http://www.jpl.nasa.gov/pscischool/*

Activities: Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
"Live from Mars 2001" and "Live from Mars 2002" [A270]
"MarsQuest" Planetarium Show [A2]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Space Science Workshops for Educators [A210]

Discovery

B40. Discovery Program Support Office (DPSO)

Description: NASA's Discovery program comprises of a series of low-cost, highly focused, competitively selected planetary science investigations. Discovery missions aim to enhance our understanding of the Solar System by exploring the planets, their moons, and other small bodies by using innovative approaches to assure the highest science value for the cost. Ten missions have been selected since the program began in 1992. The Discovery program education and public outreach (E/PO) efforts are designed to promote the program and awareness of the missions. This is done through a Web site, a quarterly newsletter, the development of outreach products and informational materials, and by giving presentations in a variety of venues. The Discovery program works with Discovery mission E/PO personnel to identify and develop E/PO opportunities, to coordinate with the program, and to assure that mission activities are consistent with Office of Space Science E/PO strategy.

Lead: Ms. Shari Asplund, NASA Jet Propulsion Laboratory, Mail Stop 180-201, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *shari.e.asplund@jpl.nasa.gov.* Phone: 818-354-7280.

URL: *http://discovery.nasa.gov*

Activities: From the Outer Planets to the Inner City [A49]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B41. Comet Nucleus Tour (CONTOUR)

Description: The education and public outreach efforts of the CONTOUR mission are aimed at bringing the thrill of exploration and the wonder of discovery into classrooms and homes through unique educational experiences. We invite teachers, students, and the public to participate in scientific inquiry and discovery and to gain insight into the complex and awesome nature of comets. Through media, the Internet, and classroom curriculum, we hope to reach out to the education community and the public to inspire their curiosity and satisfy their interests in the study of comets. The highlights of activities during the past year included public and educational events that were associated with the CONTOUR launch in July.

Contact: Ms. Kathy May, Cornell University, Ithaca, NY 14853.
E-mail: *kathym@astrosun.astro.cornell.edu.* Phone: 607-255-8542.

URL: *http://www.contour2002.org/*

Activities: Comet Nucleus Tour (CONTOUR) Student Involvement [A260]
CONTOUR Public Lectures [A323]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Windows to the Universe [A245]

B42. Dawn

Description: Dawn's goal is to characterize the conditions and processes of the Solar System's earliest epoch by investigating in detail two of the largest protoplanets remaining intact since their formations. Ceres and Vesta reside in the extensive zone between Mars and Jupiter, together with many other smaller bodies called the asteroid belt. Each has followed a very different evolutionary path constrained by the diversity of processes that operated during the first few million years of Solar System evolution. Dawn has much to offer the general public. It brings images of varied landscapes on previously unseen worlds to the public, including mountains; canyons; craters; lava flows; polar caps; and, possibly, ancient lakebeds, streambeds, and gullies. Students can follow the mission over an entire K-12 experience as the mission spacecraft is built, cruises to Vesta and Ceres, and returns data. The public will be able to participate through the Solar System Ambassadors and directly on the Web.

Lead: Dr. Lucy McFadden, University of Maryland, Astronomy Building, College Park, MD 20742.
E-mail: *McFadden@astro.umd.edu.* Phone: 301-405-2081.

URL: *http://www-ssc.igpp.ucla.edu/dawn/outreach.htmlawn/outreach.html*

Activities: Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B43. Deep Impact

Description: The Deep Impact mission outreach plan specializes in five audiences: educators, students, the general public (including informal outreach), underserved groups, and amateur astronomers.

Lead: Dr. Lucy McFadden, University of Maryland, Astronomy Building, College Park, MD 20742.
E-mail: *McFadden@astro.umd.edu.* Phone: 301-405-2081.

Contact: Ms. Maura Rountree-Brown, NASA Jet Propulsion Laboratory, Mail Stop 264-850, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Maura.Rountree-Brown@jpl.nasa.gov.* Phone: 818-393-4897.

URL: *http://deepimpact.jpl.nasa.gov*

Activities:
Deep Impact Amateur Astronomer Partnership [A326]
Deep Impact "Comet on a Stick!" [A79]
Deep Impact Education: Student Support [A261]
Deep Impact Educator Training [A152]
Deep Impact Poster [A80]
Deep Impact Public/Informal Events [A327]
Deep Impact Science Poster [A81]
Exploring Comets and Modeling for Mission Success [A85]
From the Outer Planets to the Inner City [A49]
From the Sun to the Star Nations [A50]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
"Make a Comet Model and Eat It!" [A104]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Windows to the Universe [A245]

B44. Genesis

Description: Genesis is a sample recovery mission designed to provide the data needed to achieve a better understanding of the original building blocks of the Solar System. The mission captures pieces of the Sun (ion by ion) in ultrapure materials. It will be returned to Earth in an airtight capsule, which will float toward the surface of the Earth via a parafoil. At an approximate altitude of 8,000-10,000 feet, it will be captured using a special technique with helicopters. These samples will be opened at the "cleanest" cleanroom in NASA at Johnson Space Center. From there, a small portion of the sample will be analyzed in new state-of-the-art facilities being built as part of this project. The remainder will be held and distributed over the remainder of the century to laboratories capable of making similar measurements. The education and public outreach of Genesis is also operated in a unique manner. The project has contracted with a Department of Education (DOE) Laboratory, McREL (Mid-Continent Research in Education and Learning). McREL, sited in Aurora, CO, has a lead role in DOE with respect to learning and standards-based education. So far, over the course of our mission, McREL has produced over 10 large educational modules (each composed of approximately 50-100 pages) of standards-based, field-tested materials. McREL has also designed and implemented an award winning Web page for the mission. Each month, this page gets in excess of 1 million hits, relating to over 45,000 visits, primarily by educators.

Lead: Dr. Gilbert Yanow, NASA Jet Propulsion Laboratory, Mail Stop 264-370, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *gilbert.yanow@jpl.nasa.gov.* Phone: 818-354-8060.

URL: *http://genesismission.jpl.nasa.gov*

Activities:
Genesis Chautauqua Program [A168]
Genesis Classroom/Student Presentations [A266]
Genesis Conference Workshops [A169]
Genesis Education Events and Exhibits [A170]
Genesis Products [A90]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]

Public Outreach [A353]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B45. Mercury Surface, Space Environment, Geochemistry and Ranging (MESSENGER)

Description: MESSENGER is a scientific investigation of the planet Mercury. Understanding Mercury, and the forces that have shaped it, is fundamental to understanding the terrestrial planets and their evolution. MESSENGER is a mission to orbit Mercury, following two flybys of that planet. MESSENGER will investigate key scientific questions regarding Mercury's characteristics and environment during these two complementary mission phases. Data are provided by an optimized set of miniaturized space instruments and the spacecraft's telecommunications system. MESSENGER will enter Mercury orbit in April 2009 and will carry out comprehensive measurements for one Earth year. Data collection concludes in April 2010. Working in close coordination with the science team, a carefully selected group of education and public outreach (E/PO) professionals has been engaged to design a comprehensive set of activities that are coordinated with MESSENGER events to enliven education and to excite the public. These activities include teacher training, curriculum development, unique student investigations related to the mission and student experiments with MESSENGER, a television documentary, museum displays, and a special outreach to underserved and minority students. The full, multifaceted E/PO program is carried out with an extensive network of individual and institutional partners throughout the country. The E/PO effort is organized around overarching themes that reflect the science, engineering, technology, and people of the mission. The MESSENGER themes are Comparative Planetology, The Solar System Through History, and Framing Pathways to Answers: The Scientific Process in Action. The thematic framework is also informed by both content and pedagogy standards that are articulated in the National Science Education Standards and Benchmarks for Science Literacy. For the duration of the mission, the E/PO team will create and disseminate materials that focus on telling MESSENGER's many stories to a broad and diverse audience.

Lead: Ms. Stephanie Stockman, NASA Goddard Space Flight Center, Mail Code 921, Greenbelt, MD 20771.
E-mail: *stockman@core2.gsfc.nasa.gov.* Phone: 301-614-6457.

URL: *http://messenger.jhuapl.edu*

Activities: Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Windows to the Universe [A245]

B46. Near-Earth Asteroid Rendezvous (NEAR)

Description: As the first spacecraft to orbit (and land on!) an asteroid, the NEAR Shoemaker mission continues to answer fundamental questions about the nature and origin of near-Earth objects. These objects are of interest because they are the primary source of large bodies that collide with Earth, and because clues to the nature of early Solar System processes and conditions are preserved on primitive bodies like asteroids, comets, and meteorites. These clues have been altered or destroyed on large, planet-size bodies by processes of planetary evolution. (NEAR was launched on February 17, 1996; asteroid landing and final communication occurred on February 12, 2001.)

Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, 11100 Johns Hopkins Road, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.

URL: *http://near.jhuapl.edu/*

Activities: National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Near-Earth Asteroid Rendevous (NEAR) Classroom Visits and Student Events [A284]
Near-Earth Asteroid Rendevous (NEAR) Museum and Conference Exhibits and Support [A26]
Near-Earth Asteroid Rendevous (NEAR) Special Interest Groups [A350]
Near-Earth Asteroid Rendevous (NEAR) Student Events/Support [A285]
Near-Earth Asteroid Rendezvous (NEAR) Teacher Support [A190]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Windows to the Universe [A245]

B47. Stardust

Description: The Stardust education Web page is designed to enhance the breadth, flexibility and knowledge of science, mathematics, and technology between K-12 education and higher education, recognizing and supporting a diverse set of programs while improving scientific literacy among students. The materials found on this home page are aligned with the national science education standards and have been designed primarily for use by grades 5-8. The Stardust education and public outreach team is composed of many partners which include the Challenger Center for Space Science Education; the JASON Foundation for Education; the Kirkpatrick Science and Air Space Museum at Omniplex; Space Explorers, Inc.; Virginia Space Grant Consortium; Parents and Children as Co-Travelers (PACCT); NASA Jet Propulsion Laboratory (JPL) Ambassadors Program; JPL Solar System Educator Program; From the Sun to the Star Nations—Native American Outreach Initiative; and Space Place. The Stardust mission participates and sponsors teacher training and curriculum development programs targeted for minorities and underserved communities along with the public at large. Other available resources include an interactive Web site, an education-based planetarium program, video animation, and library and museum exhibits.

Lead: Ms. Aimee Whalen, NASA Jet Propulsion Laboratory, Mail Stop 264-379, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *aimee.l.whalen@jpl.nasa.gov.* Phone: 818-354-3245.

URL: *http://stardust.jpl.nasa.gov*

Activities: From the Outer Planets to the Inner City [A49]
From the Sun to the Star Nations [A50]
Passport to the Solar System [A236]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Stardust Amateur Astronomical Societies [A372]
Stardust Conference Workshops [A136]
Stardust Formal Education [A211]
Stardust Informal Outreach [A29]
Stardust Public Outreach [A373]
Windows to the Universe [A245]

Mars Exploration Program

B48. Mars Public Engagement (Mars E/PO)

Description: Mars exploration is NASA's signature effort in planetary science over the next two decades. It is one of the largest programs in NASA's Office of Space Science and will provide regular and frequent voyages to Mars. Such a compelling program deserves forward-looking initiatives to engage the public in Mars exploration, scientific discovery, and technological achievements. These initiatives are covered in a long-term Mars Public Engagement Plan.* Just as Mars missions have been organized into a program where each element strategically complements and builds on another, the Mars Public Engagement Plan creates a focused, cohesive, highly leveraged program in its collection of planned activities. Mars public engagement is conducted at the program level, covering missions scheduled for Mars destinations over the next two decades.** This organization prevents the need to reinvent the wheel with each mission; allows continuity in programming beyond the official end dates of the missions; and provides the ability to develop strong, stable, and common infrastructures with long-term partners. The benefit of a 20-year plan is that public engagement initiatives will have time to bear fruit. Also, the contributions and discoveries of each mission can be intimately linked to the rich and compelling science and technology goals of the Mars Exploration Program for greater public understanding of what NASA seeks to achieve in its systematic exploration of Mars. *The term "public engagement" includes all formal education, informal education, and public information and outreach activities. **Missions include Mariner 3-4, 6-7, and 8-9; Viking 1 and 2; Mars Pathfinder; Mars Global Surveyor; Mars Odyssey; Mars Exploration Rovers; United States participation in Mars Express; Mars Reconnaissance Orbiter; and Mars Science Laboratory. Missions also include coordination with Mars Netlander, Mars Scout, and other Mars programs that receive their education and public outreach funding from other sources.

URL: *http://mars.jpl.nasa.gov*

Activities: Exceptional Space Science Materials for Exceptional Students [A158]
"Exploring the Solar System" Teacher Workshops [A160]

From the Outer Planets to the Inner City [A49]
"Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Planetarium Show [A2]
"MarsQuest" Traveling Exhibit [A10]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Space Place Contributions to ITEA's "The Technology Teacher" [A369]
Space Science Workshops for Educators [A210]
Windows to the Universe [A245]

B49. 2001 Mars Odyssey

Description: The 2001 Mars Odyssey orbiter is mapping the mineralogy and morphology of the Martian surface, and it is achieving global mapping of the elemental composition of the surface and the abundance of hydrogen in the shallow subsurface. (The 2001 Mars Odyssey was launched on April 7, 2001, and arrived at Mars on October 24, 2001.)

Lead: Ms. Christine Johnson, NASA Jet Propulsion Laboratory, Mail Stop 264-255, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Christine.Johnson@jpl.nasa.gov.* Phone: 818-393-2634.

URL: *http://mars.jpl.nasa.gov/odyssey/*

Activities:
From the Outer Planets to the Inner City [A49]
"Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars Student Imaging Project Resource Manual [A107]
Mars Student Imaging Project Student Handbook and Activity Guide [A108]
Mars Student Imaging Project Teacher Guide [A109]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Traveling Exhibit [A10]
Passport to the Solar System [A236]

Science Concepts in Context [A239]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Space Science Workshops for Educators [A210]

B50. Mars Exploration Rover Mission (MER)

Description: In 2003, two powerful new Mars rovers will be on their way to the Red Planet. With far greater mobility than the 1997 Mars Pathfinder rover, these robotic explorers will be able to trek up to 100 meters (about 110 yards) across the surface each Martian day. Each rover will carry a sophisticated set of instruments that will allow it to search for evidence of liquid water that may have been present in the planet's past. The rovers will be identical to each other but will land at different regions of Mars.

URL: *http://mars.jpl.nasa.gov/missions/future/2003.html*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Traveling Exhibit [A10]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B51. Mars Global Surveyor (MGS)

Description: The Mars Global Surveyor is returning an unprecedented amount of data regarding the Martian surface features, atmosphere, and magnetic properties. Scientists are using the data gathered from this mission both to learn about the Earth by comparing it to Mars and to build a comprehensive data set to aid in planning future missions. (The Mars Global Survey was launched on November 7, 1996.)

URL: *http://mars.jpl.nasa.gov/mgs/*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
"Mapping the Surface of a Planet" Student Guide [A105]
"Mapping the Surface of a Planet" Teacher Guide [A106]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Traveling Exhibit [A10]

Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]
Windows to the Universe [A245]

B52. Mars Pathfinder

Description: Mars Pathfinder was launched on December 2, 1996, and arrived on the surface of Mars on July 4, 1997. The mission was an engineering demonstration of key technologies and concepts for use in future missions to Mars; it also delivered science instruments to the surface of Mars to investigate the structure of the Martian atmosphere, surface meteorology, surface geology, form and structure, and the elemental composition of Martian rocks and soil. A small, 10-kilogram (22-pound) rover was carried on the Pathfinder and became the first rover ever to explore the Martian surface. The last communication from the spacecraft was received on September 27, 1997, and it was officially declared dead on March 10, 1998.

URL: *http://mpfwww.jpl.nasa.gov/default.html*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
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Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Windows to the Universe [A245]

B53. Mars Reconnaissance Orbiter (MRO)

Description: The Mars Reconnaissance Orbiter will focus on analyzing the surface at new scales in an effort to follow tantalizing hints of water detected in images from the Mars Global Surveyor spacecraft, and to bridge the gap between surface observations and measurements from orbit. For example, the Reconnaissance Orbiter will measure thousands of Martian landscapes at 20- to 30-centimeter (8- to 12-inch) resolution, good enough to observe rocks the size of beach balls.

URL: *http://mars.jpl.nasa.gov/missions/future/2005-plus.html*

Activities: Mars Reconnaissance Orbiter (MRO) Compact Reconnaissance Imaging Spectrometer for Mars (CRISM) Events [A274]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]

Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B54. Mars Science Laboratory (MSL)

Description: The Mars Science Laboratory is a roving, long-range, long-duration science laboratory that will provide a major leap forward in surface measurements and will pave the way for a future sample-return mission. NASA is studying options to launch this mobile science laboratory mission as early as 2007. This capability will also demonstrate the technology for "smart landers" with accurate landing and hazard-avoidance abilities in order to reach what may be very promising but difficult-to-reach scientific sites.

URL: *http://solarsystem.nasa.gov/missions/profile.cfm?Sort=Chron&Mission=MarsSciLab*

Activities: Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]

B55. Mars Scout

Description: The Mars Scout program is a set of 10 concepts that were selected for study in 2001. They include missions to return samples of Martian atmospheric dust and gas, networks of small landers, orbiting constellations of small craft, and a rover that would attempt to establish absolute surface ages of rocks and soils. NASA plans to evaluate the 10 innovative concepts using rapid 6-month studies as a means for jump-starting the identification of new Mars Scout missions that will compete for a possible launch in 2007.

URL: *http://www.jpl.nasa.gov/releases/2001/marsscout.html*

Activities: Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B56. Viking

Description: NASA's Viking project found a place in history when it became the first mission to land aspacecraft safely on the surface of another planet. Two identical spacecraft, each consistingof a lander and an orbiter, were built. Each orbiter-lander pair flew together and entered Mars orbit; the landers then separated and descended to the planet's surface. The Viking 1 Lander touched down on the western slope of Chryse Planitia (the Plains of Gold), while the Viking 2 Lander settled down at Utopia Planitia. Besides taking photographs and collecting other science data on the Martian surface, the two landers conducted three biology experiments designed to look for possible signs of life. These experiments discovered unexpected and enigmatic chemical activity in the Martian soil, but they provided no clear evidence for the presence of living microorganisms in the soil near the landing sites. According to scientists, Mars is self-sterilizing. They believe the combination of solar ultravi-

olet radiation that saturates the surface, the extreme dryness of the soil, and the oxidizing nature of the soil chemistry prevent the formation of living organisms in Martian soil. The Viking mission was planned to continue for 90 days after landing. Each orbiter and lander operated far beyond its designed lifetime. Viking Orbiter 1 functioned until July 25, 1978, while Viking Orbiter 2 continued for 4 years and 1,489 orbits of Mars, concluding its mission on August 7, 1980. Because of the variations in available sunlight, both landers were powered by radioisotope thermoelectric generators—devices that create electricity from heat given off by the natural decay of plutonium. That power source allowed long-term science investigations that otherwise would not have been possible. The last data from Viking 2 Lander arrived at Earth on April 11, 1980. Viking 1 Lander made its final transmission to Earth on November 11, 1982.

URL: *http://www.jpl.nasa.gov/missions/past/viking.html*

Activities: "Live from Mars 2001" and "Live from Mars 2002" [A270]
Mars Robotics Education Partnership [A275]
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
Passport to the Solar System [A236]
Science Concepts in Context [A239]

Outer Planets Program

B57. Outer Planets/Education and Public Outreach Program (OP E/PO)

Description: The Outer Planets program consists of a roadmap of missions in search of organic-rich environments in the outer planetary regions of the Solar System. A refocusing of the Outer Planets program during the past year resulted in a concentration on the Europa Orbiter while the Pluto/Kuiper Belt Express mission was undergoing substantial revisions.

Lead: Mr. Richard Shope III, NASA Jet Propulsion Laboratory, Mail Stop 301-335, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *rick.shope@jpl.nasa.gov.* Phone: 818-354-3812.

Activities: Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]

B58. Europa Orbiter

Description: The Europa education and public outreach effort embraces science and technology questions and invites participation as directly as possible in every aspect of the adventure of space exploration and discovery, creating activities and events organized around the following four active inquiry themes: Europa, An Ice Experience: Comparing Ices on Earth, Europa, and Other Worlds; Europa, An Ocean Experience: Searching for Evidence of an Ocean on Europa; Europa, A Planetary System Experience: Jupiter's Radiant Magnetosphere and Intense Gravitational Field; and Europa, An Organic-Rich Experience: Exploring a Potentially Organic-Rich World. Europa demonstrates leadership in reaching academically diverse learners through two programs working collaboratively with the Jet Propulsion Laboratory (JPL) and other NASA projects (including JPL's Stardust, Deep Impact, and the Deep Space Network; the Space Science Institute Broker/Facilitator; and the Sun-Earth Connection Forum at NASA Goddard) and in partnership with community-based organizations (LA's BEST, Project Universe, the World Hope Foundation, and the Academic Research Lab): From the Outer Planets to the Inner City, with an urban focus; and From the Sun to the Star Nations, with an American Indian focus. Europa's nationwide effort creates and implements validated outreach innovations for community and education services that achieve NASA objectives in response to participatory assessments of diverse audience needs.

Lead: Mr. Richard Shope III, NASA Jet Propulsion Laboratory, Mail Stop 301-335, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *rick.shope@jpl.nasa.gov.* Phone: 818-354-3812.
URL: *http://www.jpl.nasa.gov/europaorbiter/*
Activities: "Europa: An Ice Experience" Educator Workshops [A156]
From the Outer Planets to the Inner City [A49]
From the Sun to the Star Nations [A50]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Solar System Educator Program (SSEP) [A207]

Other NASA Programs

B59. Astromaterials Program (Astromaterials)

Description: The Astromaterials program at NASA Johnson Space Center (JSC) curates and distributes samples of other bodies in the Solar System to researchers around the world. Astromaterials include samples collected by NASA missions (Apollo Moon rocks, Genesis solar wind ions, and Stardust comet particles) and samples collected from Earth (meteorites from Antarctica and cosmic dust from the stratosphere). Astromaterials education and public outreach (E/PO) focus on the scientific study of extraterrestrial materials and their use in education. The program is based on collaboration between scientists at JSC and educators. A long-term example is the distribution of lunar and meteorite samples to schools through partnership with the NASA Education Office. Major recent projects include 1) the development of classroom activities in partnership with K-12 teachers and the presentation of these activities in teacher workshops, 2) the collaboration with two minority universities on a Houston-wide outreach program, and 3) the development of exhibits and planetarium shows in partnership with museums.
Lead: Dr. Marilyn Lindstrom, NASA Johnson Space Center, 2101 NASA Road 1, Houston, TX 77058.
E-mail: *marilyn.m.lindstrom1@jsc.nasa.gov.* Phone: 281-483-5135.
URL: *http://curator.jsc.nasa.gov*
Activities: Astromaterials Sample Distribution [A143]
Astromaterials-Astrobiology Student Presentations [A257]
"Exploring the Solar System" Teacher Workshops [A160]
"Fingerprints of Life?"—Development of Classroom Activities, Web Site, and CD-ROM [A232]
Formal and Informal Education Workshops with an Astrobiology Component [A164]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Rocks from Space in the Classroom [A238]
"Rocks from Space" Teacher Workshops [A199]

B60. Deep Space Mission System (DSMS)

Description: DSMS incorporates the Deep Space Network (DSN) and the infrastructure, software, and systems which support it. The goal of the education and public outreach program for DSMS is to build awareness of the critical role that communication plays in Solar System exploration. Without a means of communicating between spacecraft and Earth to relay commands and return science data, there could be no exploration. Using the DSMS, frequent collaborations with the Jet Propulsion Laboratory (JPL) missions tell this story, while previously produced printed materials and videos are distributed to educators and to the public to offer further explanation. DSMS partners with JPL programs (Solar System Ambassadors, Solar System Educators, and a Native American initiative), allowing wider distribution of information and educational activities. The DSN is also used for science observation through radio astronomy, and one of the decommissioned, 34-meter antennas is now part of an innovative educational program, the Goldstone Apple Valley Radio Telescope (GAVRT). Students control this huge antenna, via the Internet, from their classrooms to gather and analyze data which are ultimately used by scientists at JPL.
Lead: Ms. Shirley Wolff, NASA Jet Propulsion Laboratory, Mail Stop 303-401, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *shirley.e.wolff@jpl.nasa.gov.* Phone: 818-354-4069.
URL: *http://deepspace.jpl.nasa.gov/dsn*
Activities: Deep Space Network Formal Education [A153]

Deep Space Network Informal Education [A328]
Deep Space Network Public Events [A329]
From the Outer Planets to the Inner City [A49]
From the Sun to the Star Nations [A50]
GAVRT Classroom Implementation [A264]
GAVRT Educational Conference Workshops and Exhibits [A166]
GAVRT Scientist Telecons [A265]
GAVRT Teacher Training [A167]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Goldstone Communications Complex—Public Tours [A333]
Goldstone Communications Complex—Student Tours [A267]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

B61. Deep Space 1 [New Millennium] (DS-1)

Description: "The Space Place" has involved DS-1 in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and the NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that one day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to the "Technology and Children" magazine four times a year and articles to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches an estimated 1,400 teachers and their students (up to 42,000 children), and each "The Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium program. It reaches an average of 3,000 viewers a day.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.

URL: *http://spaceplace.jpl.nasa.gov/*

Activities: From the Outer Planets to the Inner City [A49]
Girl Scouts of the USA (GSUSA)/NASA OSS Partnership [A51]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Space Place Contributions to ITEA's "Technology and Children" [A368]
Windows to the Universe [A245]

B62. Near-Earth Asteroid Tracking (NEAT)

Description: NEAT is an autonomous celestial observatory developed by the Jet Propulsion Laboratory and funded by the National Aeronautics and Space Administration to study asteroids and comets. The NEAT Principal Investigator is Dr. Eleanor F. Helin, with co-investigators Dr. Steven H. Pravdo (also the project manager), and Dr. David Rabinowitz (now of Yale University). Discoveries are reported to the Minor Planet Center, whose Web site contains new objects which require confirmation by observers.

URL: *http://neat.jpl.nasa.gov/*

Activities: Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]

International Missions with NASA Participation

B63. Mars Express

Description: NASA is participating in a mission called Mars Express that was planned by the European Space Agency and the Italian Space Agency. This mission will explore the atmosphere and surface of Mars from polar orbit. NASA's involvement includes joint development of the radar instrument with the Italian Space Agency, support of U.S. science co-investigators, coordination of radio relay systems to make sure that different spacecraft will operate with each other, a hardware contribution to the energetic neutral atoms analyzer instrument, and the provision of backup tracking support during critical mission phases by NASA's Deep Space Network. Our contribution to the energetic neutral atoms analyzer instrument is called ASPERA-3. ASPERA-3 was selected as a Discovery mission of opportunity; the complete instrument will study the interaction between the solar wind and the atmosphere of Mars, and it will attempt to find out what happened to the large amount of water that was once on Mars. The co-investigator being funded by NASA is Dr. David Winningham of the Southwest Research Institute, San Antonio, TX.

URL: *http://mars.jpl.nasa.gov/missions/future/express.html*

Activities:
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]
"MarsQuest" Traveling Exhibit [A10]

B64. Mars NetLander

Description: A U.S. contribution to the French-led NetLander mission will add unique capabilities to each of the four landers and the orbiter which compose the mission. In 2007, NetLander will create the first science network on Mars to study the planet's internal structure. The American contribution includes short-period seismometers and wind sensors on the landers and a high-resolution geodesy instrument on the orbiter. NetLander was selected in January 2001 as a Discovery Mission of Opportunity.

URL: *http://www.geo.fmi.fi/PLANETS/NetLander.html*

Activities:
Mars Student Imaging Project [A276]
Mars: Classroom Visits [A277]
Mars: For Inspiration and Recognition of Science and Technology (FIRST) Robotics Participation [A278]
Mars: Formal Educator Field Trips [A186]
Mars: Formal Educator Workshops [A187]
Mars: Imagine Mars! [A279]
Mars: Informal Educator Workshops [A22]
Mars: Models and Exhibits [A23]
Mars: Museum Visualization Alliance [A24]
Mars: Public Talks [A343]
Mars: Public Tours [A344]
Mars: Student Workshops [A280]

B65. Rosetta

Description: Rosetta is a European Space Agency cometary mission. The satellite will rendezvous with a comet and orbit it, while taking scientific measurements. A Surface Science Package (SSP) will be landed on the comet's surface to take in situ measurements. The United States is providing science instruments for the orbiter.

URL: *http://sci.esa.int/home/rosetta/index.cfm*

Activities:
Science Concepts in Context [A239]
Windows to the Universe [A245]

STRUCTURE AND EVOLUTION OF THE UNIVERSE (SEU) MISSIONS

Major Missions

B66. Advanced Radio Interferometry between Space and Earth (ARISE)

Description: ARISE will be a mission consisting of one (or possibly two) 25-meter radio telescopes in highly elliptical Earth orbit. The telescope(s) would observe the Universe in conjunction with a large number of radio telescopes on the ground, using the technique of space Very Long Baseline Interferometry (VLBI) in order to obtain the highest resolution (10-microarcsecond) images of the most energetic astronomical phenomena in the Universe.

URL: *http://arise.jpl.nasa.gov/*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B67. Chandra X-Ray Observatory (CXO)

Description: The Chandra X-Ray Observatory, the third of NASA's great observatories, was launched in July 1999 and has completed its third year of science operations. Chandra has returned spectacular images of the x-ray emission from such energetic cosmic sources as the material swirling into black holes, exploding stars, and long jets of high-energy particles. The goals of the Chandra education and public outreach (E/PO) program are to increase public engagement with NASA's Space Science Enterprise by conveying the excitement of the Chandra discoveries to the public; promote science literacy by engaging the imaginations of students, educators, and the public; increase learning opportunities in science, mathematics, and technology with classroom-ready materials that are aligned with national standards; and to provide ready access to Chandra images and education products by utilizing a wide range of technologies and formats for accessibility. The program maintains an extensive public Web site with all images, background materials, and education products that are downloadable in multiple formats. Online forms allow educators to order printed and multimedia resources. Opportunities for educators include summer workshops and the Chandra Teacher Resource Agent program. Printed material such as posters, bookmarks, lithographs, a coloring book, and postcards are available for classroom and informal education use. A CD-ROM, containing Chandra images, has been distributed widely to classrooms, planetariums, and amateur astronomy associations. Classroom-ready materials are downloadable from the E/PO Web site on such topics as the electromagnetic spectrum and the life cycle of stars. For greater educational impact, an effort is made to present Chandra images in multiwavelength comaparisons. The newest addition to the Chandra education materials is a software program, tailored for educational use, that combines the ability to display images with a pull-down menu of x-ray analysis tools, enabling students and teachers to work with actual Chandra data and images.

Lead: Ms. Kathleen Lestition, Chandra X-Ray Center, 60 Garden Street, Cambridge, MA 02138.
E-mail: *klestition@cfa.harvard.edu.* Phone: 617-495-7399.

URL: *http://chandra.harvard.edu*

Activities: "Bright Cosmic Lights of the Milky Way" [A70]
Chandra Images CD-ROM [A76]
Chandra Public Outreach by the Massachusetts Institute of Technology (MIT) Center for Space Research (CSR) [A316]
Chandra Summer Lecture Series at the Massachusetts Institute of Technology (MIT) Center for Space Research (CSR) [A317]
Chandra X-Ray Center Online Education and Outreach [A318]
Chandra X-Ray Center Operation Control Center Tours [A319]
Chandra X-Ray Center Presentations [A259]
Chandra X-Ray Center Public Outreach [A320]
Chandra X-Ray Center Teacher Workshops and Presentations [A148]
Collision Processes in Astrophysical Plasmas [A35]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions" Interpretation/Docent Activities [A15]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
"Galaxy Clusters X-Ray and Optical Light" [A88]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
"Journey to the Edge of Space and Time" Planetarium Show [A1]
MicroObservatory Online Telescopes [A281]

National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Presentations by the Massachusetts Institute of Technology (MIT) Center for Space Research [A287]
Science Concepts in Context [A239]
Science@NASA [A359]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
"Seeing the Universe in a Whole New Light" [A123]
Smithsonian Teacher's Night [A206]
Space Place Newspaper Contributions [A371]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
"Waves Light Up The Universe!" Teacher Workshops [A229]

B68. Compton Gamma-Ray Observatory (CGRO)

Description: CGRO, the second of NASA's great observatories, was launched on April 5, 1991. It had a diverse scientific agenda, including studies of very energetic celestial phenomena: solar flares, cosmic gamma-ray bursts, pulsars, nova and supernova explosions, accreting black holes of stellar dimensions, quasar emission, and interactions of cosmic rays with the interstellar medium. Compton left a legacy of outstanding science and revolutionized our knowledge of the gamma-ray sky. Its mission ended on June 4, 2000, when it was de-orbited following the failure of one of its three gyroscopes.

URL: *http://cossc.gsfc.nasa.gov/cossc/*

Activities: Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Science Concepts in Context [A239]

B69. Constellation-X (Con-X)

Description: Constellation-X has been designed to perform x-ray spectroscopy with unprecedented sensitivity and spectral resolution. The measurement of large numbers of x-ray spectral lines in hot plasmas leads to determining the elemental composition, temperature, and velocity of the emitting matter. Astronomers will determine the flow of gas in accretion disks around black holes in active galactic nuclei and in binary x-ray sources, measure the population of newly created elements in supernova remnants, and detect the influence of dark matter on the hot intergalactic medium in clusters of galaxies. Constellation-X is identified in the Office of Space Science Strategic Plan.

URL: *http://constellation.gsfc.nasa.gov/*

Activities: Cosmic Journeys Collectible Card Game [A78]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]

B70. Gamma-ray Large Area Space Telescope (GLAST)

Description: GLAST is scheduled for launch in September of 2006. With GLAST, scientists seek to explore the limits of gravity and energy in the Universe and to study nature's highest energy acceleration processes. The instruments aboard GLAST have an imaging gamma-ray telescope vastly more capable than instruments flown previously as well as a secondary instrument to augment the study of gamma-ray bursts. The GLAST education and public outreach (E/PO) group has developed a program that is well suited to promote inquiry into the origin and structure of the Universe and the fundamental relationship between energy and matter, concepts which are included in the Physical Science Content Standards A, B, and D for grades 9-12. The GLAST Telescope Network (GTN) is being designed to provide information to ground-based, gamma-ray telescopes for more detailed observations of events that produce gamma rays. GTN also will promote the development of an imaging and data archive. The GLAST Ambassador Program consists of 10 educators who will work in conjunction with GLAST science and E/PO team members at Sonoma State Univeristy and the Stanford Linear Accelerator (SLAC) to develop workshops and curricular materials. Many printed materials are being developed, including TOPS lesson modules and yearly posters and activity sets. Ask A Scientist allows students, teachers, and the public to ask and receive answers about GLAST high-energy physics. The GLAST E/PO group also maintains a public-oriented Web site. Among future programs are an interactive gamma-ray detector exhibit (under development at the Stanford Linear Accelerator's Virtual Visitor Center) and more Space Mysteries (interactive video games that teach physical science and mathematics). Also in development with Thomas Lucas Productions is a NOVA or PBS special that takes a sweeping look at high-energy astrophysics.

Lead: Dr. Lynn Cominsky, Sonoma State University, Department of Physics and Astronomy, 1801 East Cotati Avenue, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.
URL: *http://glast.gsfc.nasa.gov*
Activities: Chandra X-Ray Center Teacher Workshops and Presentations [A148]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Examining Einstein's Spacetime with Gravity Probe B [A157]
"Exploring the Extreme Universe!" Student Presentations [A262]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
"The Exploding Universe" Public Presentations [A383]
The Extreme Universe of Gamma-Ray Astronomy! Public Presentations [A384]
"Waves Light Up The Universe!" Teacher Workshops [A229]

B71. Gravity Probe B Relativity Mission (GP-B)

Description: Gravity Probe B is producing and distributing educational materials that communicate the science and technology of GP-B, including Einstein's General Theory of Relativity. In addition, GP-B is participating in conferences and workshops to teach students, teachers, and the general public about GP-B. Materials include posters, an educator guide, lithograph sets, a DVD video, and brochures. Most materials are available on the GP-B Web site. Additionally, the GP-B Web site is developing a spacetime and relativity section to introduce and educate users about these concepts.
Lead: Ms. Shannon Range, Stanford University, HEPL 4085, Stanford, CA 94305. E-mail: *www@relgyro.stanford.edu.*
Contact: Dr. Jennifer Mullins, Stanford University, HEPL 4085, Stanford, CA 94305. E-mail: *www@relgyro.stanford.edu.*
URL: *http://einstein.stanford.edu*
Activities: "Cosmic Questions" Interpretation/Docent Activities [A15]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Examining Einstein's Spacetime with Gravity Probe B [A157]
GLAST High-Energy Informal Education [A17]
Gravity Probe B Classroom Lithograph Set [A91]
Gravity Probe B Wallsheet [A92]
Gravity Probe B: "Examining Einstein's Spacetime with Gyroscopes" Educator's Guide [A93]
High-Energy Classroom Teacher Workshops [A172]
Science@NASA [A359]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

B72. Laser Interferometer Space Antenna (LISA)

Description: Space Place has involved LISA in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and the NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that 1 day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to the "Technology and Children" magazine four times a year and to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches up to an estimated 1,400 teachers and their students (up to 42,000 children), and each "The

Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium program. It reaches an average of 3,000 viewers a day.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.

URL: *http://spaceplace.jpl.nasa.gov*

Activities:
Catch a Gravitational Wave, Dude! [A73]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Space Place Contributions to ITEA's "Technology and Children" [A368]
Space Place Contributions to ITEA's "The Technology Teacher" [A369]
Space Place Newspaper Contributions [A371]
Swift High-Energy Informal Education [A31]

Explorers

B73. Cooperative Astrophysics and Technology Satellite (CATSAT)

Description: The scientific objectives of CATSAT is to study the origin and nature Gamma-Ray bursters, one of the most mysterious astrophysical phenomenom. CATSAT is a small, ongoing scientific satellite mission being developed by the University of New Hampshire through the Universities Space Research Association (USRA)/NASA Student Explorer Demonstration Initiative (STEDI) program.

URL: *http://www.catsat.sr.unh.edu/*

Activities:
GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B74. Cosmic Background Explorer (COBE)

Description: The COBE satellite was developed to measure the diffuse infrared and microwave radiation from the early Universe, to the limits set by our astrophysical environment. It was launched on November 18, 1989, and carried three instruments, a Far Infrared Absolute Spectrophotometer (FIRAS) to compare the spectrum of the cosmic microwave background radiation with a precise black body, a Differential Microwave Radiometer (DMR) to map the cosmic radiation precisely, and a Diffuse Infrared Background Experiment (DIRBE) to search for the cosmic infrared background radiation. The cosmic microwave background spectrum was measured with a precision of 0.005 percent; the results confirmed the Big Bang theory of the origin of the Universe.

URL: *http://nssdc.gsfc.nasa.gov/database/MasterCatalog?sc=1989-089A*

Activities:
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Science Concepts in Context [A239]

B75. Cosmic Hot Interstellar Plasma Spectrometer (CHIPS)

Description: CHIPS will use an extreme ultraviolet spectrograph during its 1-year mission to study the "Local Bubble," a tenuous cloud of hot gas surrounding our Solar System that extends about 300 light-years from the Sun. Scientists believe that the million-degree gas in this region is generated by supernovas and stellar winds from hot stars, but they want to better understand the origins and cooling of this gas and apply knowledge of these processes to the study of other galaxies beyond our Milky Way. CHIPS was selected in September 1998 as one of the first two University-Class Explorer (UNEX) missions. (CHIPS was launched on January 12, 2003.)

Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

URL: *http://chips.ssl.berkeley.edu/chips.html*

Activities:
Cosmic Hot Interstellar Plasma Spectrometer (CHIPS) Formal Education Teacher Inservice Preparation [A150]
Cosmic Hot Interstellar Plasma Spectrometer (CHIPS) Public Outreach and Informal Education [A325]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]

Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

B76. Extreme Ultraviolet Explorer (EUVE)

Description: EUVE was an astronomy mission operating in the largely unexplored extreme ultraviolet (70-760 Å) band. The science payload consisted of three grazing incidence scanning telescopes and an extreme ultraviolet (EUV) spectrometer/deep survey instrument. The spacecraft was launched on June 7, 1992, and was completely successful, exceeding its science goals. EUVE was turned off on January 31, 2001.

URL: *http://ssl.berkeley.edu/euve/*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B77. Galaxy Evolution Explorer (GALEX)

Description: Space Place has involved GALEX in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and the NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that 1 day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to the "Technology and Children" magazine four times a year and to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches up to an estimated 1,400 teachers and their students (up to 42,000 children), and each "The Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site, which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium program. It reaches an average of 3,000 viewers a day.

Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.

URL: *http://spaceplace.jpl.nasa.gov*

Activities: Galaxy Evolution Explorer (GALEX) Social [A332]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]

B78. High Energy Transient Explorer 2 (HETE-2)

Description: HETE-2's prime objective is to carry out a multiwavelength study of gamma-ray bursts (GRBs) with ultraviolet, x-ray, and gamma-ray instruments. A unique feature of the mission is its capability to localize bursts with several arcsecond accuracy, in near real-time, aboard the spacecraft. The original HETE spacecraft was lost as a result of a launch failure on November 4, 1996. (HETE-2 was launched on October 9, 2000.)

Lead: Dr. Irene Porro, Massachusetts Institute of Technology, NE80-6079, 77 Massachusetts Avenue, Cambridge, MA 02139.
E-mail: *iporro@space.mit.edu.* Phone: 617-258-7481.

URL: *http://space.mit.edu/HETE/*

Activities: Chandra Public Outreach by the Massachusetts Institute of Technology (MIT) Center for Space Research (CSR) [A316]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

B79. Microwave Anisotropy Probe (MAP)

Description: MAP continues to concentrate its education and public outreach (E/PO) efforts in electronic forms. MAP's mission page and the "Teacher's Guide to the Universe" Web site explain both the basics about cosmology as well as mission details. Additionally, MAP has supported the Structure and Evolution of the Universe (SEU) Forum's creation of the "Cosmic Questions" exhibit and the Space Science Update kiosk. MAP has created four postcards for E/PO and has helped to create a mission card for the Cosmic Journeys card game. MAP has been represented at national and State conferences by education staff, and it has contributed to SEU Forum kits. MAP's E/PO coordinator has led a course for an informal audience at a local planetarium. MAP continues to work with the Cooperative Satellite Learning Program and Old Bridge High School.

Lead: Dr. David Spergel, Princeton University, Peyton Hall, Dept. of Astrophysics, Princeton, NJ 08544-1001.
E-mail: *dns@astro.princeton.edu.* Phone: 609-258-3589.

Contact: Ms. Lindsay Bartolone, Adler Planetarium and Astronomy Museum, Education, 1300 S. Lake Shore Drive, Chicago, IL 60605.
E-mail: *Lindsay_Clark@adlernet.org.* Phone: 312-322-0316.

URL: *http://www.astro.princeton.edu/~clark/teachersguide.html*

Activities:
"A Teacher's Guide to the Universe" MAP Workshop [A140]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions" Interpretation/Docent Activities [A15]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
"Does the Universe Have a Fingerprint?" Factcard [A83]
GLAST High-Energy Informal Education [A17]
"Greetings from L2" Factcard [A94]
MAP Cooperative Satellite Learning Project (CSLP) [A273]
Mapping the Cosmic Microwave Background—Microwave Anisotropy Probe (MAP) Informal Outreach [A342]
"Microwaves in Space?" Factcard [A110]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
"Should This Laser Slinging Slug Have Fired His Weapon?" Factcard [A124]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
York College Observatory Educational Outreach Program (YCOOP) [A46]

B80. Rossi X-ray Timing Explorer (RXTE)

Description: RXTE, launched in December 1995, continues to return a stream of impressive results on the physics of matter near sources of extreme gravity (neutron stars, black holes, and the supermassive black hole cores of active galaxies). The mission, a collaboration among NASA Goddard Space Flight Center, the Massachusetts Institute of Technology (MIT), and the University of California, San Diego, centers on three flight instruments in a low-Earth orbit which investigate the 2-250 keV x-ray spectral and milliseconds-to-years timing variability of astronomical sources. Since early in the mission, RXTE has supported an active education and public outreach (E/PO) program involving the RXTE Learning Center—an online educational resource for teachers and students. It hosts teacher interns who design and develop lesson plans and classroom activities based on RXTE results. Recent accomplishments include the All-Sky Monitor-based Tour the X-Ray Sky, which uses real data to introduce students to the types of variability seen in x-ray sources, and a series of supporting educator workshops to train teachers on the use of this module in their classrooms. During the next two years, the E/PO program for RXTE will focus on the classroom testing and educator dissemination of a collection of newly developed activities to go with a multimedia RXTE product—"The High Energy Groovie Movie." This movie mates an animation of the x-ray variability of the entire sky over several years of the mission (developed by the All-Sky Monitor team at MIT) with a high-energy original pop song, "High Energy Groove" (written and recorded by the Chromatics as part of the AstroCappella project), which describes the basics of modern x-ray astronomy. The activities were developed by two Maryland teacher interns in the summer of 2002 and cover a range of topics, including the technology behind the Proportional Counter Array (PCA) detectors, how accretion works in close binary systems, neutron stars and pulsars, active galaxies, and the electromagnetic spectrum.

Lead: Dr. Patricia Boyd, NASA Goddard Space Flight Center, Mail Code 662, Greenbelt, MD 20771.
E-mail: *padi@lhea1.gsfc.nasa.gov.* Phone: 301-286-2550.

URL: *http://rxte.gsfc.nasa.gov/docs/xte/learning_center/*

Activities:
Chandra Public Outreach by the Massachusetts Institute of Technology (MIT)
Center for Space Research (CSR) [A316]

GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

B81. Spectroscopy and Photometry of the IGMs Diffuse Radiation (SPIDR)

Description: The SPIDR mission is designed to detect, map, and quantify the cosmic web of hot, intergalactic filaments that were predicted by hydrodynamic models of the structure of the Universe. In addition, SPIDR will provide new information about hot gas in a variety of galactic environments. SPIDR will provide these diagnostics through the spectral imaging of selected astrophysical fields in the 100-150 nm band. The SPIDR education and public outreach program will include a new GEMS educator guide with a Cosmic Models theme for grades 6-8. It will highlight key concepts of the SPIDR mission's scientific work and will inform students of the mission's goals. Students will create models to visualize our galaxy, our Local group, galaxies in the Virgo cluster, and clusters of galaxies. The activities in this GEMS guide will use models and visualization that go beyond the scale of the planetary system models that were developed in previous GEMS guides. (The SPIDR mission deals with structure on the largest scale.) A GEMS training center will be launched at the New Mexico Museum of Natural History and Science (NMMNHS) to establish close working relationships with education leaders at the NMMNHS and the Albuquerque and Santa Fe public schools. SPIDR science will be included in a series of new presentations to be developed by the Boston Museum of Science's Current Science and Technology Center and in a series of Web programs to be developed by the NASA Marshall Space Flight Center for the following Web sites: "Science@NASA," "NASAKids," "Liftoff," and the Spanish-language Web site "Ciencia@NASA." SPIDR will partner with the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), one of the first such partnerships between a mission and this professional society. The organization's undergraduate students will produce a series of biographical and professional profiles of NOBCChE scientists. SPIDR scientists will also participate in annual NOBCChE conferences and their professional teacher workshops.

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E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

Contact: Dr. Bryan Mendez, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *bmendez@ssl.berkeley.edu.* Phone: 510-643-2178.

URL: *http://www.bu.edu/spidr/indextoo.html*

Activities: "Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
"Journey to the Edge of Space and Time" Planetarium Show [A1]
Professional Societies of Minority Scientists/OSS Collaboration [A57]

B82. Submillimeter Wave Astronomy Satellite (SWAS)

Description: SWAS is part of the Small Explorer program. SWAS studies the chemical composition, energy balance, and structure of interstellar clouds and the processes that lead to the formation of stars and planets. SWAS was launched on December 5, 1998.

URL: *http://cfa-www.harvard.edu/swas/*

Activities: GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]

B83. Swift Gamma-Ray Burst MIDEX Mission (Swift)

Description: Swift is a NASA Medium-class Explorer (MIDEX) mission being developed for launch in September 2003 by an international collaboration. Swift is the first of its kind, a multiwavelength observatory that is dedicated to the study of gamma-ray bursts. The main mission objectives of Swift include determining the origin of gamma-ray bursts, classifying gamma-ray bursts as well as searching for new types, determining how the blast wave evolves and interacts with the surroundings, using gamma-ray bursts to study the early Universe, and performing a sensitive survey of the sky in the hard x-ray band. Swift has a complement of three coaligned instruments: the BAT, XRT, and UVOT. Using this prompt burst location information, Swift can slew quickly to point onboard x-ray (XRT) and optical (UVOT) instrumentation at the burst for continued afterglow studies. The goal of the Swift mission education and public outreach (E/PO) efforts at Sonoma State University is to use the observations and scientific discoveries of the Swift mission to improve the understanding and utilization of science and mathematics concepts for grades 7-12. Swift E/PO team members interact with and disseminate Swift curricular materials via workshops and conferences at the national, State, and local levels. The program

includes yearly posters and activity sets and a GEMS guide, entitled "Invisible Universe," that has been developed at the Lawrence Hall of Science and will be available in the fall of 2002. "What's In The News?," a television show produced by Pennsylvania State University, informs middle school students across the country about Swift. Pennsylvania State University also offers yearly workshops for science educators: In the summer of 2002, Swift was featured in a space astronomy workshop. Evaluation and guidance of the development of educational materials comes from the Swift Education Committee (SwEC) and the two Swift Educator Ambassadors.

Lead: Dr. Lynn Cominsky, Sonoma State University, Department of Physics and Astronomy, 1801 East Cotati Avenue, Rohnert Park, CA 94928.
E-mail: *lynnc@charmian.sonoma.edu.* Phone: 707-664-2655.

URL: *http://swift.gsfc.nasa.gov*

Activities:
"Catching Gamma-Ray Bursts on the Fly" Swift Brochure [A74]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
"Exploring the Extreme Universe!" Student Presentations [A262]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
Newton's First Law of Motion [A113]
"Newton's Laws of Gravitation" [A114]
Newton's Second Law of Motion [A115]
Newton's Third Law of Motion [A116]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
"The Exploding Universe" Public Presentations [A383]
The Extreme Universe of Gamma-Ray Astronomy! Public Presentations [A384]
"Waves Light Up The Universe!" Teacher Workshops [A229]
"Who's Got The Power?" Student Presentations [A303]

Attached Payloads

B84. Advanced Cosmic-ray Composition Experiment for the Space Station (ACCESS)

Description: ACCESS is under study for a possible launch in 2007. This experiment will make spectral, individual-element composition measurements at energies reaching up to 10^15 electronvolts in order to address fundamental questions concerning the origin and acceleration of the cosmic radiation.

URL: *http://lheawww.gsfc.nasa.gov/ACCESS/*

Activities:
GLAST High-Energy Informal Education [A17]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Swift High-Energy Informal Education [A31]

B85. Alpha Magnetic Spectrometer (AMS-2)

Description: AMS-2 is an experiment to search for antimatter in space. It has flown previously on the Space Shuttle (STS-91, June 1998) and is scheduled for launch to the International Space Station on ISS User Flight 4 (UF-4).

URL: *http://ams.cern.ch/AMS/ams_homepage.html*

Activities:
GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

Other NASA Programs

B86. High-Energy Astrophysics Science Archive Research Center (HEASARC)

Description: Since 1996, the HEASARC education and public outreach (E/PO) program has been bringing information and curriculum-support materials to upper middle school, high school, and lower undergraduate students and their teachers on topics regarding the structure and evolution of the Universe, with emphasis on high-energy astronomy. The E/PO program consists of the "Imagine the Universe!" Web site, a series of posters and information/activity booklets, and a repertoire of educator workshops. Both scientists and educators are involved in the development and testing of the materials which use satellite data to teach topics in science and math. HEASARC also hosts the "StarChild" Web site and annually publishes a CD-ROM containing "Imagine," "StarChild," and the "Astronomy Picture of the Day." Materials are distributed to thousands of educators via

workshops, meetings, and e-mail requests. HEASARC also coordinates with the E/PO programs of other Structure and Evolution of the Universe (SEU) high-energy astrophysics missions such as RXTE, GLAST, Swift, and XMM.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Mail Code 662, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

URL: *http://heasarc.gsfc.nasa.gov*

Activities: "Black Holes in a Different Light" Workshop [A145]
"Cosmic Connections" Talk [A324]
Cosmic Journeys Collectible Card Game [A78]
"Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
Frontiers in Astrophysics Talks [A165]
GLAST High-Energy Informal Education [A17]
"Hidden Lives of Galaxies" Workshop [A171]
"Life Cycles of Stars" Workshop [A178]
"Light and Shadow" Workshop [A340]
Overview of the "Imagine the Universe!" CD-ROM [A194]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Science Concepts in Context [A239]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]
"The Elements" Educator Workshop [A223]
TIGER on TV [A385]
TIGER Talk [A298]
"X-ray Spectroscopy and Chemistry of Supernova Remnants" Field Test [A246]

International Missions with NASA Participation

B87. Astro-E2

Description: Astro-E2 is a joint U.S.-Japanese mission to explore the x-ray Universe at high spectral resolution. The mission uses a microcalorimeter which determines x-ray energies from cosmic sources by measuring the heat deposited by the x rays into an absorbing material. To accomplish this, the detector is cooled to 60 millikelvin by using an adiabatic demagnetization refrigerator. The mission also includes lightweight mirrors to focus the x rays onto the detectors. Astro-E2 will probe the chemical composition of supernova remnants and galaxy clusters, and it will measure the motion of material before it falls into a black hole. The education and public outreach (E/PO) program for the mission seeks to bring students into the science and technology of the mission. Working with the NASA Student Involvement Program, Astro-E2 will sponsor a competition for students to share in the data from the mission. This effort will be supported by the Astro-E2 Guest Observer Facility at the NASA Goddard Space Flight Center. We will also produce a video which tells the story of the science, technology, and history of the mission for teachers to use in their science, math, or social studies classes. The video will particularly touch on the cross-cultural aspects of working with the Japanese. These efforts will be supported by a Web site which will provide background material and lessons on the use of spectroscopy in x-ray astronomy.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Mail Code 662, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

URL: *http://astroe.gsfc.nasa.gov/docs/astroe_lc/*

Activities: Astro-E2: Operating in the Cold [A252]
GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]

B88. Herschel Space Observatory (FIRST)

Description: Herschel is cornerstone number 4 (CS4) in the European Space Agency's Horizon 2000 Scientific Program. It will permit high spatial and spectral resolution imaging in the 85-900 micron wavelength region. Superb sensitivity for both photometry and spectroscopy will result from Herschel's high throughput and low thermal background. Herschel will be a multipurpose observatory serving the entire astronomical community. NASA supports U.S. participation on the mission.

URL: *http://sci.esa.int/home/first/index.cfm*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B89. International Gamma-Ray Astrophysics Laboratory (INTEGRAL)

Description: INTEGRAL is an international gamma-ray mission led by the European Space Agency with NASA participation. The Lab for High Energy Astrophysics at the NASA Goddard Space Flight Center provides science support services for the U.S. astronomers who are participating in the mission. INTEGRAL's key science question is to probe the origin of the elements by studying gamma-ray emission lines from the galactic center, supernovas, black holes, and the Sun. The education and public outreach (E/PO) program features the development of a poster and an activity booklet on the topic of the origin of the elements. The development of these materials includes a weeklong educator workshop which provides content for the participants and during which the participants develop classroom activities. The E/PO program also includes the development of a gamma-ray comic book which will explain gamma-ray astronomy and various techniques which are used to detect cosmic gamma rays.

Lead: Dr. James Lochner, NASA Goddard Space Flight Center, Mail Code 662, Greenbelt, MD 20771.
E-mail: *lochner@xeric.gsfc.nasa.gov.* Phone: 301-286-9711.

URL: *http://sci.esa.int/home/integral/index.cfm*

Activities: GLAST High-Energy Informal Education [A17]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Swift High-Energy Informal Education [A31]
"The Elements" Educator Workshop [A223]

B90. Planck Surveyor (Planck)

Description: Planck is the third Medium-Sized Mission (M3) of the European Space Agency's Horizon 2000 Scientific Program. It is designed to image minor variations in the cosmic background radiation over the whole sky, with unprecedented sensitivity and angular resolution. Planck will provide a major source of information relevant to several cosmological and astrophysical issues, such as testing theories of the early Universe and the origin of cosmic structure. NASA supports U.S. participation on the mission.

URL: *http://sci.esa.int/home/planck/index.cfm*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B91. Satellite per Astronomia X (BeppoSAX)

Description: The x-ray astronomy satellite BeppoSAX ("Beppo" in honor of Giuseppe Occhialini) is a project of the Italian Space Agency with participation of the Netherlands Agency for Aerospace Programs. The main scientific characteristic of the BeppoSAX mission is the wide spectral coverage, ranging from 0.1 to over 200 kiloelectronvolts. BeppoSAX has been developed with the support of a consortium of institutes in Italy and in the Netherlands and of the Space Science Department of the European Space Agency. A collaboration with the Max Planck Institute for Extraterrestrial Physics also exists for x-ray mirror testing and the calibration of the concentrator/spectrometer system.

URL: *http://bepposax.gsfc.nasa.gov/bepposax/*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B92. Spectrum-X-Gamma (SXG)

Description: Spectrum-X-Gamma (SXG) is an international high-energy astrophysics observatory which is being built under the leadership of the Russian Space Research Institute.

URL: *http://hea-www.harvard.edu/SXG/sxg.shtml*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B93. VLBI Space Observatory Programme (VSOP)

Description: The VSOP mission is led by the Institute of Space and Astronautical Science in collaboration with the National Astronomical Observatory of Japan. The first VSOP satellite was successfully launched on February 12, 1997, on the new ISAS M-V rocket from the Kagoshima Space Center. The satellite, renamed Highly Advanced Laboratory for Communications and Astronomy (HALCA) after its successful launch, sucessfully deployed an 8-meter-diameter radio telescope in orbit on February 27-28, 1997. HALCA is in an elliptical Earth orbit, with an

apogee height of 21,000 km and a perigee height of 560 km, which enables VLBI (Very Long Baseline Interferometry) observations on baselines up to three times longer than those acheivable on Earth. Observations will be made at 1.6 GHz (18 cm), 5 GHz (6 cm), and 22 GHz (1.3 cm).

URL: *http://www.vsop.isas.ac.jp/*

Activities: GLAST High-Energy Informal Education [A17]
Swift High-Energy Informal Education [A31]

B94. X-ray Multi-mirror Mission (XMM-Newton)

Description: XMM-Newton is an x-ray astrophysics observatory developed by the European Space Agency with U.S. participation. This facility-class observatory, with an anticipated lifetime of 10 years, enables astronomers to conduct sensitive x-ray spectroscopic observations of a wide variety of cosmic sources. (XMM-Newton was launched on December 10, 1999.)

URL: *http://sci.esa.int/home/xmm-newton/index.cfm*

Activities: "Cosmic Questions: Our Place in Space and Time" Traveling Exhibition [A5]
GLAST High-Energy Informal Education [A17]
High-Energy Classroom Teacher Workshops [A172]
"Seeing and Exploring the Universe Resource Guide" (2002) [A122]
Structure and Evolution of the Universe (SEU) Educator Workshops [A216]
Swift High-Energy Informal Education [A31]

SUN-EARTH CONNECTION (SEC) MISSIONS

Major Missions

B95. Interstellar Probe (IS)

Description: The Interstellar Probe is a mission in the very early concept definition phase and is designed to cross the solar wind termination shock and heliopause and make a significant penetration into the local interstellar medium, characterizing the regions it passes. This mission offers a significant technological challenge in that its success will require the achievement of spacecraft velocities of 10 astronomical units (10 times the Earth-Sun distance) per year.

URL: *http://interstellar.jpl.nasa.gov/*

Activities: "Live from the Aurora" [A271]

B96. Ulysses

Description: Ulysses makes passes over the north and south poles of the Sun in order to forecast solar weather. The spacecraft was the first to explore interplanetary science at high solar latitudes. Launched in October of 1990, it has provided scientific data for the last 12 years. Students from Los Angeles County compete for interview opportunities with team members on space science, spacecraft design, spacecraft operations, and project management. Students' interests are matched with team-member volunteers. Students conduct research and professional interviews and do a professional presentation at the end of the project. A team member attends and evaluates all presentations.

URL: *http://www.ulysses.jpl.nasa.gov/index.html*

Activities: From the Outer Planets to the Inner City [A49]
"Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Science@NASA [A359]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]
Ulysses Tours and Classroom Visits [A301]
Windows to the Universe [A245]

B97. Voyager

Description: The Voyager mission, now in its 25th year, continues its quest to push the bounds of space exploration. Voyager 1, now the most distant human-made object in the Universe, and Voyager 2, close on its heels, continue their ground-breaking journeys with their current mission to study the region in space where the Sun's influence ends and the dark recesses of interstellar space begin. Education and public outreach (E/PO) goals include 1) continuing to improve the quality and quantity of project participation in outreach programs; 2) interacting with Deep Space Network Outreach, the Jet Propulsion Laboratory (JPL) Education Office, the Sun-Earth Connection (SEC) community, and the project's investigators to assist in the development of classroom tools; 3) increasing the level of Voyager public awareness with the help of the JPL Media Relations Office; 4) continuing collaborations with the Stanford Solar Center and the SEC Broker/Facilitators; 5) participating in SEC Education Forum Sun-Earth Day teacher training (March 02) and the live Webcast; and 6) attending the National Science Teachers Association meeting as a partner with the SEC Education Forum.

Lead: Ms. Andrea Angrum, NASA Jet Propulsion Laboratory, Mail Stop 264-801, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *andrea.angrum@mail1.jpl.nasa.gov.* Phone: 818-354-6775.

URL: *http://voyager.jpl.nasa.gov*

Activities:
From the Outer Planets to the Inner City [A49]
"Live from the Aurora" [A271]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar System Ambassadors Program [A363]
Solar System Ambassadors Training [A364]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Voyager Classroom Visits [A302]
Voyager Conferences [A388]
Voyager Speakers Bureau [A389]
Voyager Tours [A390]
Windows to the Universe [A245]

Explorers

B98. Advanced Composition Explorer (ACE)

Description: The primary purpose of the ACE is to determine and compare the isotopic and elemental composition of several distinct samples of matter, including the solar corona, the interplanetary medium, the local interstellar medium, and galactic matter. For education and public outreach, ACE shares the following topics through a Web site, printed materials, workshops, and presentations: the composition of the Solar System and extrasolar bodies, particle composition from solar wind to galactic cosmic rays, the causes and effects of transient events, solar and galactic evolution, and stellar nucleosynthesis.

Lead: Ms. Beth Jacob, NASA Goddard Space Flight Center, Mail Code 661, Greenbelt, MD 20771.
E-mail: *beth@gamma.gsfc.nasa.gov.* Phone: 301-286-7209.

URL: *http://www.srl.caltech.edu/ACE/ASC/*

Activities:
A Space Science Module for Los Alamos Space Science Outreach (LASSO) [A138]
"Live from the Aurora" [A271]
NASA Connect: Having a Solar Blast [A282]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
"Space Weather Center" Traveling Exhibit [A12]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Day [A381]
Windows to the Universe [A245]

B99. Aeronomy of Ice in the Mesosphere (AIM)

Description: The scientific purpose of the AIM mission is focused on the study of Polar Mesospheric Clouds (PMCs) that form about 50 miles above Earth's surface in the summer, mostly in the polar regions. The overall goal is to resolve why PMCs form and why they vary. AIM will measure PMCs and the thermal, chemical, and dynamic environment in which they form. This will allow the connection to be made between these clouds and the meteorology of the polar mesosphere. This connection is important because a significant variability in the yearly number of noctilucent ("glow-in-the-dark") clouds (NLCs), one manifestation of PMCs, has been suggested as an indicator of global change. The body of data collected by AIM will provide the basis for a rigorous study of PMCs that can be reliably used to study past PMC changes, present trends, and their relationship to global change. In the end, AIM will provide an expanded basis for the study of long-term variability in Earth's climate. The education and public outreach programs will share the science as new discoveries indicate the connection of the Sun and Earth system.

Lead: Ms. Dianne Robinson, Hampton University, Post Office Box 6142, Hampton, VA 23668.
E-mail: *dianne.robinson@hamptonu.edu.* Phone: 757-727-5869.

URL: *http://www.hamptonu.edu/science/physics/CAS/AIM/aim.html*

B100. Fast Auroral Snapshot Explorer (FAST)

Description: The FAST Explorer was launched into orbit on August 21, 1996. The instruments aboard FAST measure charged particles which enter Earth's upper atmosphere; large waves of these particles from the Sun begin to glow once inside Earth's atmosphere, causing a spectacular light show known as the aurora borealis or northern lights. The education and public outreach for FAST includes K-12 curriculum components such as lessons, activities, and information that will help teachers and students understand the aurora, the sounding rockets, and the satellites that study them.

Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

URL: *http://cse.ssl.berkeley.edu/fast_epo/*

Activities: "Live from the Aurora" [A271]
"Northern Lights" Planetarium Show [A3]
Science Education Gateway/National Virtual Observatory [A358]
Sun-Earth Day [A381]
Windows to the Universe [A245]

B101. Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI)

Description: RHESSI is funded by NASA's Explorers Program under the category of small explorers. RHESSI may help to answer one of the most fundamental questions about how the Sun works: How do solar flares release such large quantities of energy in such a short span of time? (A single flare can be as powerful as 10 million volcanic explosions!) The centerpiece of the RHESSI mission is the imager, which uses a new technology to capture images and spectra of high-energy solar flares. RHESSI's primary education and public outreach (E/PO) goal is to provide high-quality education and outreach experiences for precollege teachers, their students, and the general public. Additionally, through our University/NASA Center collaboration, RHESSI will be able to provide research opportunities to enhance the education of undergraduate and graduate students. Thus, the RHESSI education and public outreach effort will permeate all facets of the mission, allowing the college-level students to serve as effective liaisons to the precollege community that we plan to involve. The University of California, Berkeley's E/PO efforts will focus on middle and high school teachers, their students, and the public. In the formal arena, we will concentrate on the middle school grades 6-8, since here is where RHESSI-related content is taught in the precollege science curriculum and where students typically stop being interested in science. We will also conduct regular public awareness activities, highlighting RHESSI data in collaboration with the Exploratorium. The Exploratorium's "Live@the Exploratorium" Internet netcast series will be able to highlight RHESSI during the years of high solar activity through regularly scheduled public events. To complement these high-visibility Internet netcasts for the public, we will develop self-guided Internet modules that highlight key aspects of the RHESSI mission and its data.

Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.
E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.

URL: *http://cse.ssl.berkeley.edu/hessi*

Activities: Heliostat Spectroscopy [A18]
HESSI Book Cover [A96]

"HESSI Spacecraft Model" Booklet [A97]
"Live from the Aurora" [A271]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Formal Education Student Support [A289]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Outreach to Underserved and Minority Groups [A58]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Public Outreach and Informal Education [A355]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Shares Sun-Earth Connection Science Through Conferences [A356]
Science Education Gateway/National Virtual Observatory [A358]
Science@NASA [A359]
"Space Weather Center" Traveling Exhibit [A12]
STEREO/IMPACT Formal Education Teacher Inservice Preparation [A213]
Students United with NASA Becoming Enthusiastic About Math and Science (SUNBEAMS) [A218]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Day [A381]
"Sunspots Lesson Plan Resource Guide" [A126]

B102. Imager for Magnetopause-to-Aurora Global Exploration (IMAGE)

Description: The IMAGE satellite is the first spacecraft dedicated to imaging Earth's magnetosphere, a region of space that is controlled by Earth's magnetic field and contains extremely tenuous plasmas of both solar and terrestrial origin. IMAGE employs a variety of imaging techniques to see the invisible and to produce the first comprehensive global images of plasma in the inner magnetosphere. The IMAGE education and public outreach program is called Public Outreach, Education, Teaching and Reaching Youth (or POETRY). We specialize in developing classroom activities, CD-ROMs, and other products that help students understand Earth's magnetic field, its radiation belts, and the impacts of solar activity on our technology. The goal of POETRY is to rewrite the textbooks to explain the causes of auroras, to update K-12 descriptions of Earth's magnetic field and its systems of particles, and to provide teachers with the latest information about the effects of space weather. We also conduct an award-winning "Ask the Space Scientist" Web-based resource, where students may ask questions about space science.

Lead: Dr. Sten Odenwald, NASA Goddard Space Flight Center, Mail Code 630, Greenbelt, MD 20771.
E-mail: *odenwald@mail630.gsfc.nasa.gov.* Phone: 301-286-6953.

URL: *http://image.gsfc.nasa.gov/poetry*

Activities:
A Space Science Module for Los Alamos Space Science Outreach (LASSO) [A138]
"Exploring the Earth's Magnetic Field"—An IMAGE Satellite Guide [A86]
IMAGE Amateur Astronomy Clubs [A337]
IMAGE Internet Activities [A100]
IMAGE Planetariums and Museum Lectures [A338]
IMAGE Presentations to Students [A269]
IMAGE Teacher Workshops and Training [A173]
"Live from the Aurora" [A271]
"Northern Lights" Planetarium Show [A3]
Passport to the Solar System [A236]
"Polly's and Ernie's Adventures in Space" [A121]
Science Concepts in Context [A239]
"Space Weather Center" Traveling Exhibit [A12]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]
Two Wide-angle Imaging Neutral Atom Spectrometers (TWINS) Teacher Training Program [A228]

B103. Interplanetary Monitoring Platform (IMP-8)

Description: IMP-8 (also known as IMP-J) was launched by NASA in 1973 to measure the magnetic fields, plasmas, and energetic charged particles (e.g., cosmic rays) of Earth's magnetotail and magnetosheath and of the near-Earth solar wind. IMP-8, the last of 10 IMP (Interplanetary Monitoring Platform) spacecraft launched in 10 years, continues to accumulate data that is useful in understanding long-term solar processes. IMP-8 scientists at NASA Goddard Space Flight Center provide their expertise through the validation of educational

products whose content deals with interplanetary and magnetotail studies of cosmic rays, energetic solar particles, plasma, and electric and magnetic fields.

Lead: Mr. Joseph King, NASA Goddard Space Flight Center, Mail Code 633, Greenbelt, MD 20771.
E-mail: *Joseph.H.King.1@gsfc.nasa.gov.* Phone: 301-286-7355.

URL: *http://nssdc.gsfc.nasa.gov/nmc/tmp/1973-078A.html*

Activities: "Live from the Aurora" [A271]

B104. Solar Anomalous and Magnetospheric Particle Explorer (SAMPEX)

Description: SAMPEX is designed to detect solar energy particles, precipitating energetic electrons, anomalous cosmic rays, and galactic cosmic rays throughout a solar cycle. Education and public outreach consist of SAMPEX scientists and engineers at NASA Goddard Space Flight Center who support a high school team in the Cooperative Satellite Learning Program (CSLP). The CSLP is a unique education partnership among various high schools, Allied Signal Technical Services Corporation in Seabrook, MD, and Goddard Space Flight Center that involves high school students in the process of developing and operating SAMPEX. This pilot program provides students with an understanding of the overall end-to-end system that is used to support SAMPEX, and it will demonstrate how NASA implements a specific mission for a given scientific endeavor. It also introduces the students to careers in space. A mission monitoring system in the high school receives and processes SAMPEX satellite data and provides computer-assisted tutoring. In this way, students participate directly in SAMPEX tests, simulations, and orbital operations.

Lead: Dr. Jim Watzin, NASA Goddard Space Flight Center, Mail Code 474, Greenbelt, MD 20771.
E-mail: *jim.watzin@gsfc.nasa.gov.* Phone: 301-286-7933.

URL: *http://sunland.gsfc.nasa.gov/smex/sampex/index.html*

B105. Student Nitric Oxide Explorer (SNOE)

Description: SNOE is a small scientific satellite that is measuring the effects of energy from the Sun and the magnetosphere on the density of nitric oxide in Earth's upper atmosphere. It is one of the three projects selected for the Student Explorer Demonstration Initiative Program (STEDI) to demonstrate that university-led teams can successfully carry out high-quality space science and technology missions. Students are involved in all aspects of the project. Under the supervision of the Laboratory for Atmospheric and Space Physics (LASP) of the University of Colorado (UC) and industry mentors, they worked on the design study, built the spacecraft and instruments, wrote the flight software, integrated and tested the instruments and subsystems, and integrated the satellite with the launch vehicle. SNOE will be operated from the LASP Space Technology Research building by a team of students and mission operations professionals. Advanced undergraduate and graduate students will analyze the data. The student training effort was coordinated through a course offered continuously in the UC Department of Aerospace Engineering Sciences.

Lead: Mr. Kenneth Mankoff, University of Colorado at Boulder, Boulder, CO 80309.
E-mail: *mankoff@lasp.colorado.edu.* Phone: 303-492-2326.

URL: *http://lasp.colorado.edu/snoe/*

B106. Transition Region and Coronal Explorer (TRACE)

Description: A mission of the Small Explorer program, TRACE observes the effects of the emergence of magnetic flux from deep inside the Sun to the outer corona with high spatial and temporal resolution. (TRACE was launched on April 1, 1998.)

Lead: Mr. Neal Hurlburt, Lockheed Martin Solar and Astrophysics Laboratory, 3251 Hanover Street, Palo Alto, CA 94304.
E-mail: *hurlburt@lmsal.com.* Phone: 650-354-5504.

URL: *http://vestige.lmsal.com/TRACE/*

Activities: National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
Sun-Earth Day [A381]
Sun-Earth Scale Model Brochure [A125]

B107. Two Wide-angle Imaging Neutral-atom Spectrometers (TWINS)

Description: The TWINS mission provides a new capability for stereoscopically imaging the magnetosphere. In contrast to traditional space experiments which make measurements at only one point in space, imaging experiments provide simultaneous viewing of different regions of the magnetosphere. Stereo imaging, as done by TWINS, takes the next step of producing 3-D images and will provide a leap ahead in our understanding of the global

aspects of the terrestrial magnetosphere. The TWINS education and public outreach program is carried out through the Los Alamos Space Science Outreach (LASSO) program, an umbrella program for space science education activities at Los Alamos National Lab (LANL). It is based on teacher workshops in which K-14 teachers spend several weeks at LANL learning space science from lab scientists and developing methods and materials for teaching this science to their students. The program supports an instructional model that is based on education research and cognitive theory. Students and teachers engage in activities that encourage critical thinking and a constructivist approach to learning.

Lead: Dr. Ruth Skoug, Los Alamos National Laboratory, NIS-1, Mail Stop D466, Los Alamos, NM 87545.
E-mail: *rskoug@lanl.gov.* Phone: 505-667-6594.

URL: *http://nis-www.lanl.gov/nis-projects/twins/*

Activities: A Space Science Module for Los Alamos Space Science Outreach (LASSO) [A138]
Two Wide-angle Imaging Neutral Atom Spectrometers (TWINS) Teacher Training Program [A228]

International Solar-Terrestrial Physics

B108. International Solar-Terrestrial Physics Program Office (ISTP)

Description: The ISTP program is a comprehensive effort to observe and understand our star and its effect on our environment. The education and public outreach effort focuses on sharing those discoveries in the formal and informal education communities through mentoring, exhibits, and workshops.

Activities: "Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
"Space Weather Center" Traveling Exhibit [A12]

B109. Cluster II

Description: Cluster is a European Space Agency program with major NASA involvement. The four Cluster spacecraft carry out 3-D measurements in Earth's magnetosphere, covering both large- and small-scale phenomena in the sunward and tail regions. The first two spacecraft were launched on July 16, 2000; the second pair were launched on August 9, 2000.

URL: *http://sci.esa.int/home/clusterii/index.cfm*

Activities: "Live from the Aurora" [A271]
Sun-Earth Day [A381]

B110. Geotail

Description: The Geotail mission is a collaborative project undertaken by the Japanese Institute of Space and Astronautical Science (ISAS) and NASA. Its primary objective is to study the tail of Earth's magnetosphere. The information gathered is allowing scientists to model and more accurately predict Sun-Earth interactions and their effects on space exploration, communications, and technology systems. (Geotail was launched on July 24, 1992.)

URL: *http://www-spof.gsfc.nasa.gov/istp/geotail/*

Activities: "Live from the Aurora" [A271]

B111. Polar

Description: The Solar-Terrestrial Science Program (STSP), composed of SOHO and Cluster with Geotail (ISAS-Japan), Wind, and Polar, cooperates in education and public outreach by providing educational products, science data, and images that tell the story of the Sun. These materials (images) can been seen in most museums, planetariums, and science centers, and they support STSP's work with the general public. Images are also shown by national television broadcasting companies to share a solar event with the public when it happens.

Lead: Dr. Nicola Fox, NASA Goddard Space Flight Center, Mail Code 600, Greenbelt, MD 20771.
E-mail: *nicola.fox@gsfc.nasa.gov.* Phone: 301-286-8872.

URL: *http://www-spof.gsfc.nasa.gov/istp/polar/*

Activities: Aurora Poster [A69]
"Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]

B112. Solar and Heliospheric Observatory (SOHO)

Description: SOHO is designed to study the internal structure of the Sun, its extensive outer atmosphere, and the origin of the solar wind—the stream of highly ionized gas that blows continuously outward through the Solar System. SOHO is helping us to better understand the interactions between the Sun and Earth's environment than has been possible to date. Its legacy may enable scientists to solve some of the most perplexing riddles about the Sun, including the heating of the solar corona, the acceleration of the solar wind, and the physical conditions of the solar interior. It will give solar physicists their first long-term, uninterrupted view of the mysterious star that we call the Sun. The SOHO education and public outreach program generates and distributes educational and outreach materials on the Sun and SOHO for use in schools and by the public. The materials include posters, CDs, image sets, slide sets, stickers, and videos. Scientists give presentations in classrooms, at teacher workshops, in museums, and to other scientists. Materials are also provided to publications and news organizations.

Lead: Dr. Steele Hill, NASA Goddard Space Flight Center, Mail Code 682.3, Greenbelt, MD 20771.
E-mail: *steele.hill@gsfc.nasa.gov.* Phone: 301-286-6452.

URL: *http://soho.nascom.nasa.gov/*

Activities: Heliostat Spectroscopy [A18]
Lesson Plan Development: Convection, Spectroscopy, and Velocity and Acceleration [A234]
"Live from the Aurora" [A271]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
National Convention for the National Science Teachers Association (NSTA) [A348]
Partnerships in Astronomy and Astrophysics Education and Research at Southern University [A41]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
"Space Weather Center" Traveling Exhibit [A12]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]

B113. Wind

Description: The Solar Terrestrial Science Program (STSP) composed of SOHO and Cluster, with Geotail (ISAS-Japan), Wind, and Polar, cooperates in education and public outreach by providing educational products, science data, and images that tell the story of the Sun. these materials (images) can been seen in most museums, planetariums, and science centers, and they support STSP's work with the general public. Images are also shown by national television broadcasting companies to share a solar event with the public when it happens.

Lead: Dr. Nicola Fox, NASA Goddard Space Flight Center, Mail Code 600, Greenbelt, MD 20771.
E-mail: *nicola.fox@gsfc.nasa.gov.* Phone: 301-286-8872.

URL: *http://www-istp.gsfc.nasa.gov/istp/wind/wind.html*

Activities: "Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]

Solar-Terrestrial Probes

B114. Solar-Terrestrial Probes Program Office (STP)

Description: NASA's STP program represents a significant opportunity for ground-breaking education and public outreach (E/PO) in the fields of solar science, information technology, engineering studies, and the Solar System. The STP program office initiates programs that adhere to E/PO guidelines as set forth by the Office of Space Science. This includes E/PO efforts for formal and informal education, public outreach, and public and media relations. The program promotes excellence in science, mathematics, engineering, and technology education through its direct involvement in partnerships, workshops, and internships. Most programs lend themselves to nationwide participation, with a special emphasis on serving groups that have been historically underrepresented in the space sciences.

Lead: Ms. Barbara Lambert, NASA Goddard Space Flight Center, Mail Code 460, Greenbelt, MD 20771.
E-mail: *Barbara.J.Lambert.1@gsfc.nasa.gov.* Phone: 301-286-1275.
URL: *http://stp.gsfc.nasa.gov*
Activities: Living With a Star (LWS) Master Teacher Leadership and Mentor Program [A183]
Living With a Star (LWS) Preservice Workshop [A184]
Our Star the Sun—Living With a Star (LWS) Summer Institute [A193]
Solar-Terrestrial Probes (STP) Educational Programs and Workshops [A208]
Solar-Terrestrial Probes (STP) Outreach [A365]
Solar-Terrestrial Probes (STP) Student Competitions [A290]
Student Interns Gain Professional Experience on the Solar-Terrestrial Probes (STP) Program [A296]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]
Teacher Interns Explore Solar-Terrestrial Probes (STP) [A222]

B115. Magnetospheric Multiscale (MMS)

Description: Broad regions of Earth's magnetosphere are connected by fundamental processes operating in the thin boundary layers. Processes of vastly different scale sizes can interact strongly. Understanding these fundamental processes requires multipoint measurements that uniquely separate temporal and 3-D spatial variations. The MMS mission goal is to make those necessary measurements with a five-spacecraft constellation in highly eliptical orbits. MMS is a future Solar-Terrestrial Probes mission.
URL: *http://stp.gsfc.nasa.gov/missions/mms/mms.htm*
Activities: "Live from the Aurora" [A271]

B116. Solar-B

Description: The Solar-B satellite observatory will be launched into a polar orbit around Earth to allow almost uninterrupted observations of our Sun. Three major instruments will make coordinated observations at multiple wavelengths, examining the processes taking place on the Sun's surface and in its atmospheric envelope. Solar-B education and public outreach will be developed and implemented primarily at the new Chabot Space and Science Center in Oakland, CA, in collaboration with the Lockheed Martin Solar and Astrophysics Laboratory. The forms of education and outreach include exhibits, teacher training workshops, video/multimedia productions, posters and brochures, an adult solar astronomy class, "solar" summer camps for children, and a high school solar astronomy internship program.
Lead: Mr. Benjamin Burress, Chabot Space and Science Center, 10902 Skyline Blvd., Oakland, CA 94619.
E-mail: *bburress@chabotspace.org.* Phone: 510-336-7308.
URL: *http://www.chabotspace.org/vsc/exhibits/solarb/default.asp*
Activities: Fun in the Sun—Summer Camp [A331]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Public Outreach and Informal Education [A355]
Solar Eclipse Watch [A362]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sunspotting—Tracking the Wild Sunspot [A382]
"Touch the Sun" [A131]
"Touch the Sun" Teacher Workshop [A227]

B117. Solar-Terrestrial Relations Observatory (STEREO)

Description: STEREO is the third of five Solar-Terrestrial Probes, and it will obtain simultaneous images of the Sun from two spacecraft and build a 3-D picture of coronal mass ejections (CMEs) and the complex structures around them. STEREO will also study the propagation of disturbances through the heliosphere and their effects at Earth orbit. The STEREO education and public outreach program participates in the Sun-Earth Connection Education Forum, sponsored workshops that meet the needs of educators at all grade levels. We present these workshops to inservice educators to teach them about the most recent and relevant solar and STEREO science discoveries, which they will then teach in their classrooms. Mission scientists participate in the workshops to share the science content. Education specialists provide integrated, hands-on activities to demonstrate science application in the classroom. The missions also provide images and animations to support programs that have been developed by the science centers, specifically for educators and for the general public.
Lead: Dr. Nahide Craig, University of California, Berkeley, Mail Code 7450, Berkeley, CA 94720.

E-mail: *ncraig@ssl.berkeley.edu.* Phone: 510-643-7273.
URL: *http://stp.gsfc.nasa.gov/missions/stereo/stereo.htm*
Activities: "Live from the Aurora" [A271]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Formal Education Student Support [A289]
Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Public Outreach and Informal Education [A355]
Science Education Gateway/National Virtual Observatory [A358]
STEREO/IMPACT Formal Education Teacher Inservice Preparation [A213]
STEREO/PLASTIC Interactive Workshops [A214]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Day [A381]

B118. Thermosphere Ionosphere Mesosphere Energetics and Dynamics (TIMED)

Description: The TIMED mission will study the influences of the Sun and humans on the least explored and understood region of Earth's atmosphere, the Mesosphere and Lower Thermosphere/Ionosphere (MLTI). The MLTI region is a gateway between Earth's environment and space, where the Sun's energy is first deposited into Earth's environment. TIMED will focus on a portion of this region located approximately 60-180 kilometers above the surface. From studying portions of Earth's atmosphere, scientists believe global change is occurring primarily due to variations in the Sun's cycle and to the human-induced release of gases such as methane and carbon dioxide into this atmosphere. The TIMED education and public outreach Web site offers activities, a Teacher's Corner, and TIMED lesson plans.
Lead: Ms. Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, 11100 Johns Hopkins Road, Laurel, MD 20723-6099.
E-mail: *kerri.beisser@jhuapl.edu.* Phone: 443-778-6050.
URL: *http://www.timed.jhuapl.edu/*
Activities: "Live from the Aurora" [A271]
Near-Earth Asteroid Rendevous (NEAR) Classroom Visits and Student Events [A284]
Near-Earth Asteroid Rendevous (NEAR) Museum and Conference Exhibits and Support [A26]
Near-Earth Asteroid Rendevous (NEAR) Special Interest Groups [A350]
Near-Earth Asteroid Rendevous (NEAR) Student Events/Support [A285]
Near-Earth Asteroid Rendezvous (NEAR) Teacher Support [A190]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Solar-Terrestrial Probes (STP) Student Competitions [A290]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day [A381]
TIMED Classroom Visits and Student Events [A299]
TIMED Public Outreach [A386]
TIMED Spacecraft Mobile [A129]
TIMED Spacecraft Model [A130]
TIMED Student Events [A300]
TIMED Teacher Support [A226]

Other NASA Programs

B119. Living With a Star (LWS)

Description: Living With a Star (LWS) is a NASA initiative that addresses aspects of the Sun-Earth system that affect life and society. This program is a part of the Sun-Earth Connection (SEC) theme within the Office of Space Science. The program elements are 1) a space weather research network, 2) theory, modeling, and data analysis programs, 3) space environment testbeds, and 4) established and expanded partnerships. The goals and objectives link to each of the six NASA Strategic Enterprises: Space Science, Earth Science, Human Exploration and Development of Space, Aerospace Technology, Biological and Physical Research, and Education.
Lead: Dr. Evelina Felicite-Maurice, NASA Goddard Space Flight Center, Mail Code 460, Greenbelt, MD 20771.
E-mail: *efelicit@pop400.gsfc.nasa.gov.* Phone: 301-286-6949.

URL: *http://lws.gsfc.nasa.gov*
Activities: "Live from the Aurora" [A271]
Living With a Star (LWS) Follow-Up Program and School Visits [A180]
Living With a Star (LWS) Information Technology Program [A181]
Living With a Star (LWS) Inservice Teacher Workshop [A182]
Living With a Star (LWS) Master Teacher Leadership and Mentor Program [A183]
Living With a Star (LWS) Preservice Workshop [A184]
Living With a Star (LWS) Student Internship [A272]
Living With a Star (LWS) Summer Teacher Internship [A185]
Our Star the Sun—Living With a Star (LWS) Summer Institute [A193]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Sun-Earth Connection Education Forum (SECEF) Conference Programs [A219]
Sun-Earth Connection Education Forum (SECEF) Professional Development: Sharing Sun-Earth Connections with Inservice Teachers [A221]
Sun-Earth Day Information for Tribal Schools [A60]

B120. Space Technology-5 [New Millennium] (ST-5)

Description: "The Space Place" has involved ST-5 in the following events/activities: We attend conferences to promote "The Space Place" and all of the projects involved with the Web site. Usually, mission- or Space Place-related items are passed out. Libraries, science museums, planetariums, zoos, and aquariums in the United States have formed Club Space Place partnerships with NASA. They get Space Place-provided display materials, an activity guide, and handouts for an original group activity. Through these partnerships, we promote "The Space Place" Web site and NASA Jet Propulsion Laboratory missions. Club Space Place provides quarterly, interdisciplinary, hands-on activities that are related to space or Earth science. These quarterly activities go to Space Place library and museum partners, Boys & Girls Clubs of America, the YWCA, and the Civil Air Patrol. Presently there are 272 partners reaching thousands of children. On a monthly basis, Space Place provides articles for over 20 newspapers nationwide in English and Spanish. The combined readership for that one day a month adds up to more than 2.5 million. The articles always end with information on activities, a link to "The Space Place" Web site, and links to mission Web sites. Diane Fisher submits articles to "Technology and Children" magazine four times a year and articles to "The Technology Teacher" magazine eight times a year. Each article, published under a Space Place header, refers to a particular mission. Each "Technology and Children" publication reaches an estimated 1,400 teachers and their students (up to 42,000 children), and each "The Technology Teacher" publication reaches an estimated 8,000 teachers and their students (up to 224,000 children). Articles are also posted on ITEA's Web site which reaches an even wider audience. "The Space Place" Web site is a dynamic site that offers interactive experiences and fun facts for children and adults. "The Space Place" is supported by the New Millennium Program. It reaches an average of 3,000 viewers a day.
Lead: Ms. Nancy Leon, NASA Jet Propulsion Laboratory, Mail Stop 171-350, 4800 Oak Grove Drive, Pasadena, CA 91109.
E-mail: *Nancy.J.Leon@jpl.nasa.gov.* Phone: 818-354-1067.
URL: *http://spaceplace.nasa.gov*
Activities: Club Space Place Activities [A322]
"Design a Tortilla Spacecraft!" [A82]
From the Outer Planets to the Inner City [A49]
National Conference for the International Technology Education Association [A188]
National Conference for the National Council of Teachers of Mathematics (NCTM) [A347]
Space Place Contributions to ITEA's "Technology and Children" [A368]
Space Place Contributions to ITEA's "The Technology Teacher" [A369]
Space Place Museum and Library Partnerships [A370]
Space Place Newspaper Contributions [A371]

International Missions with NASA Participation

B121. Yohkoh

Description: Yohkoh, an observatory for studying x rays and gamma rays from the Sun, is a project of the Institute for Space and Astronautical Sciences, Japan. The spacecraft was built in Japan, but the observing instruments had contributions from the United States and from Great Britain. Yohkoh was launched on August 30, 1991;

the spacecraft lost attitude control in December 2001, and recovery attempts have been unsuccessful.

URL: *http://www.lmsal.com/SXT/*

Activities: "Live from the Aurora" [A271]
Passport to the Solar System [A236]
Science Concepts in Context [A239]
Sun-Earth Day [A381]
The Dynamic Sun Planetarium Project [A4]

APPENDIX C. Contributing Scientists, Technologists, and Support Personnel

The NASA Office of Space Science is very pleased to acknowledge the more than 1,000 OSS-affiliated scientists, technologists, and support personnel who contributed to developing Education and Public Outreach (E/PO) products or conducting E/PO activities in FY 2002. The names and affiliations of these dedicated individuals are listed below. The numbers in the brackets to the right of each entry refer to the product or activity in Appendix A to which the individual contributed.

Individual Affiliated	Organization	Reference in Appendix A
Ms. Kim Aaron	NASA Jet Propulsion Laboratory	[A237]
Ms. Tracey Abbott	NASA Jet Propulsion Laboratory	[A343]
Ms. Faith Abney	Space Telescope Science Institute	[A336]
Ms. Eleanor Abrams	University of New Hampshire	[A214]
Mr. Chuck Acton	NASA Jet Propulsion Laboratory	[A136]
Dr. Loren Acton	Montana State University	[A4]
Dr. Mario Acuna	NASA Goddard Space Flight Center	[A52]
Mr. Mark Adler	NASA Jet Propulsion Laboratory	[A343]
Dr. Michael A'Hearn	University of Maryland	[A81, A327]
Ms. Rachel Akeson	NASA Jet Propulsion Laboratory	[A349]
Ms. Joanne Alano	NASA Jet Propulsion Laboratory	[A343]
Ms. Cindy Alarcon-Rivera	NASA Jet Propulsion Laboratory	[A49]
Ms. Lucy Albert	Space Telescope Science Institute	[A334, A335, A336]
Dr. Claudia Alexander	NASA Jet Propulsion Laboratory	[A236, A239, A245]
Dr. David Alexander	Lockheed Martin Solar and Astrophysics Laboratory	[A236]
Dr. Louis Allamandola	NASA Ames Research Center	[A77, A346]
Dr. Carlton Allen	NASA Johnson Space Center	[A33, A87, A143, A164, A187, A257, A346]
Ms. Jaclyn Allen	Lockheed Martin Engineering and Sciences	[A22, A33, A51, A160, A161, A164, A187, A199, A238, A257, A346, A348]
Dr. Richard Alley	Pennsylvania State University	[A239]
Mr. Jose Alonso	University of Puerto Rico at Mayagüez	[A174]
Linda Amaral-Zettler	Woods Hole Oceanographic Institute	[A162]
Dr. Frank Ameduri	Los Alamos National Laboratory	[A228]
Ms. Elizabeth Amini	NASA Jet Propulsion Laboratory	[A49]
Dr. Bob Anderson	NASA Jet Propulsion Laboratory	[A168, A343]
Mr. Ed Anderson	Northern Arizona University	[A50]
Dr. Scott Anderson	NASA Jet Propulsion Laboratory	[A186]
Dr. Paul Andres	NASA Jet Propulsion Laboratory	[A24]
Ms. Andrea Angrum	NASA Jet Propulsion Laboratory	[A49, A364, A381, A388]
Mr. Peter Antreasian	NASA Jet Propulsion Laboratory	[A270]
Ms. Felipita Aragon	Ball Aerospace Technologies Corporation	[A261]
Mr. Roberto Arceo	University of Texas at El Paso	[A36]
Mr. Michael Arida	NASA Goddard Space Flight Center	[A223, A324]
Ms. Nina Armagno	NASA Kennedy Space Center	[A270]
Dr. Richard Arquilla	Space Telescope Science Institute	[A89]
Dr. Raymond Arvidson	Washington University	[A236, A275]
Ms. Shari Asplund	NASA Jet Propulsion Laboratory	[A49]
Mr. David Atkinson	NASA Jet Propulsion Laboratory	[A147, A197]
Ms. Robin Auer	Space Telescope Science Institute	[A336]
Mr. Richard August	Mt. Wilson Institute	[A364]
Ms. Shermane Austin	Medgar Evers College	[A40]
Mr. Ron Baalke	NASA Jet Propulsion Laboratory	[A364]
Mr. Glen Baer	Johns Hopkins University Applied Physics Laboratory	[A226, A300]
Mr. Jim Baer	Ball Aerospace Technologies Corporation	[A327]

Dr. Fred Baganoff	Massachusetts Institute of Technology	[A316, A317]
Mr. Erik Bailey	NASA Jet Propulsion Laboratory	[A344]
Mr. Vince Bailey	Johns Hopkins University Applied Physics Laboratory	[A300]
Mr. Kevin Baines	NASA Jet Propulsion Laboratory	[A237]
Mr. Mark Balzer	NASA Jet Propulsion Laboratory	[A278]
Dr. Josh Bandfield	Arizona State University	[A270]
Mr. Thomas Bank	Ball Aerospace Technologies Corporation	[A261]
Mr. Todd Barber	NASA Jet Propulsion Laboratory	[A147, A277, A314, A343, A344]
Dr. Louis Barbier	NASA Goddard Space Flight Center	[A340]
Mr. Philip Barker	Los Alamos National Laboratory	[A138, A228]
Dr. David Barnaby	Western Kentucky University	[A295]
Dr. Olivier Barnouin-Jha	Johns Hopkins University Applied Physics Laboratory	[A274]
Ms. Lindsay Bartolone	Adler Planetarium and Astronomy Museum	[A83, A94, A110, A124, A140, A342]
Dr. Gibor Basri	University of California, Berkeley	[A227]
Dr. Deborah Bass	NASA Jet Propulsion Laboratory	[A275, A344]
Dr. Pat Beauchamp	NASA Jet Propulsion Laboratory	[A373]
Dr. Brad Bebout	NASA Ames Research Center	[A346]
Dr. John Beck	Stanford University	[A221, A236, A270, A277, A358, A381]
Dr. Bernhard Beck-Winchatz	DePaul University	[A27, A133, A135, A209, A292]
Dr. Alberto Behar	NASA Jet Propulsion Laboratory	[A236]
Dr. Peter Beiersdorfer	Lawrence Livermore National Laboratory	[A35]
Ms. Kerri Beisser	Johns Hopkins University Applied Physics Laboratory	[A26, A190, A222, A226, A236, A285, A300, A386]
Ms. Diane Bell	University of Tennessee at Martin	[A336]
Dr. Jim Bell	Cornell University	[A10]
Ms. Mary Sue Bell	Lockheed Martin Engineering and Sciences	[A257]
Ms. Kelly Bender	Arizona State University	[A108, A270, A276, A344]
Ms. Meredith Bene	NASA Goddard Space Flight Center	[A219]
Dr. Robert Benjamin	University of Wisconsin-Madison	[A294]
Mr. Boonsieng Benjauthrit	NASA Jet Propulsion Laboratory	[A277]
Dr. Charles Bennett	NASA Goddard Space Flight Center	[A83, A94, A110, A122, A124]
Dr. Michael Bennett	Astronomical Society of the Pacific (ASP)	[A62, A144, A215, A225, A249, A374]
Mr. Merrick Berg	NASA Goddard Space Flight Center	[A40]
Mr. Chuck Bergh	NASA Jet Propulsion Laboratory	[A278]
Ms. Sheryl Bergstrom	NASA Jet Propulsion Laboratory	[A343]
Mr. Richard Berk	NASA Jet Propulsion Laboratory	[A237]
Dr. David Bermudes	Yale University	[A179]
Dr. Ken Berry	NASA Jet Propulsion Laboratory	[A348]
Dr. Connie Bertka	American Association for the Advancement of Science (AAAS)	[A52]
Ms. Laura Berwin	NASA Jet Propulsion Laboratory	[A275]
Dr. Manfred Bester	University of California, Berkeley	[A355]
Ms. Rosalie Betrue	NASA Jet Propulsion Laboratory	[A22]
Ms. Kristina Beuning	NASA Jet Propulsion Laboratory	[A237]
Mr. Guy Beutelschies	NASA Jet Propulsion Laboratory	[A270]
Dr. Michael Bicay	California Institute of Technology	[A367]
Mr. Joseph Bishop	NASA Jet Propulsion Laboratory	[A278]
Mr. Leo Bister	NASA Jet Propulsion Laboratory	[A277]
Mr. William Bittman	Ball Aerospace Technologies Corporation	[A261, A327]
Mr. Brett Blacker	Space Telescope Science Institute	[A336]

Mr. Derek Blackway	NASA Jet Propulsion Laboratory	[A49, A270, A277, A343, A344]
Dr. Diana Blaney	NASA Jet Propulsion Laboratory	[A275]
Mr. Gary Block	NASA Jet Propulsion Laboratory	[A49]
Mr. Ron Boain	NASA Jet Propulsion Laboratory	[A364]
Dr. Matthew Bobrowsky	Challenger Center for Space Science Education	[A52]
Ms. Donna Boccio	Queensborough Community College	[A40]
Ms. Angela Boehne	NASA Jet Propulsion Laboratory	[A237]
Dr. Donald Bogard	NASA Johnson Space Center	[A238]
Dr. Donna Bogner	Mid-continent Research for Education and Learning (McREL)	[A266]
Dr. Scott Bolton	NASA Jet Propulsion Laboratory	[A265, A270, A329]
Mr. Jeffrey Booth	NASA Jet Propulsion Laboratory	[A49]
Mr. Joseph Borovsky	Los Alamos National Laboratory	[A138, A228]
Mr. Wayne Bosze	NASA Jet Propulsion Laboratory	[A49]
Ms. Cassie Bowman	NASA Ames Research Center	[A275]
Dr. Patricia Boyd	NASA Goddard Space Flight Center	[A223]
Mr. James Boyer	NASA Jet Propulsion Laboratory	[A237]
Dr. Bill Boynton	University of Arizona	[A270, A364]
Ms. Heather Bradbury	Space Telescope Science Institute	[A98, A99, A336]
Dr. Neil Brandt	Pennsylvania State University	[A229]
Ms. Susan Braunheim-Kalagerakos	NASA Jet Propulsion Laboratory	[A24, A49, A343]
Dr. Kenneth Brecher	Boston University	[A5, A16]
Dr. Roger Brissenden	Chandra X-Ray Center	[A5, A320]
Mr. James Bristol	Colorado School for the Deaf and the Blind	[A266]
Dr. Steve Brody	NASA Office of Space Science	[A52]
Dr. Taft Broome	Howard University	[A52]
Dr. Beth Brown	NASA Goddard Space Flight Center	[A40]
Dr. Donald Brownlee	University of Washington	[A364]
Mr. Enrico Bruno	NASA Jet Propulsion Laboratory	[A343]
Mr. Robert Bruntz	University of Texas at El Paso	[A36]
Mr. Larry Bryant	NASA Jet Propulsion Laboratory	[A270, A343]
Dr. Scott Budzein	Naval Research Laboratory	[A52]
Dr. Royce Buehler	Massachusetts Institute of Technology	[A287]
Dr. Ben Burress	Chabot Space and Science Center	[A221]
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Ms. Linda Butler	Johns Hopkins University Applied Physics Laboratory	[A300, A386]
Mr. Mike Butler	Johns Hopkins University Applied Physics Laboratory	[A290]
Mr. D. J. Byrne	NASA Jet Propulsion Laboratory	[A278]
Mr. Thomas Calderwood	Chandra X-Ray Center	[A320]
Dr. John Callas	NASA Jet Propulsion Laboratory	[A270, A275, A277]
Dr. Bruce Campbell	NASA Goddard Space Flight Center	[A290, A365]
Dr. Humberto Canate	Hostos Community College	[A40]
Dr. Claude Canizares	Massachusetts Institute of Technology	[A316]
Dr. Michael Carini	Western Kentucky University	[A295]
Mr. Michael Carlowicz	NASA Goddard Space Flight Center	[A12, A236, A348]
Mr. Scott Carpenter	NASA Jet Propulsion Laboratory	[A49, A343]
Dr. Michael Carr	U.S. Geological Survey	[A10]
Ms. Laurie Carrillo	NASA Johnson Space Center	[A33]
Dr. George Carruthers	Naval Research Laboratory	[A52]
Mr. Frank Carsey	NASA Jet Propulsion Laboratory	[A237]
Mr. Donald Carson	NASA Goddard Space Flight Center	[A193]
Dr. Sandra Castro	California Institute of Technology	[A5]
Mr. Joseph Catanzarite	NASA Jet Propulsion Laboratory	[A189]
Mr. David Cha	NASA Jet Propulsion Laboratory	[A270, A343, A344]
Dr. Deepto Chakrabarty	Massachusetts Institute of Technology	[A317]

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Dr. Andrew Cheng	Johns Hopkins University Applied Physics Laboratory	[A236, A239]
Mr. Kar-Ming Cheung	NASA Jet Propulsion Laboratory	[A343]
Dr. Allan Cheuvront,	Lockheed Martin Space Systems	[A211, A373]
Ms. Kathy Chock	Kamehameha Elementary School	[A39]
Dr. Phil Christensen	Arizona State University	[A105, A106, A107, A108, A109, A186, A187, A270, A276, A343, A344]
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Dr. Chris Chyba	SETI Institute	[A236, A239]
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Dr. Todd Clancy	Space Science Institute	[A10]
Dr. Benton C. Clark	Lockheed Martin Space Systems	[A10]
Mr. Gilbert Clark	NASA Jet Propulsion Laboratory	[A364]
Ms. Lindsay Clark	Arizona State University	[A78]
Mr. Tom Clausen	NASA Ames Research Center	[A221]
Mr. Marc Clayton	Johns Hopkins University Applied Physics Laboratory	[A300]
Ms. Cathy Clemens	Museum of Science	[A336]
Dr. Simon Clemett	Lockheed Martin Engineering and Sciences	[A257, A346]
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Mr. David Clough	NASA Jet Propulsion Laboratory	[A344]
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Dr. James Coffield	Wheeling Jesuit University	[A187]
Dr. Paul Coleman	University of Hawaii at Manoa	[A39]
Mr. Gilberto Colon	NASA Goddard Space Flight Center	[A193, A296]
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Dr. Guy Consolmagno	University of Arizona	[A364]
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Mr. Brian Cook	NASA Jet Propulsion Laboratory	[A328]
Dr. Kem Cook	Lawrence Livermore National Laboratory	[A37]
Mr. Richard Cook	NASA Jet Propulsion Laboratory	[A187, A270]
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Mr. Alan Cummings	California Institute of Technology	[A364]
Mr. Noss Dale	Arizona State University	[A24]
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Mr. Rob Decker	NASA Goddard Space Flight Center	[A364]
Dr. Craig De Forest	Southwest Research Institute	[A236, A239]
Dr. Eric De Jong	NASA Jet Propulsion Laboratory	[A24, A236, A270]
Dr. Dot Delapp	Los Alamos National Laboratory	[A228]
Mr. Paul Delaune	NASA Johnson Space Center	[A270]
Ms. Dina Demara	Ball Aerospace Technologies Corporation	[A261]
Dr. Brian Dennis	NASA Goddard Space Flight Center	[A40, A355]
Dr. Georgia DeNolfo	NASA Goddard Space Flight Center	[A223]
Dr. David Des Marais	NASA Ames Research Center	[A346, A392]
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Dr. Eleanor Dixon	NASA Johnson Space Center	[A257]
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Dr. Megan Donahue	Space Telescope Science Institute	[A336]
Dr. Andrea Donnellan	NASA Jet Propulsion Laboratory	[A343]
Mr. David Doody	NASA Jet Propulsion Laboratory	[A314]
Dr. Peter Doran	University of Illinois at Chicago	[A307]
Ms. Barbara Dorritie	Cambridge Rindge and Latin School	[A179]
Dr. Eric Dors	Los Alamos National Laboratory	[A228]
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Mr. Ron Draper	NASA Jet Propulsion Laboratory	[A258]
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Dr. Ken Edgett	Malin Space Science Systems	[A10, A186, A270]
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Ms. Heather Enos	University of Arizona	[A270, A364]
Mr. Mike Ensminger	Ball Aerospace Technologies Corporation	[A327]
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Dr. Rob Eppler	Swales Aerospace	[A52]
Mr. Doug Equils	NASA Jet Propulsion Laboratory	[A49]
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Mr. William Fish	NASA Jet Propulsion Laboratory	[A237]
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Mr. Larry Fowler	NASA Jet Propulsion Laboratory	[A278]
Mr. Craig Fox	NASA Jet Propulsion Laboratory	[A237]
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Mr. Jay Friedlander	NASA Goddard Space Flight Center	[A40]
Dr. Scott Friedman	Johns Hopkins University	[A336]
Mr. James Frost	LaGuardia Community College	[A40]
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Mr. Mike Garrett	NASA Jet Propulsion Laboratory	[A343]
Dr. Jim Garvin	NASA Office of Space Science	[A187, A270, A343]
Dr. Peter Gary	Los Alamos National Laboratory	[A138, A228]
Ms. Olivia Garza	Raul Yzaguirre School for Success	[A33]
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Mr. S. Michael Gayle	NASA Jet Propulsion Laboratory	[A270]
Dr. Neil Gehrels	NASA Goddard Space Flight Center	[A74]
Dr. Harold Geller	George Mason University	[A52]
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Mr. Roger Gibbs	NASA Jet Propulsion Laboratory	[A187, A270, A343]
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Dr. Barbara Giles	NASA Goddard Space Flight Center	[A69]
Mr. Steve Gillam	NASA Jet Propulsion Laboratory	[A49]
Mr. Bernard Gilroy	NASA Jet Propulsion Laboratory	[A237]
Mr. Winston Gin	NASA Jet Propulsion Laboratory	[A277]
Dr. Owen Gingerich	Harvard-Smithsonian Center for Astrophysics	[A5]
Mr. Joseph Girard	Ball Aerospace Technologies Corporation	[A327]
Mr. Gary Glass	NASA Jet Propulsion Laboratory	[A328]
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Dr. Jennifer Goetz	University of Rochester	[A242]
Dr. Robert Gold	Johns Hopkins University Applied Physics Laboratory	[A350]
Mr. Barry Goldstein	NASA Jet Propulsion Laboratory	[A270]
Dr. Jeffrey Goldstein	Challenger Center for Space Science Education	[A52]
Mr. John Goldsten	Johns Hopkins University Applied Physics Laboratory	[A284]
Dr. Matthew Golumbek	NASA Jet Propulsion Laboratory	[A24, A187, A236, A270, A343]
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Mr. Steven Gorevan	Honeybee Robotics, Ltd.	[A270]
Mr. Varoujan Gorjian	NASA Jet Propulsion Laboratory	[A265]
Mr. Zareh Gorjian	NASA Jet Propulsion Laboratory	[A270]
Dr. Roy Gould	Harvard-Smithsonian Center for Astrophysics	[A1, A16, A151, A281, A348]
Mr. Bob Gounley	NASA Jet Propulsion Laboratory	[A343]
Mr. Trevor Graff	Arizona State University	[A186, A270]
Mr. Tim Graves	Sonoma State University	[A172]
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Dr. Jacklyn Green	NASA Jet Propulsion Laboratory	[A85]
Dr. Steve Greenbaum	Hunter College	[A40]
Ms. Irene Greenberger	Johns Hopkins University Applied Physics Laboratory	[A350]
Dr. Raymond Greenwald	Johns Hopkins University Applied Physics Laboratory	[A386]
Mr. Bruce Gregory	Harvard-Smithsonian Center for Astrophysics	[A5]

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Mr. David Gruel	NASA Jet Propulsion Laboratory	[A187]
Mr. John Gruener	Lockheed Martin Engineering and Sciences	[A257]
Dr. John Grunsfield	NASA Johnson Space Center	[A40, A364, A387]
Dr. Ming Gu	Massachusetts Institute of Technology	[A35]
Mr. Angel Guarnica	NASA Jet Propulsion Laboratory	[A270]
Ms. Carol Guerrero	NASA Jet Propulsion Laboratory	[A49]
Dr. Ricardo Guerrero	University of Barcelona	[A179]
Mr. Richard Guerrero	NASA Jet Propulsion Laboratory	[A49, A277]
Dr. Edward Guiness	Washington University	[A275]
Mr. Ani Guirakosyan	NASA Jet Propulsion Laboratory	[A49]
Dr. Jessie Gunnard	University of Massachusetts	[A179]
Dr. Robert Haberle	NASA Ames Research Center	[A10]
Mr. Geoffrey Haines-Stiles	Geoff Haines-Stiles Productions	[A270, A271]
Dr. Gerald Halpert	NASA Jet Propulsion Laboratory	[A344]
Dr. Vicky Hamilton	Arizona State University	[A105, A106, A107, A186, A187, A270, A343, A344]
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Mr. John Hardie	NASA Jet Propulsion Laboratory	[A237]
Dr. Wanda Harding	NASA Office of Human Resources and Education	[A52]
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Mr. James Harold	Space Science Institute	[A339, A398]
Dr. Doyal Harper	University of Chicago	[A209]
Dr. James Harrington	NASA Goddard Space Flight Center	[A40, A52]
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Dr. Walt Harris	University of Wisconsin-Madison	[A294]
Ms. Robyn Harrison	National Radio Astronomy Observatory	[A149]
Dr. Ilana Harrus	NASA Goddard Space Flight Center	[A122]
Mr. Theodore Hartka	Johns Hopkins University Applied Physics Laboratory	[A284]
Mr. Peter Harvey	University of California, Berkeley	[A355]
Dr. David Hathaway	NASA Marshall Space Flight Center	[A270]
Dr. Isabel Hawkins	University of California, Berkeley	[A125, A219, A221, A271, A297, A348, A355, A358, A379, A380, A381]
Dr. Saeko Hayashi	Subaru Telescope	[A39]
Dr. Robert Hazen	Carnegie Institute of Washington	[A127]
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Dr. Etta Heber	Chabot Space and Science Center	[A343]
Ms. Irene Hegarty	University of California, Berkeley	[A358]
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Mr. Salvador Hernandez	University of Texas at El Paso	[A36]
Mr. Paul Herrera	NASA Jet Propulsion Laboratory	[A277]
Dr. Fred Herrero	NASA Goddard Space Flight Center	[A181, A182, A193, A296, A365]
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Mr. Christopher Hersman	Johns Hopkins University Applied Physics Laboratory	[A284]
Ms. Lorna Hess-Frey	Ball Aerospace Technologies Corporation	[A261]
Ms. Inge Heyer	Space Telescope Science Institute	[A334, A335, A336]
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Dr. Klaus Hodapp	University of Hawaii at Manoa	[A39]
Mr. James Hodder	NASA Jet Propulsion Laboratory	[A329]
Dr. Tori Hoehler	NASA Ames Research Center	[A163, A187, A346]
Dr. Eugene Hoffman	Morgan State University	[A290]
Dr. Robert Hoffman	NASA Goddard Space Flight Center	[A12, A69]
Mr. Robert Hogg	NASA Jet Propulsion Laboratory	[A278]
Mr. Tim Hogle	NASA Jet Propulsion Laboratory	[A389]
Mr. Karl Holub	Johns Hopkins University Applied Physics Laboratory	[A284]
Mr. John Hopeck	NASA Jet Propulsion Laboratory	[A237]
Dr. Ayanna Howard	NASA Jet Propulsion Laboratory	[A55, A343]
Mr. Steve Howell	Planetary Science Institute	[A37]
Mr. Shouhua Huang	NASA Jet Propulsion Laboratory	[A278]
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Dr. David Huenemoerder	Massachusetts Institute of Technology	[A317]
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Mr. Scott Hulme	NASA Jet Propulsion Laboratory	[A270, A277]
Ms. Helen Hunt	Johns Hopkins University	[A336]
Mr. Brent Hunter	NASA Jet Propulsion Laboratory	[A278]
Dr. Terry Huntsberger	NASA Jet Propulsion Laboratory	[A344]
Mr. Ken Hurst	NASA Jet Propulsion Laboratory	[A278]
Dr. Robert Hurt	California Institute of Technology	[A367]
Dr. Mark Hurwitz	University of California, Berkeley	[A355]
Mr. William Imbriale	NASA Jet Propulsion Laboratory	[A328]
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Dr. Anthony Irving	University of Washington	[A163, A187]
Dr. Louis Irwin	University of Texas at El Paso	[A36]
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Dr. Deborah Jackson	NASA Jet Propulsion Laboratory	[A40]
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Ms. Suzanne Jacoby	National Optical Astronomy Observatory (NOAO)	[A154]
Dr. Don Jaffe	University of Texas at Austin	[A201]
Mr. Moriba Jah	NASA Jet Propulsion Laboratory	[A270]
Dr. Bruce Jakosky	University of Colorado at Boulder	[A10]
Mr. Nathan James	NASA Goddard Space Flight Center	[A52]
Dr. Philip James	University of Toledo	[A10]
Mr. Dave Jarrett	NASA Jet Propulsion Laboratory	[A323]
Ms. Mona Jasnow	NASA Jet Propulsion Laboratory	[A364]
Ms. Sharon Jeffrey	NASA Jet Propulsion Laboratory	[A237]
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Mr. Willis Jenkins	NASA Goddard Space Flight Center	[A365]
Dr. Helmut Jenkner	Space Telescope Science Institute	[A335]
Dr. Joe Jensen	Gemini Observatory	[A39]
Ms. Alice Jerahian	NASA Jet Propulsion Laboratory	[A270, A279]
Ms. Holly Jessop	Chandra X-Ray Center	[A259]
Dr. Mario Jimenez-Garate	Massachusetts Institute of Technology	[A287]
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Dr. Leon Johnson	Medgar Evers College	[A40]
Dr. Roberta Johnson	University Corporation for Atmospheric Research (UCAR)	[A245]
Mr. Roger Johnson	NASA Jet Propulsion Laboratory	[A237]
Dr. Torrence Johnson	NASA Jet Propulsion Laboratory	[A236]

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Mr. Loren Jones	NASA Jet Propulsion Laboratory	[A261]
Ms. Rhonda Jones	NASA Jet Propulsion Laboratory	[A49]
Mr. Steven Jones	NASA Jet Propulsion Laboratory	[A136, A211]
Dr. Thomas Jones	Cornell University	[A323]
Ms. Alicia Joseph	NASA Goddard Space Flight Center	[A40]
Dr. Philip Kaaret	Harvard-Smithsonian Center for Astrophysics	[A191]
Mr. Steven Kadel	Glendale Community College	[A50, A139]
Dr. Jim Kaler	University of Illinois at Urbana-Champaign	[A133, A237]
Ms. Robin Kantor	Space Telescope Science Institute	[A336]
Dr. Margarita Karovska	Chandra X-Ray Center	[A259]
Ms. Corinne Karpinski	NASA Jet Propulsion Laboratory	[A343, A364]
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Ms. Denise Kato	Lockheed Martin Space Systems	[A270]
Mr. Sheldon Kaufman	Queensborough Community College	[A40]
Dr. Hugh Keiffer	U.S. Geological Survey	[A186]
Dr. Linda Kekelis	Chabot Space and Science Center	[A343]
Mr. John Keller	University of Arizona	[A225]
Mr. John Kendall	NASA Jet Propulsion Laboratory	[A237]
Dr. Ramona Kessel	NASA Goddard Space Flight Center	[A52]
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Mr. John King	Ball Aerospace Technologies Corporation	[A261]
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Dr. Robert Kirshner	Harvard-Smithsonian Center for Astrophysics	[A5]
Ms. Diane Kisich	University of California, Berkeley	[A348]
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Dr. Steve Kissel	Massachusetts Institute of Technology	[A316]
Ms. Kathy Kitts	Washington University	[A201]
Mr. Ken Klaasen	NASA Jet Propulsion Laboratory	[A261]
Dr. Michael Klein	NASA Jet Propulsion Laboratory	[A166, A167, A264, A265, A328, A329]
Mr. Jim Klemaszewski	Academic Research Lab	[A49, A50, A59]
Mr. Allen Klinger	NASA Jet Propulsion Laboratory	[A237]
Mr. Carl Kloss	NASA Jet Propulsion Laboratory	[A270]
Ms. Sheri Klug	Arizona State University	[A22, A51, A160, A163, A186, A187, A188, A196, A210, A270, A276, A277, A280, A343, A344, A347, A348, A364]
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Ms. Amy Knudson	Arizona State University	[A270]
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Dr. Rocky Kolb	Fermilab	[A5]
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Mr. Alex Kory	Arizona State University	[A344]
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Ms. Diane Kozub	NASA Jet Propulsion Laboratory	[A237]
Dr. Janet Kozyra	University of Michigan	[A245]
Mr. Plamen Krastev	University of Texas at El Paso	[A36]

Mr. Jon Kriegel	NASA Jet Propulsion Laboratory	[A237]
Mr. Satish Krishnan	NASA Jet Propulsion Laboratory	[A278]
Dr. Richard Kron	University of Chicago	[A209]
Ms. Alice Krueger	NASA Jet Propulsion Laboratory	[A237]
Dr. Therese Kucera	NASA Goddard Space Flight Center	[A40, A51, A236, A381]
Mr. Gareth Kucinkas	NASA Jet Propulsion Laboratory	[A237]
Dr. Kim Kuhlman	NASA Jet Propulsion Laboratory	[A187]
Mr. Steve Kulczycki	NASA Jet Propulsion Laboratory	[A49]
Dr. Sidambi Kumar	Howard University	[A52]
Mr. Dave Kusnierkiewicz	Johns Hopkins University Applied Physics Laboratory	[A290, A300]
Dr. James Labelle	Dartmouth College	[A271]
Dr. Simon Labov	Lawrence Livermore National Laboratory	[A37]
Mr. Chuck Lahmeyer	NASA Jet Propulsion Laboratory	[A49]
Dr. Brooke Lakew	NASA Goddard Space Flight Center	[A52]
Ms. Elizabeth Lamassoure	NASA Jet Propulsion Laboratory	[A49]
Ms. Barbara Lambert	NASA Goddard Space Flight Center	[A208, A221, A222, A290, A296, A348, A365, A381]
Mr. Matthew Landano	NASA Jet Propulsion Laboratory	[A270]
Mr. Juan Lander	Johns Hopkins University Applied Physics Laboratory	[A299]
Dr. Melissa Lane	Arizona State University	[A277]
Dr. Cornelia Lang	University of Iowa	[A259]
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Ms. Meredith Larson	Ball Aerospace Technologies Corporation	[A261]
Dr. Michelle Larson	University of California, Berkeley	[A227, A381, A382]
Ms. Jennifer Lauer	Chandra X-Ray Center	[A259]
Dr. Dante Lauretta	University of Arizona	[A201]
Ms. Laura Lautz	Cornell University	[A260, A323, A364]
Mr. David Lavery	NASA Office of Space Science	[A344]
Mr. Anthony Lavoie	NASA Marshall Space Flight Center	[A5]
Mr. Peter Lawson	NASA Jet Propulsion Laboratory	[A349]
Dr. Stefanie Lawson	Los Alamos National Laboratory	[A228]
Mr. Oliver Lay	NASA Jet Propulsion Laboratory	[A349]
Mr. Russell Layman	Johns Hopkins University Applied Physics Laboratory	[A386]
Mr. David Lee	Johns Hopkins University Applied Physics Laboratory	[A284]
Dr. Julia Lee	Massachusetts Institute of Technology	[A317]
Dr. Steve Lee	University of Colorado at Boulder	[A10, A187]
Dr. Wayne Lee	NASA Jet Propulsion Laboratory	[A236, A239, A270]
Dr. David Leisawitz	NASA Goddard Space Flight Center	[A52]
Mr. George Leonberger	Tufts University	[A148]
Mr. James Lesh	NASA Jet Propulsion Laboratory	[A328]
Ms. Kathleen Lestition	Chandra X-Ray Center	[A148, A259, A320]
Mr. Alex Levi	NASA Jet Propulsion Laboratory	[A49]
Dr. Steven Levin	NASA Jet Propulsion Laboratory	[A265]
Dr. Alan Levine	Massachusetts Institute of Technology	[A316]
Mr. Steve Levoe	NASA Jet Propulsion Laboratory	[A24]
Ms. Elaine Lewis	NASA Goddard Space Flight Center	[A59, A208, A219, A221, A222, A271, A348, A381]
Ms. Stephanie Lievense	NASA Jet Propulsion Laboratory	[A22, A24, A270, A275, A277, A343, A348]
Ms. Patricia Liggett	NASA Jet Propulsion Laboratory	[A394]
Dr. Sanjay Limaye	University of Wisconsin-Madison	[A288, A294, A336]
Mr. Daniel Limonadi	NASA Jet Propulsion Laboratory	[A278]
Dr. Robert Lin	University of California, Berkeley	[A355]
Mr. Randell Lindemann	NASA Jet Propulsion Laboratory	[A270]

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Mr. Casey Lisse	University of Maryland	[A261, A327]
Mr. Ed Little	Diné College	[A50]
Dr. Charles Liu	American Museum of Natural History	[A40]
Dr. Timothy Livengood	Challenger Center for Space Science Education	[A52]
Dr. Mario Livio	Space Telescope Science Institute	[A336]
Dr. James Lochner	NASA Goddard Space Flight Center	[A5, A78, A122, A145, A148, A171, A178, A194, A219, A223, A236, A246, A252, A324, A347, A348]
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Ms. Teresa Longazo	Lockheed Martin Engineering and Sciences	[A164, A187, A257]
Dr. Rosaly Lopes	NASA Jet Propulsion Laboratory	[A51, A168, A394]
Ms. Melinda Lopez	Museum of Science	[A14]
Dr. Ramon Lopez	University of Texas at El Paso	[A12, A36, A210, A381]
Dr. Stephen Lord	NASA Jet Propulsion Laboratory	[A293]
Dr. Ray Lucas	Space Telescope Science Institute	[A89]
Mr. Alejandro Lugo-Solis	University of Texas at El Paso	[A36]
Mr. Matthew Lum	NASA Jet Propulsion Laboratory	[A343]
Dr. William Mackey	NASA Glenn Research Center	[A68]
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Mr. Lee Magnone	NASA Jet Propulsion Laboratory	[A344]
Dr. Paul Mahaffy	NASA Goddard Space Flight Center	[A364]
Mr. Farzad Mahootian	NASA Jet Propulsion Laboratory	[A237]
Ms. Nora Mainland	NASA Jet Propulsion Laboratory	[A270]
Mr. Paul Maley	NASA Jet Propulsion Laboratory	[A237]
Dr. Mike Malin	Malin Space Science Systems	[A10]
Ms. Diana Mann	Ball Aerospace Technologies Corporation	[A261]
Mr. Evan Manning	NASA Jet Propulsion Laboratory	[A237]
Mr. Rob Manning	NASA Jet Propulsion Laboratory	[A236, A270, A364]
Dr. Stephen Maran	NASA Goddard Space Flight Center	[A40]
Dr. Geoff Marcy	San Francisco State University	[A236]
Dr. Bruce Margon	Space Telescope Science Institute	[A351]
Dr. Lynn Margulis	University of Massachusetts	[A179]
Ms. Tibi Marin	Kansas State University	[A99]
Ms. Kristi Marren	Johns Hopkins University Applied Physics Laboratory	[A300]
Mr. John Marriott	Ball Aerospace Technologies Corporation	[A327]
Dr. Herman Marshall	Massachusetts Institute of Technology	[A191, A287, A317]
Ms. Linda Martel	NASA Jet Propulsion Laboratory	[A237]
Dr. Chris Martin	California Institute of Technology	[A332]
Ms. Erin Martin	Arizona State University	[A344]
Mr. Aramis Martinez	University of Texas at El Paso	[A36]
Dr. Luis Martinez	University of Texas at El Paso	[A36]
Mr. Robert Mase	NASA Jet Propulsion Laboratory	[A270]
Dr. Terry Matilsky	Rutgers University	[A148]
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Dr. Nancy Maynard	NASA Goddard Space Flight Center	[A40]
Mr. Louis Mayo	NASA Goddard Space Flight Center	[A12, A51, A52, A137, A221]
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Mr. Dennis McBride	W.M. Keck Observatory	[A39]
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Mr. Dan McCallister	Space Telescope Science Institute	[A98, A99, A192, A336]
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Ms. Elaina McCartney	Cornell University	[A275]
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Ms. Shannon McConnell	NASA Jet Propulsion Laboratory	[A49, A147, A160, A187, A263, A314, A348]
Dr. Tim McCoy	Smithsonian National Museum of Natural History	[A26]
Dr. Gene McDonald	NASA Jet Propulsion Laboratory	[A168]
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Dr. Patrick McGovern	Lunar and Planetary Institute	[A341]
Dr. Christopher McKay	NASA Ames Research Center	[A307]
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Dr. Gordon McKay	NASA Johnson Space Center	[A187, A238, A257]
Ms. Kathy McNair-Borin	NASA Jet Propulsion Laboratory	[A275]
Dr. Hap McSween	University of Tennessee	[A187]
Dr. Victoria Meadows	NASA Jet Propulsion Laboratory	[A237, A349]
Dr. Karen Meech	University of Hawaii at Manoa	[A50, A141, A152, A261, A326, A327]
Mr. Thomas Meehan	NASA Jet Propulsion Laboratory	[A278]
Mr. Greg Mehall	Arizona State University	[A22, A24, A108, A186, A270, A276, A343, A344, A364]
Ms. Laura Mehall	Arizona State University	[A270]
Dr. Gary Melnick	Harvard-Smithsonian Center for Astrophysics	[A122]
Dr. Wendell Mendell	NASA Johnson Space Center	[A33]
Dr. Bryan Mendez	University of California, Berkeley	[A221, A358]
Dr. Robert Meneghini	NASA Goddard Space Flight Center	[A40]
Dr. Charles Mercer	NASA Goddard Space Flight Center	[A184, A193, A290]
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Mr. Allan Meyer	Universities Space Research Association (USRA)/SOFIA	[A305]
Dr. Peter Michaud	Gemini Observatory	[A5, A39]
Dr. Donald Michels	Naval Research Laboratory	[A12, A222]
Dr. Kenneth Mighell	National Optical Astronomy Observatory (NOAO)	[A37]
Mr. Richard Miller	NASA Jet Propulsion Laboratory	[A364]
Mr. Thomas Milnes	Johns Hopkins University Applied Physics Laboratory	[A300]
Ms. Jennifer Mindock	NASA Jet Propulsion Laboratory	[A275, A343]
Dr. Ellis Miner	NASA Jet Propulsion Laboratory	[A72, A394]
Dr. Doug Ming	NASA Johnson Space Center	[A187, A275]
Ms. Grace Mitchell	Space Telescope Science Institute	[A336]
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Ms. Margaret Mooney	University of Wisconsin-Madison	[A294]
Mr. John Moore	NASA Jet Propulsion Laboratory	[A237]
Dr. Marla Moore	NASA Goddard Space Flight Center	[A52]
Mr. William Moore	NASA Jet Propulsion Laboratory	[A277, A307]
Mr. Mauricio Morales	NASA Jet Propulsion Laboratory	[A278]
Mr. Arin Morfopoulos	NASA Jet Propulsion Laboratory	[A278]
Dr. Dick Morris	NASA Johnson Space Center	[A275]
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Dr. Penny Morris	University of Houston-Downtown	[A33]
Mr. Andy Morrison	NASA Jet Propulsion Laboratory	[A270]
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Mr. Brian Muirhead	NASA Jet Propulsion Laboratory	[A261, A270]
Mr. Koji Mukai	NASA Goddard Space Flight Center	[A223]
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Dr. Stephen Murray	Harvard-Smithsonian Center for Astrophysics	[A5, A259, A320, A375]
Ms. Mary Beth Murrill	NASA Jet Propulsion Laboratory	[A270]
Mr. Max Mutchler	Space Telescope Science Institute	[A335, A336]
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Mr. Albert Nakata	NASA Jet Propulsion Laboratory	[A270]
Ms. Annette Nasif	NASA Jet Propulsion Laboratory	[A278]
Ms. Marsha Neace	NASA Jet Propulsion Laboratory	[A237]
Dr. Kenneth Nealson	NASA Jet Propulsion Laboratory	[A236, A239, A277]
Mr. Greg Neat	NASA Jet Propulsion Laboratory	[A278]
Mr. George Nelson	NASA Jet Propulsion Laboratory	[A237]
Ms. Ruth Netting	NASA Office of Space Science	[A188, A347, A348]
Dr. Greg Neumann	NASA Goddard Space Flight Center	[A10]
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Mr. Ray Newburn	NASA Jet Propulsion Laboratory	[A29, A136, A373]
Dr. Horton Newsom	University of New Mexico	[A163, A187]
Ms. Carolyn Ng	NASA Goddard Space Flight Center	[A12, A40, A51, A52, A219, A229, A348, A379, A381]
Mr. Tam Nguyen	NASA Jet Propulsion Laboratory	[A343]
Mr. Zoran Ninkov	Rochester Institute of Technology	[A39]
Dr. Tom Nolan	NASA Jet Propulsion Laboratory	[A49, A343]
Dr. Keith Noll	Space Telescope Science Institute	[A351]
Mr. Dale Noss	Arizona State University	[A24]
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Mr. Scott Nowicki	Arizona State University	[A186, A187, A270]
Dr. Laurence Nyquist	NASA Johnson Space Center	[A187, A238]
Dr. Victor Obot	Texas Southern University	[A33]
Dr. Adriana Ocampo	NASA Office of Space Science	[A52]
Dr. Sten Odenwald	NASA Goddard Space Flight Center	[A12, A100, A173, A229, A248, A269, A337, A338, A348, A379, A381]
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Mr. Steven Offenbacher	Johns Hopkins University Applied Physics Laboratory	[A284, A350]
Dr. Erika Offerdahl	University of Arizona	[A179]
Dr. Lorraine Olendzenski	University of Connecticut	[A141]
Dr. Frederick Oliver	Morgan State University	[A290]
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Ms. Karla Orosco	NASA Jet Propulsion Laboratory	[A237]
Mr. Jeff Osman	NASA Jet Propulsion Laboratory	[A153]
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Ms. Leslie Paal	NASA Jet Propulsion Laboratory	[A278]
Dr. Paolo Padovani	Space Telescope Science Institute	[A336]
Ms. Ruth Paglierani	University of California, Berkeley	[A219, A220, A221, A297, A355]
Mr. Tim Paglione	York College	[A40]
Ms. Helen Paley	NASA Jet Propulsion Laboratory	[A344]

Dr. E. Samuel Palmer	Harvard University	[A5]
Dr. Thomas Pannuti	Massachusetts Institute of Technology	[A316]
Ms. Toula Papadimitropoulos	NASA Jet Propulsion Laboratory	[A237]
Dr. Natasha Papitashvili	NASA Goddard Space Flight Center	[A40]
Dr. Timothy J. Parker	NASA Jet Propulsion Laboratory	[A270]
Dr. Claire Parkinson	NASA Goddard Space Flight Center	[A237]
Dr. Sid Parsons	Space Telescope Science Institute	[A335]
Dr. Agnes Pasco-Conaty	NASA Goddard Space Flight Center	[A52]
Mr. William Patzert	NASA Jet Propulsion Laboratory	[A364]
Ms. Cheryl Pavlovsky	Space Telescope Science Institute	[A336]
Dr. Linda Payne	South Carolina State University	[A37]
Mr. B. Pearson, Jr.	NASA Jet Propulsion Laboratory	[A237]
Mr. Roger Pelland	NASA Jet Propulsion Laboratory	[A237]
Ms. Claire Perigaud	NASA Jet Propulsion Laboratory	[A49]
Ms. Judith Peritz	Harvard-Smithsonian Center for Astrophysics	[A217]
Ms. Arlene Peterson	NASA Goddard Space Flight Center	[A296]
Mr. Richard Petras	NASA Jet Propulsion Laboratory	[A278]
Dr. Robert Pfaff	NASA Goddard Space Flight Center	[A271]
Mr. William Pickering	NASA Jet Propulsion Laboratory	[A364]
Dr. Andrew Pickles	University of Hawaii at Manoa	[A39]
Dr. Nicholas Pingitore	University of Texas at El Paso	[A36]
Dr. Philip Plait	Sonoma State University	[A17, A31, A172, A188, A347, A348, A383, A384]
Dr. Jeffrey Plaut	NASA Jet Propulsion Laboratory	[A270, A364]
Dr. Art Poland	NASA Goddard Space Flight Center	[A40, A52, A180, A183, A193, A208, A236, A271]
Mr. Gregory Pomeroy	NASA Jet Propulsion Laboratory	[A49]
Ms. Kristina Pomeroy	NASA Jet Propulsion Laboratory	[A211, A261]
Dr. Stephen Pompea	Pompea & Associates	[A210, A236, A398]
Mr. Peter Poon	NASA Jet Propulsion Laboratory	[A270]
Dr. Irene Porro	Massachusetts Institute of Technology	[A5, A16, A122, A216, A287, A316, A317]
Mr. Don Potter	NASA Jet Propulsion Laboratory	[A49]
Mr. Erik Pounders	NASA Jet Propulsion Laboratory	[A270, A343]
Mr. Michael Powell	NASA Jet Propulsion Laboratory	[A237]
Mr. Edward Prather	University of Arizona	[A225]
Dr. Thomas Prince	NASA Jet Propulsion Laboratory	[A73]
Dr. Louise Prockter	Johns Hopkins University Applied Physics Laboratory	[A26, A350]
Mr. Robert Proctor	NASA Jet Propulsion Laboratory	[A49]
Dr. Lee Prufert-Bebout	NASA Ames Research Center	[A346]
Ms. Phyllis Pugh	NASA Jet Propulsion Laboratory	[A237]
Mr. Rex Quinn	NASA Jet Propulsion Laboratory	[A278]
Dr. Isabel Quita	San Francisco State University	[A220]
Ms. Shannon Range	Stanford University	[A172]
Ms. Trina Ray	NASA Jet Propulsion Laboratory	[A258, A314]
Ms. Gretchen Reavis	Ball Aerospace Technologies Corporation	[A327]
Mr. Glenn Reeves	NASA Jet Propulsion Laboratory	[A277]
Ms. Patty Reeves	Space Telescope Science Institute	[A336]
Dr. Patricia Reiff	Rice University	[A33, A173, A269, A338, A348, A381]
Mr. Richard Reinert	Ball Aerospace Technologies Corporation	[A261]
Ms. Erika Reinfeld	Harvard-Smithsonian Center for Astrophysics	[A151, A217]
Dr. Dan Reisenfeld	Los Alamos National Laboratory	[A138, A228]
Ms. Carole Rest	Space Telescope Science Institute	[A192, A336, A347, A348]
Ms. Patti Rhee	NASA Jet Propulsion Laboratory	[A364]
Dr. Jason Rhodes	NASA Goddard Space Flight Center	[A52]

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Mr. John Ristvey	Mid-continent Research for Education and Learning (McREL)	[A266]
Mr. Tommaso Rivellini	NASA Jet Propulsion Laboratory	[A187, A270]
Dr. Irving Robbins	College of Staten Island	[A40]
Mr. John Robinson	NASA Goddard Space Flight Center	[A365]
Mr. Paul Robinson, Jr.	NASA Jet Propulsion Laboratory	[A237]
Mr. Donald Robinson-Boonstra	NASA Goddard Space Flight Center	[A208, A221, A222, A296, A348, A365, A381]
Mr. Jon Robison	Ball Aerospace Technologies Corporation	[A327]
Dr. Dave Roddy	U.S. Geological Survey	[A186]
Dr. Dan Rogers	Woods Hole Oceanographic Institute	[A179]
Ms. Deanne Rogers	Arizona State University	[A270]
Ms. Gail Rohrbach	NASA Goddard Space Flight Center	[A194, A219, A223]
Dr. Nancy Grace Roman		[A52]
Mr. Tony Roman	Space Telescope Science Institute	[A99, A336]
Dr. Paul Romani	NASA Goddard Space Flight Center	[A52]
Ms. Cynthia Rosensweig	NASA Goddard Institute for Space Studies	[A239]
Ms. Lynn Rothschild	NASA Ames Research Center	[A346, A392]
Ms. Maura Rountree-Brown	NASA Jet Propulsion Laboratory	[A22, A49, A50, A136, A152, A261, A327]
Dr. Christine Anne Royce	Shippensburg University	[A172]
Ms. Ruth Rudd	Millcreek Education Center	[A270]
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Dr. Luisa Ruebel	NASA Jet Propulsion Laboratory	[A293, A367]
Dr. Steve Ruff	Arizona State University	[A105, A106, A107, A186, A187, A210, A270, A343, A344]
Dr. Cassandra Runyon	College of Charleston	[A160]
Ms. Joy Runyon	NASA Jet Propulsion Laboratory	[A237]
Mr. Ed Ruskus	Ball Aerospace Technologies Corporation	[A261]
Dr. Eileen Ryan	New Mexico Highlands University	[A43]
Mr. Richard Ryan	NASA Goddard Space Flight Center	[A365]
Dr. William Ryan	New Mexico Highlands University	[A43]
Mr. Mark Ryne	NASA Jet Propulsion Laboratory	[A270]
Dr. Phillip Sadler	Harvard-Smithsonian Center for Astrophysics	[A206]
Dr. Hartmut Sadrozinski	University of California, Santa Cruz	[A172, A262]
Mr. Ali Safaeinili	NASA Jet Propulsion Laboratory	[A277]
Dr. Rex Saffer	Villanova University	[A262]
Dr. Kailash Sahu	Space Telescope Science Institute	[A351]
Mr. Jeff Sakamoto	NASA Jet Propulsion Laboratory	[A278]
Ms. Regina Sakurai	NASA Jet Propulsion Laboratory	[A343]
Dr. Rita Sambruna	George Mason University	[A320]
Ms. Jasmine Sandhu	NASA Jet Propulsion Laboratory	[A49]
Mr. Miguel San Martin	NASA Jet Propulsion Laboratory	[A343]
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Mr. Andrew Santo	Johns Hopkins University Applied Physics Laboratory	[A52, A284, A299]
Mr. Brett Sapper	NASA Goddard Space Flight Center	[A40]
Dr. Steve Saunders	NASA Jet Propulsion Laboratory	[A270, A364]
Mr. Anthony Scarpati	Johns Hopkins University Applied Physics Laboratory	[A284]
Dr. Terry Schalk	University of California, Santa Cruz	[A262]
Mr. Daniel Scharf	NASA Jet Propulsion Laboratory	[A278]
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Dr. Greg Schultz	University of California, Berkeley	[A59, A220, A221, A355, A358, A381]
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Dr. Craig Schwandt	Lockheed Martin Engineering and Sciences	[A238, A257]
Ms. Carol Schwarz	Lockheed Martin Engineering and Sciences	[A257]
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Mr. Daniel Sedlacko	NASA Jet Propulsion Laboratory	[A364]
Dr. Richard Sedlock	San Jose State University	[A221]
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Mr. David Seidel	NASA Jet Propulsion Laboratory	[A49, A237, A270]
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Ms. Anita Sengupta	NASA Jet Propulsion Laboratory	[A49]
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Mr. Fred Sericchio	NASA Jet Propulsion Laboratory	[A278]
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Mr. Stuart Shaklan	NASA Jet Propulsion Laboratory	[A49, A189, A349]
Mr. Michael Shao	NASA Jet Propulsion Laboratory	[A349]
Dr. Irwin Shapiro	Harvard-Smithsonian Center for Astrophysics	[A206]
Ms. Colleen Sharkey	NASA Jet Propulsion Laboratory	[A49]
Mr. Richard Shelton	Johns Hopkins University Applied Physics Laboratory	[A284]
Ms. Diane Sherman	Cornell University	[A187, A275]
Dr. David Sherrod	Hawaiian Volcano Observatory, U.S. Geological Survey	[A10]
Mr. Chris Shinohara	University of Arizona	[A270]
Mr. Ron Shiri	NASA Goddard Space Flight Center	[A40]
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Mr. Richard Shope	NASA Jet Propulsion Laboratory	[A49, A50, A59, A152, A156, A219, A277, A364, A369]
Mr. Royce Short	Ball Aerospace Technologies Corporation	[A327]
Dr. Seth Shostak	SETI Institute	[A13, A210]
Mr. Chris Shrader	NASA Goddard Space Flight Center	[A223]
Mr. Wayne Sidney	Lockheed Martin Space Systems	[A270]
Mr. Mark Sierak	Pacific Visions Communications	[A279]
Ms. Maria Sieve	Augsburg College	[A336]
Ms. Sarah Silva	Sonoma State University	[A172, A262]
Mr. Steve Silverman	Santa Barbara Museum of Natural History	[A186, A343]
Dr. Amy Simon-Miller	NASA Goddard Space Flight Center	[A52]
Ms. Margaret Sipple-Srinivasan	NASA Jet Propulsion Laboratory	[A364]
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Mr. Martin Slade	NASA Jet Propulsion Laboratory	[A329]
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Dr. Timothy Slater	University of Arizona	[A141, A202, A210, A225, A398]
Dr. Daniel Smith	South Carolina State University	[A37]
Ms. DeLee Smith	NASA Goddard Space Flight Center	[A180, A181, A183, A193, A272, A296]
Dr. Denise Smith	Space Telescope Science Institute	[A52, A75, A89, A98, A99, A111, A118, A148, A192, A347, A348]
Dr. Howard Smith	Harvard-Smithsonian Center for Astrophysics	[A16]
Mr. Jason Smith	Challenger Center for Space Science Education	[A262]
Ms. Lesley Smith	University of Colorado at Boulder	[A398]
Dr. Peter Smith	Harvard-Smithsonian Center for Astrophysics	[A381]
Dr. Roger Smith	University of Alaska Fairbanks	[A271]
Mr. Shawn Smith	Ball Aerospace Technologies Corporation	[A327]
Dr. Sonya Smith	Howard University	[A52]

Mr. Vern Smith	NASA Goddard Space Flight Center	[A290]
Mr. Bill Smythe	NASA Jet Propulsion Laboratory	[A79, A136, A152]
Mr. Clark Snowdall	NASA Jet Propulsion Laboratory	[A277]
Mr. Jeff Snyder	NASA Jet Propulsion Laboratory	[A278]
Ms. Anita Sohus	NASA Jet Propulsion Laboratory	[A24, A49, A210, A236, A348]
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Mr. David Spencer	NASA Jet Propulsion Laboratory	[A270, A343]
Dr. David Spergel	Princeton University	[A5, A83, A94, A110, A124, A140]
Ms. Linda Spilker	NASA Jet Propulsion Laboratory	[A258]
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Ms. Suzanne Spitz	NASA Jet Propulsion Laboratory	[A277]
Dr. Paul Spudis	Lunar and Planetary Institute	[A341]
Dr. Steve Squyres	Cornell University	[A270, A275]
Mr. Robert Staehle	NASA Jet Propulsion Laboratory	[A49]
Dr. Eileen Stansbery	NASA Johnson Space Center	[A33]
Dr. Karl Stapelfeldt	NASA Jet Propulsion Laboratory	[A349]
Ms. Denise Stark	Arizona State University	[A344]
Mr. Joseph Statman	NASA Jet Propulsion Laboratory	[A364]
Dr. Simon Steel	Harvard-Smithsonian Center for Astrophysics	[A1, A217]
Mr. Rob Steele	NASA Jet Propulsion Laboratory	[A278]
Dr. Will Stefanov	Arizona State University	[A187, A343]
Dr. John Steinberg	Los Alamos National Laboratory	[A138, A228]
Mr. Jeffrey Steiner	City College of New York Educator Resource Center	[A40]
Mr. Adam Steltzner	NASA Jet Propulsion Laboratory	[A270]
Dr. Massimo Stiavelli	Space Telescope Science Institute	[A335]
Dr. Peter Stockman	Space Telescope Science Institute	[A351]
Mr. John Stoke	Space Telescope Science Institute	[A99, A336]
Dr. John Stolz	Duquesne University	[A141]
Dr. Edward Stone	California Institute of Technology	[A364]
Mr. Byron Storck	LaGuardia Community College	[A40]
Dr. Alex Storrs	Towson University	[A118]
Dr. Leonard Strachan	Harvard-Smithsonian Center for Astrophysics	[A6, A41, A381]
Dr. Thomas Strikwerda	Johns Hopkins University Applied Physics Laboratory	[A284, A285, A350]
Mr. Jason Suchman	NASA Jet Propulsion Laboratory	[A278]
Ms. Anne Sullivan	NASA Jet Propulsion Laboratory	[A49]
Dr. Robert Sullivan	Cornell University	[A187]
Dr. Frank Summers	Space Telescope Science Institute	[A118, A351]
Dr. Carolyn Sumners	Houston Museum of Natural Science	[A33, A236]
Ms. Anna Swamy	Morgan State University	[A290]
Dr. Jean Swank	NASA Goddard Space Flight Center	[A40]
Dr. James Sweitzer	DePaul University	[A133]
Ms. Marguerite Syvertson	NASA Jet Propulsion Laboratory	[A236, A237]
Ms. Dina Tady	Johns Hopkins University Applied Physics Laboratory	[A350]
Dr. Elsayed Talaat	Johns Hopkins University Applied Physics Laboratory	[A222, A226, A290, A300, A386]
Dr. Harvey Tananbaum	Chandra X-Ray Center	[A5, A148, A320]
Mr. Paul Tartabini	NASA Langley Research Center	[A210]
Dr. Jill Tarter	SETI Institute	[A244, A351]
Dr. William Taylor	NASA Goddard Space Flight Center	[A188]
Dr. Terry Teays	Space Telescope Science Institute	[A75, A98, A99, A192, A336, A347, A348]

Ms. Sarita Thakoor	NASA Jet Propulsion Laboratory	[A343]
Dr. Michelle Thaller	SIRTF Science Center/California Institute of Technology	[A52, A144, A203, A204, A225, A270, A364, A367]
Ms. Eilene Theilig	NASA Jet Propulsion Laboratory	[A49]
Mr. Pete Theisinger	NASA Jet Propulsion Laboratory	[A270]
Dr. James Thieman	NASA Goddard Space Flight Center	[A12, A40, A52, A219, A221, A347, A348, A398]
Dr. Peter Thomas	Cornell University	[A10, A323, A364]
Dr. Valerie Thomas	NASA Goddard Space Flight Center	[A40]
Ms. Kathie Thomas-Keprta	Lockheed Martin Engineering and Sciences	[A236, A346]
Mr. Art Thompson	NASA Jet Propulsion Laboratory	[A277]
Dr. Barbara Thompson	NASA Goddard Space Flight Center	[A236, A271]
Dr. Dave Thompson	NASA Goddard Space Flight Center	[A165, A262]
Ms. Pamela Thompson	Lunar and Planetary Institute	[A163, A187, A341]
Dr. Michelle Thomsen	Los Alamos National Laboratory	[A138, A228]
Ms. Marla Thornton	NASA Jet Propulsion Laboratory	[A270]
Dr. James Tilton	NASA Goddard Space Flight Center	[A40]
Dr. Peter Timbie	University of Wisconsin-Madison	[A294]
Ms. Aurelio Tinio	NASA Jet Propulsion Laboratory	[A24]
Dr. Tim Titus	U.S. Geological Survey	[A186]
Ms. Kay Tobola	Lockheed Martin Engineering and Sciences	[A160, A187, A199, A238, A257, A348]
Ms. Julie Townsend	NASA Jet Propulsion Laboratory	[A275]
Dr. Allan Treiman	Lunar and Planetary Institute	[A163, A187, A201, A341]
Mr. Robert Treuhaft	NASA Jet Propulsion Laboratory	[A49]
Dr. Tom Troland	University of Kentucky	[A52]
Dr. Jennifer H. Trosper	NASA Jet Propulsion Laboratory	[A270, A275]
Ms. Catherine Tsairides	NASA Ames Research Center	[A163, A392]
Mr. Matt Tuchscherer	NASA Jet Propulsion Laboratory	[A278]
Dr. Wallace Tucker	Chandra X-Ray Center	[A5, A259, A320]
Dr. Eddie Tunstel	NASA Jet Propulsion Laboratory	[A275]
Dr. Michael Turner	University of Chicago	[A239]
Dr. Niescja Turner	University of Texas at El Paso	[A12, A36, A210, A381]
Dr. Neil Tyson	American Museum of Natural History	[A40]
Mr. Mark Underwood	NASA Jet Propulsion Laboratory	[A261]
Ms. Jose Urech	NASA Jet Propulsion Laboratory	[A364]
Dr. Mary Urquhart	NASA Ames Research Center	[A10, A201]
Ms. Paige Valderrama	Arizona State University	[A186, A187, A270, A276, A277, A280, A343, A344]
Mr. Gerard Van Belle	NASA Jet Propulsion Laboratory	[A349]
Dr. Roland Vanderspek	Massachusetts Institute of Technology	[A316]
Mr. Frank Vanlandingham	NASA Jet Propulsion Laboratory	[A49]
Dr. Robin Vaughan	Johns Hopkins University	[A52]
Mr. Michael Vendrasco	University of California, Los Angeles	[A306]
Dr. Joseph Veverka	Cornell University	[A323, A364]
Dr. Alexander Vilenkin	Tufts University	[A5]
Mr. Chad Villacorta	NASA Jet Propulsion Laboratory	[A49]
Mr. Ray Villard	Space Telescope Science Institute	[A336]
Ms. Michelle Viotti	NASA Jet Propulsion Laboratory	[A24, A270, A343]
Dr. Mark Voit	Space Telescope Science Institute	[A336, A351]
Dr. Richard Vondrak	NASA Goddard Space Flight Center	[A271]
Dr. Tycho von Rosenvinge	NASA Goddard Space Flight Center	[A122]
Mr. Christopher Voorhees	NASA Jet Propulsion Laboratory	[A278]
Mr. Kenneth Voss	NASA Jet Propulsion Laboratory	[A237]
Dr. Jan Vrtilek	Harvard University	[A5, A259]
Mr. Joseph Wackley	NASA Jet Propulsion Laboratory	[A364]

Dr. George Waksman	Massachusetts Institute of Technology	[A179]
Ms. Gretchen Walker	University of Maryland	[A152, A261]
Dr. William Waller	Tufts University	[A191]
Dr. Donald Walter	South Carolina State University	[A37, A40]
Ms. Grace Wang	NASA Jet Propulsion Laboratory	[A270]
Mr. Dave Ward	Montana State University	[A163, A187, A392]
Ms. Elizabeth Warner	University of Maryland	[A261, A326, A327]
Ms. Adrienne Wasserman	U.S. Geological Survey	[A10]
Mr. Darryl Watanabe	NASA Infrared Telescope Facility (IRTF)	[A39]
Ms. Susan Watanabe	NASA Jet Propulsion Laboratory	[A49]
Dr. Mike Watkins	NASA Jet Propulsion Laboratory	[A270]
Mr. Kevin Watson	NASA Jet Propulsion Laboratory	[A278]
Mr. David Watt	NASA Jet Propulsion Laboratory	[A237]
Mr. Keith Watt	Arizona State University	[A59, A158, A186, A187, A270, A276, A277, A280, A343, A344]
Ms. Sally Watt	Arizona State University	[A276]
Ms. Linda Watts	Lockheed Martin Engineering and Sciences	[A257]
Dr. Tom Wdowiak	University of Alabama at Birmingham	[A275]
Dr. Charles Weatherford	Florida A&M University	[A35]
Dr. Kim Weaver	NASA Goddard Space Flight Center	[A52, A165]
Mr. Guy Webster	NASA Jet Propulsion Laboratory	[A364]
Mr. Thomas Weeks	NASA Jet Propulsion Laboratory	[A49, A302]
Ms. Stacy Weinstein	NASA Jet Propulsion Laboratory	[A270]
Ms. Charlotte Weiss	NASA Jet Propulsion Laboratory	[A302, A390]
Dr. Catherine Weitz	NASA Office of Space Science	[A343]
Ms. Kathy Welch-Martin	NASA Jet Propulsion Laboratory	[A237]
Mr. Ben Wentworth	Colorado School for the Deaf and the Blind	[A266]
Mr. Michael Wenz	NASA Goddard Space Flight Center	[A111]
Dr. Randii Wessen	NASA Jet Propulsion Laboratory	[A277]
Dr. Michael West	University of Hawaii at Hilo	[A39]
Ms. Aimee Whalen	NASA Jet Propulsion Laboratory	[A136, A152, A153, A211, A364]
Mr. Charles Whetsel	NASA Jet Propulsion Laboratory	[A270]
Dr. Martin White	Harvard-Smithsonian Center for Astrophysics	[A5]
Dr. Laura Whitlock	Sonoma State University	[A229, A303, A383]
Dr. Bernard Widynski	NASA Jet Propulsion Laboratory	[A49]
Dr. Roger Wiens	Los Alamos National Laboratory	[A228]
Dr. Belinda Wilkes	Chandra X-Ray Center	[A259]
Mr. Mark Wilkinson	NASA Jet Propulsion Laboratory	[A343]
Mr. David Williams	NASA Jet Propulsion Laboratory	[A237]
Ms. Lynda Williams	San Francisco State University	[A172]
Ms. Tracy Williams	NASA Jet Propulsion Laboratory	[A343]
Mr. Jason Willis	NASA Jet Propulsion Laboratory	[A328]
Mr. Robert Winsor	Space Telescope Science Institute	[A335, A336]
Mr. Steve Wissler	NASA Jet Propulsion Laboratory	[A261]
Ms. Shirley Wolff	NASA Jet Propulsion Laboratory	[A136, A153, A166, A328, A364]
Mr. Harry Woo	NASA Jet Propulsion Laboratory	[A277]
Dr. Nathaniel Woodrick	Howard University	[A52]
Mr. James Wooten	Houston Museum of Natural Science	[A33]
Ms. Diana Worrall	University of Bristol	[A259, A320]
Dr. Shonte Wright	NASA Jet Propulsion Laboratory	[A270, A275, A278, A301, A343]
Dr. Gilbert Yanow	NASA Jet Propulsion Laboratory	[A168, A188, A347]
Dr. Sam Yee	Johns Hopkins University Applied Physics Laboratory	[A226, A290, A300, A386]

Dr. Donald Yeomans	NASA Jet Propulsion Laboratory	[A168, A323, A327, A364]
Mr. Alex Young	NASA Goddard Space Flight Center	[A40]
Ms. Donna Young	Tufts University	[A148]
Ms. Candice Yui	NASA Jet Propulsion Laboratory	[A49]
Mr. Robert Zafran	NASA Jet Propulsion Laboratory	[A237]
Mr. Ed Zaron	NASA Jet Propulsion Laboratory	[A237]
Dr. Esther Zirbel	College of Staten Island	[A40]
Mr. Victor Zlotnicki	NASA Jet Propulsion Laboratory	[A237]

APPENDIX D. OSS E/PO Partners

The NASA Office of Space Science (OSS) is indebted to the more than 500 institutions and organizations that partnered with OSS in FY 2002 to carry out the OSS Education and Public Outreach (E/PO) program. These partners are listed below, grouped by the type of institution or organization. This list includes only the institutions and organizations that made contributions by leading the E/PO efforts for OSS mission(s) or program(s) and/or by leading or contributing substantially to developing OSS E/PO product(s) or activity(ies) in FY 2002. The numbers in the brackets to the right of each partner refer to the mission or program in Appendix B or the product or activity in Appendix A to which the partner contributed.

Science Centers, Museums, and Planetariums

	References in Appendices A and B
A. C. Gilbert's Discovery Village, Salem, OR	[A370]
Adler Planetarium and Astronomy Museum, Chicago, IL	[A24, A30, A83, A94, A110, A124, A140, A342, A397, B5, B79]
Air Victory Museum, Medford, NJ	[A370]
American Museum of Natural History, New York, NY	[A24, A40]
Arkansas Air Museum, Fayetteville, AR	[A370]
Arts and Science Center for Southeast Arkansas, Pine Bluff, AR	[A370]
Baltimore Museum of Industry, Baltimore, MD	[A290]
Bassett Planetarium, Amherst, MA	[A370]
Bays Mountain Park and Planetarium, Kingsport, TN	[A370]
Bishop Museum, Honolulu, HI	[A141]
Bootheel Youth Museum, Malden, MO	[A370]
Brazos Valley Family Museum, Bryan, TX	[A370]
Buehler Planetarium & Observatory, Davie, FL	[A370]
Cable Natural History Museum, Cable, WI	[A370]
Calusa Nature Center and Planetarium, Fort Myers, FL	[A370]
Casper Planetarium, Casper, WY	[A370]
Central Wisconsin's Children's Museum, Stevens Point, WI	[A370]
Chabot Space and Science Center, Oakland, CA	[A24, A30, A227, A331, A362, A382, B116]
Challenger Center, Chattanooga, TN	[A370]
Challenger Center for Space Science Education, Alexandria, VA	[A52, B6]
Chesapeake Planetarium, Chesapeake, VA	[A370]
Children's Metamorphosis Museum, Londonderry, NH	[A370]
Children's Museum, Boca Raton, FL	[A370]
Children's Museum, Egg Harbor Township, NJ	[A370]
Children's Museum at Yunker Farm, Fargo, ND	[A370]
Children's Museum of La Crosse, La Crosse, WI	[A370]
Children's Museum of New Braunfels, New Braunfels, TX	[A370]
Children's Museum of Northern Nevada, Carson City, NV	[A370]
Children's Museum of Portsmouth, Portsmouth, NH	[A370]
Children's Museum of South Carolina, Myrtle Beach, SC	[A370]
Children's Museum of Stockton, Stockton, CA	[A370]
Cincinnati Museum Center, Cincinnati, OH	[A370]
Coca-Cola Space Science Center, Columbus, GA	[A370]
Combat Air Museum, Topeka, KS	[A370]
Cumberland Science Museum, Nashville, TN	[A370]
Curious Kids Museum, Saint Joseph, MI	[A370]
Delta College Planetarium, Bay City, MI	[A370]
Denver Museum of Nature and Science, Denver, CO	[A24]
Discovery Center, Rockford, IL	[A370]
Discovery Center of Springfield, Springfield, MO	[A370]
Discovery Museum, Sacramento, CA	[A370]
Discovery Science Place, Tyler, TX	[A370]
Don Harrington Discovery Center, Amarillo, TX	[A370]

Erie Historical Museum and Planetarium, Erie, PA . . . . . .[A370]
Estrella Squadron, Warbird Museum, Paso Robles, CA . . . . . .[A370]
Ethyl Universe Planetarium, Richmond, VA . . . . . .[A370]
Evansville Museum of Arts, History and Science, Evansville, IN . . . . . .[A370]
Evergreen Airventure, McMinnville, OR . . . . . .[A370]
Exploration Place, Wichita, KS . . . . . .[A24]
Exploration Station, Bourbonnais, IL . . . . . .[A370]
Exploratorium, San Francisco, CA . . . . . .[A24, A30]
Family Museum, Bettendorf, IA . . . . . .[A370]
Fascinate-U Children's Museum, Fayetteville, NC . . . . . .[A370]
Fleischmann Planetarium, Reno, NV . . . . . .[A370]
Flint Cultural Center-Longway Planetarium, Flint, MI . . . . . .[A370]
Gayle Planetarium, Montgomery, AL . . . . . .[A370]
Gheens Science Center and Rauch Planetarium, Louisville, KY . . . . . .[A370]
Golden Pond Planetarium, Golden Pond, KY . . . . . .[A370]
Great Lakes Aquarium, Duluth, MN . . . . . .[A370]
Griffith Observatory, Los Angeles, CA . . . . . .[A42]
Hands-On Science Central Museum, Fort Wayne, IN . . . . . .[A370]
Highlands Museum and Discovery Center, Ashland, KY . . . . . .[A370]
Hoover Price Planetarium, Canton, OH . . . . . .[A370]
Houston Museum of Natural Science, Houston, TX . . . . . .[A33]
Howard B. Owens Science Center, Lanham, MD . . . . . .[A18]
Hummel Planetarium, Eastern Kentucky University, Richmond, KY . . . . . .[A370]
Illinois State University Planetarium, Normal, IL . . . . . .[A370]
Imaginarium Science Discovery Center, Anchorage, AK . . . . . .[A370, A378]
Insights El Paso Science Museum, El Paso, TX . . . . . .[A36]
John May Museum Center, Colorado Springs, CO . . . . . .[A370]
Judith W. Freeman Astronomy Center, New Orleans, LA . . . . . .[A370]
Junior Museum of Bay County, Panama City, FL . . . . . .[A370]
Kansas Aviation Museum, Wichita, KS . . . . . .[A370]
Lafayette Natural History Museum and Planetarium, Lafayette, LA . . . . . .[A370]
Lakeview Museum, Peoria, IL . . . . . .[A370]
Laredo Children's Museum, Laredo, TX . . . . . .[A370]
Las Cruces Museum of Natural History, Las Cruces, NM . . . . . .[A370]
Lawrence Hall of Science, Berkeley, CA . . . . . .[A3, A30, A241]
Little Rock Zoo, Little Rock, AR . . . . . .[A370]
Living Science Center, Arlington, TX . . . . . .[A370]
Lower Hudson Valley Challenger Center, Suffern, NY . . . . . .[A370]
Lutz Children's Museum, Manchester, CT . . . . . .[A370]
Mallory Kountze Planetarium, Omaha, NE . . . . . .[A370]
March Field Museum, Riverside, CA . . . . . .[A370]
Maryland Science Center, Baltimore, MD . . . . . .[A24, A30, A38]
McClellan Aviation Museum, North Highlands, CA . . . . . .[A370]
Mid-America Air Museum, Liberal, KS . . . . . .[A370]
Montgomery Zoo, Montgomery, AL . . . . . .[A370]
Morehead Planetarium, Chapel Hill, NC . . . . . .[A370]
Museo del Nino, San Juan, PR . . . . . .[A370]
Museum of Arts and Sciences, Macon, GA . . . . . .[A370]
Museum of Discovery and Science, Fort Lauderdale, FL . . . . . .[A25]
Museum of Science, Boston, MA . . . . . .[A1, A5, A6, A14, A15, A17, A24, A31, A151, A191, A375, B18]
Museum of Southwest/Blakemore Planetarium, Midland, TX . . . . . .[A370]
Museum of the Rockies, Bozeman, MT . . . . . .[A4, A370]
National Soaring Museum, Elmira, NY . . . . . .[A370]
Natural History Museum of Los Angeles County, Los Angeles, CA . . . . . .[A11]
New England Air Museum, Windsor Locks, CT . . . . . .[A370]

New Mexico Museum of Natural History and Science, Albuquerque, NM . . . . . .[A24]
Newport Aquarium, Newport, KY . . . . . .[A370]
Niagara Aerospace Museum, Niagara Falls, NY . . . . . .[A370]
North Museum of Natural History and Science, Lancaster, PA . . . . . .[A370]
Northern Stars Planetarium, Fairfield, ME . . . . . .[A370]
Novins Planetarium, Toms River, NJ . . . . . .[A370]
Oglebay's Good Zoo & Benedum Planetarium, Wheeling, WV . . . . . .[A370]
Oregon Coast Aquarium, Newport, OR . . . . . .[A370]
Owls Head Transportation Museum, Owls Head, ME . . . . . .[A370]
Paulucci Space Theater, Hibbing, MN . . . . . .[A370]
Perkins Observatory, Delaware, OH . . . . . .[A370]
Pima Air and Space Museum, Tucson, AZ . . . . . .[A370]
Port Defiance Zoo and Aquarium, Tacoma, WA . . . . . .[A370]
Portsmouth Museums, Portsmouth, VA . . . . . .[A370]
Rainwater Observatory and Planetarium, French Camp, MS . . . . . .[A312]
Riverside Zoo, Scottsbluff, NE . . . . . .[A370]
Roberson Museum & Science Center, Binghamton, NY . . . . . .[A370]
Rocky Mount Children's Museum, Rocky Mount, NC . . . . . .[A370]
Russell C. Davis Planetarium, Jackson, MS . . . . . .[A370]
Sanford Museum and Planetarium, Cherokee, IA . . . . . .[A370]
Santa Maria Museum of Flight, Santa Maria, CA . . . . . .[A370]
Science Museum of Minnesota, St. Paul, MN . . . . . .[A24]
Science Station, Cedar Rapids, IA . . . . . .[A370]
Sharpe Planetarium/Memphis Pink Palace Museum, Memphis, TN . . . . . .[A370]
Shenandoah Valley Discovery Museum, Winchester, VA . . . . . .[A370]
Smithsonian National Air and Space Museum, Washington, DC . . . . . .[A19, A52]
South Carolina Museum Foundation, Columbia, SC . . . . . .[A28]
South Carolina State Museum, Columbia, SC . . . . . .[A28]
South Florida Science Museum, West Palm Beach, FL . . . . . .[A370]
South Shore Natural Science Center, Norwell, MA . . . . . .[A370]
Southern Forest World, Waycross, GA . . . . . .[A370]
Southworth Planetarium, Portland, ME . . . . . .[A370]
Springfield Children's Museum, Springfield, IL . . . . . .[A370]
Staerkel Planetarium, Champaign, IL . . . . . .[A370]
Stanback Planetarium, Orangeburg, SC . . . . . .[A370]
Storer Planetarium, Prince Frederick, MD . . . . . .[A370]
Texas Air Museum, Rio Hondo, TX . . . . . .[A370]
Turkey Run State Park Planetarium, Marshall, IN . . . . . .[A370]
Turtle Bay Museum, Redding, CA . . . . . .[A370]
Universe Theater and Planetarium, Kalamazoo, MI . . . . . .[A370]
University of Guam Planetarium, Mangilao, GU . . . . . .[A370]
Utica Zoo, Utica, NY . . . . . .[A370]
Venango Museum of Art, Science, and Industry, Oil City, PA . . . . . .[A370]
Victor Valley College Planetarium, Victorville, CA . . . . . .[A370]
Virginia Air and Space Museum, Hampton, VA . . . . . .[A376]
Wallace Planetarium, Fitchburg, MA . . . . . .[A370]
Warhawk Air Museum, Nampa, ID . . . . . .[A370]
Western Aerospace Museum, Oakland, CA . . . . . .[A370]
Western Museum of Flight, Hawthorne, CA . . . . . .[A370]
Willamette Science and Transportation Museum, Eugene, OR . . . . . .[A370]
Wonderscope Children's Museum, Shawnee, KS . . . . . .[A370]
Zoo Atlanta, Atlanta, GA . . . . . .[A370]

Educational Institutions and Organizations

School Districts

El Paso Independent School District, El Paso, TX . . . . . .[A370]

Kamehameha Schools, Hilo, HI . . . . . [A39]
Madison Metropolitan School District, Madison, WI . . . . . [A288]
Pasadena Independent School District, Pasadena, TX . . . . . [A238]
Prince George's County Public Schools, Upper Marlboro, MD . . . . . [A234]

Other Federal Agencies

National Endowment for the Arts, Washington, DC . . . . . [A279]
National Park Service, Yellowstone National Park, WY . . . . . [A392]

Professional Education Societies

Association of Science-Technology Centers (ASTC), Washington, DC . . . . . [A10]
Middle Atlantic Planetarium Society, Clifton, NJ . . . . . [A271]
National Capital Astronomers, Washington, DC . . . . . [A52]
National Science Teachers Association (NSTA), Arlington, VA . . . . . [A281, A348]
Texas Education Association, Austin, TX . . . . . [A322]

Education Nonprofits

Colorado Outward Bound School, Golden, CO . . . . . [A210, A233]
International Planetarium Society, Bozeman, MT . . . . . [A20, A24]
Lewis Center for Educational Research, Apple Valley, CA . . . . . [A166, A167, A264, A265]
Lowcountry Hall of Science and Math, Charleston, SC . . . . . [A212]
Mid-continent Research for Education and Learning (McREL), Aurora, CO . . . . . [A90, A169, A170, A266, A353]
Project Universe, Minneapolis, MN . . . . . [A49]
Space Science Institute, Boulder, CO . . . . . [A2, A10, A12, A13, A24, A56, A176, A210, A233, A339, A398, B20]

Commercial

Academic Research Lab, Phoenix, AZ . . . . . [A50]
Geoff Haines-Stiles Productions, Morristown, NJ . . . . . [A236, A239, A270, A271, B9]
Space Explorers, Inc., De Pere, WI . . . . . [A207]

Colleges and Universities

Nonminority Colleges and Universities

Arizona State University, Tempe, AZ . . . . . [A22, A37, A53, A105, A106, A107, A108, A109, A139, A163, A186, A187, A210, A250, A270, A275, A276, A280, A310, A346, A360, A391]
Boston University, Boston, MA . . . . . [A57]
Brown University, Providence, RI . . . . . [A198, A354]
Buffalo State College, Buffalo, NY . . . . . [A149]
California Institute of Technology, Pasadena, CA . . . . . [A2, A37, A42, A52, A168, A332]
Carnegie Mellon University, Pittsburgh, PA . . . . . [A24, A275]
Clemson University, Clemson, SC . . . . . [A155]
College of Charleston, Charleston, SC . . . . . [A155, A158, A161, A212, A243, A281, A312, A376, B19]
College of Staten Island, Staten Island, NY . . . . . [A40]
Community College of Southern Nevada, North Las Vegas, NV . . . . . [A370]
Cornell University, Ithaca, NY . . . . . [A260, A275, A323, B41]
DePaul University, Chicago, IL . . . . . [A27, A57, A133, A135, A205, A209, A246, A292, A397, B15]
George Mason University, Fairfax, VA . . . . . [A52]
Glendale Community College, Glendale, AZ . . . . . [A139]
Harvard University, Cambridge, MA . . . . . [A346]
Johns Hopkins University, Baltimore, MD . . . . . [A52, A239]
Lesley University, Cambridge, MA . . . . . [A5]

Louisiana State University, Baton Rouge, LA . . . . . [A41]
Massachusetts Institute of Technology, Cambridge, MA . . . . . [A281, A287, A316, A317, A319, B78]
Montana State University, Bozeman, MT . . . . . [A62, A163, A202, A225]
Montgomery College, Germantown, MD . . . . . [A52]
New Jersey Institute of Technology, Newark, NJ . . . . . [A377]
Old Dominion University, Norfolk, VA . . . . . [A245]
Pennsylvania State University, University Park, PA . . . . . [A53, A61, A65, A142, A175, A308, A346, A366]
Princeton University, Princeton, NJ . . . . . [A46, A140, A273, A342, B79]
Raritan Valley Community College, Somerville, NJ . . . . . [A370]
Rice University, Houston, TX . . . . . [A37, A100, A338]
SIRTF Science Center/California Institute of Technology, Pasadena, CA . . . . . [A42, A67, A71, A84, A95, A101, A102, A103, A112, A117, A128, A132, A202, A203, A204, A270, A293, A367, B24]
Sonoma State University, Rohnert Park, CA . . . . . [A17, A31, A74, A113, A114, A115, A116, A122, A172, A229, A262, A303, A348, A383, A384, B70, B83]
South Dakota State University, Brookings, SD . . . . . [A339]
Stanford University, Stanford, CA . . . . . [A91, A92, A93, A157, A381, B71]
Tufts University, Medford, MA . . . . . [A148]
University of Alabama at Huntsville, Huntsville, AL . . . . . [A44]
University of Alaska Fairbanks, Fairbanks, AK . . . . . [A271]
University of Arizona, Tucson, AZ . . . . . [A202, A210, A398]
University of California, Santa Cruz, Santa Cruz, CA . . . . . [A262]
University of Chicago, Chicago, IL . . . . . [A37]
University of Colorado at Boulder, Boulder, CO . . . . . [A10, A32, A53, A210, A346, B105]
University of Connecticut, Storrs-Mansfield, CT . . . . . [A141, A162, A177, A179, A231]
University of Florida, Gainesville, FL . . . . . [A359]
University of Idaho, Moscow, ID . . . . . [A197]
University of Kentucky, Lexington, KY . . . . . [A52]
University of Maryland, College Park, MD . . . . . [A52, A152, A261, A326, A327, B42, B43]
University of Michigan, Ann Arbor, MI . . . . . [A245]
University of New Hampshire, Durham, NH . . . . . [A214]
University of Rhode Island, Narragansett, RI . . . . . [A346]
University of South Carolina, Columbia, SC . . . . . [A37]
University of Washington, Seattle, WA . . . . . [A53, A60, A195, A255, A315, A346, B21]
University of Wisconsin-Madison, Madison, WI . . . . . [A294]
University of Wyoming, Laramie, WY . . . . . [A339]
Washington University, St. Louis, MO . . . . . [A275]
Western Kentucky University, Bowling Green, KY . . . . . [A37, A268, A295, A352, B10]
Wheeling Jesuit University, Wheeling, WV . . . . . [A200, B17]

Historically Black Colleges and Universities

Alabama A&M University, Normal, AL . . . . . [A44]
Florida A&M University, Tallahassee, FL . . . . . [A35]
Hampton University, Hampton, VA . . . . . [A32, B99]
Howard University, Washington, DC . . . . . [A52]
Morgan State University, Baltimore, MD . . . . . [A290]
Norfolk State University, Norfolk, VA . . . . . [A38]
South Carolina State University, Orangeburg, SC . . . . . [A37, A134]
Southern University and A&M College, Baton Rouge, LA . . . . . [A41]
Tennessee State University, Nashville, TN . . . . . [A37, A47]
Texas Southern University, Houston, TX . . . . . [A33, A395]

Hispanic-Serving Institutions
City College of New York, New York, NY . . . . . [A40]
LaGuardia Community College, Long Island, NY . . . . . [A40]
New Mexico Highlands University, Las Vegas, NM . . . . . [A43]
Pasadena City College, Pasadena, CA . . . . . [A42]
University of Houston-Downtown, Houston, TX . . . . . [A33, A395]
University of New Mexico, Albuquerque, NM . . . . . [A43, A45, A139, A163]
University of Puerto Rico at Mayagüez, Mayagüez, PR . . . . . [A180, A193]
University of Texas at El Paso, El Paso, TX . . . . . [A12, A36, A210, A339]

Tribal Colleges and Universities
Diné College, Shiprock, NM . . . . . [A43]
Salish Kootenai College, Pablo, MT . . . . . [A34]
Southwestern Indian Polytechnic Institute, Albuquerque, NM . . . . . [A45]

Other Minority Universities
Hostos Community College, Bronx, NY . . . . . [A40]
Hunter College, New York, NY . . . . . [A40]
Medgar Evers College, Brooklyn, NY . . . . . [A37, A40]
Queensborough Community College, Bayside, NY . . . . . [A40]
University of California, Berkeley, Berkeley, CA . . . . . [A3, A30, A43, A57, A58, A59, A126, A150, A213, A220, A221, A241, A289, A325, A338, A347, A348, A355, A356, A358, A379, A380, B14, B75, B81, B100, B101, B117]
University of California, Los Angeles, Los Angeles, CA . . . . . [A53, A306, A346]
University of Hawaii at Hilo, Hilo, HI . . . . . [A39]
University of Hawaii at Manoa, Honolulu, HI . . . . . [A141]
York College, Jamaica, NY . . . . . [A37, A40, A46]

Organizations Promoting Minority Participation in Science

American Indian Science and Engineering Society (AISES), Albuquerque, NM . . . . . [A57]
Coalition to Diversify Computing (CDC), Evanston, IL . . . . . [A57]
Council for African-American Researchers in the Mathematical Sciences (CAARMS), Buffalo, NY . . . . . [A57]
Institute for African-American e-Culture, Boston, MA . . . . . [A57]
National Association of Black Geologists and Geophysicists, Houston, TX . . . . . [A57, A395]
National Association of Mathematicians, Atlanta, GA . . . . . [A57]
National Institutes of Health Black Scientists Association, Clarksburg, MD . . . . . [A57]
National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), Washington, DC . . . . . [A57, A58, A395]
National Society of Black Physicists (NSBP), Greensboro, NC . . . . . [A55, A57]
National Society of Hispanic Physicists, Nashville, TN . . . . . [A57]
Society for the Advancement of Chicanos and Native Americans in Science, Santa Cruz, CA . . . . . [A57]
World Hope Foundation, Boulder, CO . . . . . [A50, A59, A381]

Science Institutions and Organizations

NASA Headquarters Offices

NASA Office of Aerospace Technology, Washington, DC . . . . . [A271]
NASA Office of Biological and Physical Research, Washington, DC . . . . . [A271]
NASA Office of Earth Science, Washington, DC . . . . . [A236, A239, A270, A271]
NASA Office of Equal Opportunity Programs, Washington, DC . . . . . [A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A52, A240]
NASA Office of Human Resources and Education, Washington, DC . . . . . [A143, A236, A398]

NASA Office of Public Affairs, Washington, DC . . . . . .[A236, A239, A270, A271]
NASA Office of Space Flight, Washington, DC . . . . . .[A236, A239, A271]

NASA Centers

NASA Ames Research Center, Moffett Field, CA . . . . . .[A2, A52, A77, A163, A175, A224, A230, A236, A239, A245, A249, A270, A271, A275, A381, A392, A393]
NASA Dryden Flight Research Center, Edwards, CA . . . . . .[A271]
NASA Glenn Research Center, Cleveland, OH . . . . . .[A270, A271]
NASA Goddard Institute for Space Studies, New York, NY . . . . . .[A40, A236, A239]
NASA Goddard Space Flight Center, Greenbelt, MD . . . . . .[A12, A18, A30, A37, A38, A40, A44, A52, A59, A69, A78, A86, A96, A97, A100, A121, A125, A129, A130, A131, A137, A145, A165, A171, A173, A178, A180, A181, A182, A183, A184, A185, A188, A193, A194, A208, A210, A218, A219, A221, A222, A223, A234, A236, A239, A240, A245, A246, A252, A269, A270, A271, A272, A282, A290, A296, A297, A298, A324, A337, A338, A340, A347, A348, A365, A381, A385, A398, B14, B45, B80, B86, B87, B89, B98, B102, B103, B104, B111, B112, B113, B114, B119]
NASA Jet Propulsion Laboratory, Pasadena, CA . . . . . .[A2, A11, A22, A23, A24, A29, A39, A42, A48, A49, A50, A51, A54, A55, A72, A73, A79, A80, A81, A82, A85, A90, A104, A119, A120, A136, A147, A152, A153, A156, A166, A168, A169, A170, A175, A186, A187, A188, A189, A207, A211, A236, A237, A239, A240, A258, A261, A263, A264, A265, A266, A270, A271, A275, A276, A277, A278, A279, A280, A283, A301, A302, A313, A314, A322, A327, A328, A329, A332, A343, A344, A349, A353, A363, A364, A368, A369, A370, A371, A372, A373, A381, A388, A389, A390, A394, B12, B27, B28, B29, B30, B31, B32, B33, B34, B37, B38, B39, B40, B43, B44, B47, B48, B49, B57, B58, B60, B61, B72, B77, B96, B97, B120]
NASA Johnson Space Center, Houston, TX . . . . . .[A2, A33, A52, A87, A143, A160, A199, A236, A238, A239, A257, A270, A271, A381, B59]
NASA Kennedy Space Center, Kennedy Space Center, FL . . . . . .[A52, A168, A236, A270, A271]
NASA Langley Research Center, Hampton, VA . . . . . .[A236, A239, A270, A271, A381]
NASA Marshall Space Flight Center, Marshall Space Flight Center, AL . . . . . .[A44, A236, A239, A271, A359, A381]
NASA Stennis Space Center, Stennis Space Center, MS . . . . . .[A381]

NASA-Affiliated Organizations

Chandra X-Ray Center, Cambridge, MA . . . . . [A35, A70, A76, A88, A123, A148, A236, A239, A259, A318, A319, A320, B67]
District of Columbia Space Grant, Washington, DC . . . . . [A243]
Goldstone Deep Space Communications Complex, Fort Irwin, CA . . . . . [A236, A267, A333]
Lunar and Planetary Institute, Houston, TX . . . . . [A2, A163, A201, A224, A291, A330, A341, A395, B16]
Mississippi Space Grant Consortium, Oxford, MS . . . . . [A163, A312]
NASA Astrobiology Institute (NAI), Moffett Field, CA . . . . . [A11, A13, A53, A61, A63, A64, A65, A66, A77, A127, A141, A142, A146, A162, A164, A175, A176, A177, A179, A195, A224, A230, A231, A232, A235, A236, A239, A244, A250, A251, A253, A254, A255, A256, A271, A304, A306, A307, A308, A310, A315, A346, A360, A366, A391, A392, A393, A396, B35]
NASA Infrared Telescope Facility (IRTF), Honolulu, HI . . . . . [A39, A236]
Planetary Data System, Pasadena, CA . . . . . [A236, A270]
South Carolina Space Grant Consortium, Charleston, SC . . . . . [A155]
South Dakota Space Grant Consortium, Rapid City, SD . . . . . [A339]
Space Telescope Science Institute, Baltimore, MD . . . . . [A2, A4, A7, A8, A9, A19, A20, A21, A52, A68, A75, A89, A98, A99, A111, A118, A149, A154, A174, A188, A192, A196, A197, A236, A239, A242, A247, A248, A271, A288, A334, A335, A336, A347, A348, A351, A387, B1, B11, B22, B23]
Universities Space Research Association (USRA)/SOFIA, Moffett Field, CA . . . . . [A305]
Virginia Space Grant Consortium, Hampton, VA . . . . . [A376]
Washington Space Grant Consortium, Seattle, WA . . . . . [A163]
Wyoming Space Grant Consortium, Laramie, WY . . . . . [A163]

Other Federal Agencies

Air Force Research Laboratory/VSBXR, Hanscom Air Force Base, MA . . . . . [A271]
Fermilab, Batavia, IL . . . . . [A236, A239]
Lawrence Berkeley National Laboratory, Berkeley, CA . . . . . [A236, A239, A271]
Lawrence Livermore National Laboratory, Livermore, CA . . . . . [A35, A37, A44, A271]
Los Alamos National Laboratory, Los Alamos, NM . . . . . [A43, A138, A168, A228, A236, A239, A270, A271, B107]
National Center for Atmospheric Research (NCAR), Boulder, CO . . . . . [A236, A239, A245, A270, A271]
National Oceanic and Atmospheric Administration (NOAA), Boulder, CO . . . . . [A236, A239, A271]
National Optical Astronomy Observatory (NOAO), Tucson, AZ . . . . . [A12, A37, A154, A236, A271]
National Radio Astronomy Observatory, Socorro, NM . . . . . [A12, A236, A239, A271]
National Science Foundation, Arlington, VA . . . . . [A5, A10, A168, A236, A239, A245, A271, A398]
National Severe Storms Laboratory, Norman, OK . . . . . [A236, A239]
National Solar Observatory, Sunspot, NM . . . . . [A236, A239, A271]
Naval Research Laboratory, Washington, DC . . . . . [A52, A243, A271]
Smithsonian Institution, Washington, DC . . . . . [A239, A271]
U.S. Air Force, Patrick Air Force Base, Patrick Air Force Base, FL . . . . . [A271]
U.S. Department of Education, Washington, DC . . . . . [A322]
U.S. Geological Survey, Flagstaff, AZ . . . . . [A2, A236, A239, A271]
U.S. Naval Observatory, Washington, DC . . . . . [A271]
University Corporation for Atmospheric Research (UCAR), Boulder, CO . . . . . [A236, A245, A271]

Professional Science Societies

American Association for the Advancement of Science (AAAS), Washington, DC . . . . . .[A52]
American Astronomical Society (AAS), Washington, DC . . . . . .[A203]
American Geophysical Union (AGU), Washington, DC . . . . . .[A245, A271]
American Institute for Aeronautics and Astronautics, Reston, VA . . . . . .[A271]
American Institute of Physics, College Park, MD . . . . . .[A387]
Astronomical Society of the Pacific (ASP), San Francisco, CA . . . . . .[A62, A144, A159, A210, A215, A225, A249, A271, A286, A305, A309, A361, A374, B25]

Industry

Ball Aerospace Technologies Corporation, Boulder, CO . . . . . .[A152, A327]
Coronado Instruments, Tucson, AZ . . . . . .[A12]
Lockheed Martin Advanced Technology Center, Palo Alto, CA . . . . . .[A239, A271]
Lockheed Martin Engineering and Sciences, Houston, TX . . . . . .[A164, A175, A232, A257]
Lockheed Martin Management and Data Systems, Philadelphia, PA . . . . . .[A271]
Lockheed Martin Solar and Astrophysics Laboratory, Palo Alto, CA . . . . . .[A236, A271, B106]
Lockheed Martin Space Systems, Littleton, CO . . . . . .[A236, A239, A270, A271]
Malin Space Science Systems, San Diego, CA . . . . . .[A2]
Raytheon Company, Lanham, MD . . . . . .[A271, A381]
Science Systems and Applications, Inc., Lanham, MD . . . . . .[A271]
Swales Aerospace, Beltsville, MD . . . . . .[A52]
The Boeing Company, Cape Canaveral Air Station, FL . . . . . .[A271]
The Boeing Company, Everett, WA . . . . . .[A271]

Other Nonprofits

Carnegie Institute of Washington, Washington, DC . . . . . .[A53, A63, A64, A66, A127, A146, A236, A239, A271]
Carnegie Observatories, Pasadena, CA . . . . . .[A236, A239]
European Southern Observatory, Santiago, Chile . . . . . .[A236, A239]
European Space Agency, Paris, France . . . . . .[A2, A236, A239, A271]
Gemini Observatory, Hilo, HI . . . . . .[A39, A236, A239]
Harvard-Smithsonian Center for Astrophysics, Cambridge, MA . . . . . .[A1, A5, A14, A15, A16, A41, A151, A206, A216, A217, A236, A239, A271, A281, A311, A321, A345, A357, A375, B13]
Institute for Astronomy, Hilo, HI . . . . . .[A39, A236, A239]
Johns Hopkins University Applied Physics Laboratory, Laurel, MD . . . . . .[A12, A26, A52, A190, A226, A236, A239, A270, A271, A274, A284, A285, A290, A299, A300, A350, A386, B26, B46, B118]
Marine Biological Laboratory, Woods Hole, MA . . . . . .[A177, A179, A231, A236, A239, A346]
McDonald Observatory, Austin, TX . . . . . .[A236, A271]
Pisgah Astronomical Research Institute, Rosman, NC . . . . . .[A37]
Planetary Science Institute, Tucson, AZ . . . . . .[A37, A239, A270]
SETI Institute, Mountain View, CA . . . . . .[A2, A13, A62, A144, A159, A215, A225, A236, A239, A244, A249, A305, A374, B25]
Southwest Research Institute, Boulder, CO . . . . . .[A236, A239, A271]
Southwest Research Institute, San Antonio, TX . . . . . .[A236, A239]
Space Education Initiatives, Inc., Green Bay, WI . . . . . .[A135, A207]
Space Explorers, Inc., Green Bay, WI . . . . . .[A236]
Subaru Telescope, Hilo, HI . . . . . .[A39, A236]
W.M. Keck Observatory, Kamuela, HI . . . . . .[A39, A236, A239, A281, A375]
Woods Hole Oceanographic Institute, Woods Hole, MA . . . . . .[A162]

Yerkes Observatory, Williams Bay, WI . . . . . [A209]

Community Organizations

4-H Arkansas, Little Rock, AR . . . . . [A322]
4-H Delaware, Newark, DE . . . . . [A322]
4-H Florida, Gainesville, FL . . . . . [A322]
4-H Kansas, Colby, KS . . . . . [A322]
4-H Kentucky, Lexington, KY . . . . . [A322]
4-H Maine, Bangor, ME . . . . . [A322]
4-H Maryland, College Park, MD . . . . . [A322]
4-H Massachusetts, Walpole, MA . . . . . [A322]
4-H Michigan, East Lansing, MI . . . . . [A322]
4-H Minnesota, Minneapolis, MN . . . . . [A322]
4-H Missouri, Columbia, MO . . . . . [A322]
4-H Montana, Bozeman, MT . . . . . [A322]
4-H National, Auburn, AL . . . . . [A322]
4-H Nebraska, Lincoln, NE . . . . . [A322]
4-H New Hampshire, Durham, NH . . . . . [A322]
4-H North Carolina, Raleigh, NC . . . . . [A322]
4-H Oregon, Corvallis, OR . . . . . [A322]
4-H South Dakota, Brookings, SD . . . . . [A322]
4-H Texas, Dallas, TX . . . . . [A322]
4-H Virginia, Blacksburg, VA . . . . . [A322]
4-H Wisconsin, Madison, WI . . . . . [A322]
Andrews Air Force Base Youth Center, Andrews Air Force Base, MD . . . . . [A370]
Barksdale Air Force Base Youth Center, Bossier, LA . . . . . [A370]
Boys & Girls Clubs, National Headquarters, Atlanta, GA . . . . . [A322]
Brooks Air Force Base Youth Center, Brooks Air Force Base, TX . . . . . [A370]
Camp Lejeune Marine Corps Base Youth Center, Camp Lejeune, NC . . . . . [A370]
Cayce-West Columbia Jaycees, West Columbia, SC . . . . . [A370]
Elgin Air Force Base Youth Center, Elgin Air Force Base, FL . . . . . [A370]
Ellsworth Air Force Base Youth Center, Ellsworth Air Force Base, SD . . . . . [A370]
Fairchild Air Force Base Youth Center, Fairchild Air Force Base, WA . . . . . [A370]
Fort Benning Youth Services, Fort Benning, GA . . . . . [A370]
Fort Bliss Youth Center, Fort Bliss, TX . . . . . [A370]
Fort Campbell Child and Youth Services, Fort Campbell, KY . . . . . [A370]
Fort Drum Youth Services, Fort Drum, NY . . . . . [A370]
Fort Gordon Youth Center, Fort Gordon, GA . . . . . [A370]
Fort Hood Youth Center, Fort Hood Army Base, TX . . . . . [A370]
Fort Jackson Youth Center, Fort Jackson, SC . . . . . [A370]
Fort Knox Youth Center, Fort Knox, KY . . . . . [A370]
Fort Lewis Youth Services, Fort Lewis, WA . . . . . [A370]
Fort Meade Youth Center, Fort Meade, MD . . . . . [A370]
Fort Polk Siegfried Youth Center, Fort Polk, LA . . . . . [A370]
Fort Sill Youth Center, Fort Sill, OK . . . . . [A370]
Girl Scouts of the USA (GSUSA) National Headquarters, New York, NY . . . . . [A51]
Girls, Inc., Pasadena, CA . . . . . [A54]
Great Lakes Region Civil Air Patrol, Wright-Patterson Air Force Base, OH . . . . . [A322]
Holloman Air Force Base Youth Center, Holloman Air Force Base, NM . . . . . [A370]
Los Angeles' Better Educated Students for Tomorrow (LA's BEST), Los Angeles, CA . . . [A49]
Maxwell-Gunter Air Force Base Youth Center, Montgomery, AL . . . . . [A370]
McConnell Air Force Base Youth Center, McConnell Air Force Base, KS . . . . . [A370]
McGuire Air Force Base, McGuire Air Force Base, NJ . . . . . [A370]
Middle East Region Civil Air Patrol, Andrews Air Force Base, MD . . . . . [A322]
Mountain Home Air Force Base Youth Center, Mountain Home, ID . . . . . [A370]
National Headquarters Civil Air Patrol, Maxwell Air Force Base, AL . . . . . [A322]

North Central Region Civil Air Patrol, Minneapolis, MN . . . . . .[A322]
Northeast Region Civil Air Patrol, McGuire Air Force Base, NJ . . . . . .[A322]
Pacific Region Civil Air Patrol, Beale Air Force Base, CA . . . . . .[A322]
Patrick Air Force Base Youth Center, Satellite Beach, FL . . . . . .[A370]
Peterson Air Force Base Youth Center, Peterson Air Force Base, CO . . . . . .[A370]
Rocky Mountain Civil Air Patrol, Littleton, CO . . . . . .[A322]
Scott Air Force Base Youth Center, Scott Air Force Base, IL . . . . . .[A370]
Selfridge Air National Guard Base, Sang, MI . . . . . .[A370]
Shaw Youth Center, Shaw Air Force Base, SC . . . . . .[A370]
Southeast Region Civil Air Patrol, Maxwell Air Force Base, AL . . . . . .[A322]
Southwest Region Civil Air Patrol, Lewisville, TX . . . . . .[A322]
Subase Youth Center, Groton, CT . . . . . .[A370]
Tinker Air Force Base Youth Services, Tinker Air Force Base, OK . . . . . .[A370]
YWCA of America, New York, NY . . . . . .[A322]

Libraries

Alaska State Library Association, Juneau, AK . . . . . .[A322]
American Library Association (ALA), Chicago, IL . . . . . .[A322]
Arizona Library Association, Tempe, AZ . . . . . .[A322, A370]
Arkansas Library Association, Conway, AR . . . . . .[A322]
Billings Public Library, Billings, MT . . . . . .[A370]
California Library Association, Sacramento, CA . . . . . .[A322]
Carbondale Public Library, Carbondale, IL . . . . . .[A370]
Charleston Community Library, Charleston, SC . . . . . .[A370]
City of Riverside Public Library, Riverside, CA . . . . . .[A370]
Coeur d'Alene Public Library, Coeur d'Alene, ID . . . . . .[A370]
Daniel Boone Regional Library, Columbia, MO . . . . . .[A370]
Dodge City Public Library, Dodge City, KS . . . . . .[A370]
Dover Public Library, Dover, DE . . . . . .[A370]
Ewa Beach Public Library, Ewa Beach, HI . . . . . .[A370]
Farmington Public Library, Farmington, NM . . . . . .[A370]
Fletcher Free Library, Burlington, VT . . . . . .[A370]
Fort Smith Public Library, Fort Smith, AR . . . . . .[A370]
Gadsden Public Library, Gadsden, AL . . . . . .[A370]
Grand Junction Public Library, Grand Junction, CO . . . . . .[A370]
Illinois Library Association, Chicago, IL . . . . . .[A322]
Iowa Library Association, Des Moines, IA . . . . . .[A322]
Johnson County Library, Buffalo, WY . . . . . .[A370]
Joplin Public Library, Joplin, MO . . . . . .[A370]
Kent District Library, Wyoming, MI . . . . . .[A370]
Meridian Public Library, Meridian, MS . . . . . .[A370]
Mesa Union School Library, Somis, CA . . . . . .[A370]
Minnesota Valley Regional Library, Mankato, MN . . . . . .[A370]
Minot Public Library, Minot, ND . . . . . .[A370]
Missouri Library Association, Columbia, MO . . . . . .[A322]
Morgantown Public Library, Morgantown, WV . . . . . .[A370]
Norfolk Public Library, Norfolk, NE . . . . . .[A370]
Northside Branch Library, Chillicothe, OH . . . . . .[A370]
Ouachita Public Library, Monroe, LA . . . . . .[A370]
Parker Public Library, Parker, AZ . . . . . .[A370]
Parkersburg Public Library, Parkersburg, WV . . . . . .[A370]
Pensacola Public Library, Pensacola, FL . . . . . .[A370]
Peter White Public Library, Marquette, MI . . . . . .[A370]
Provo Library, Provo, UT . . . . . .[A370]
Public Library of Enid and Garfield County, Enid, OK . . . . . .[A370]
Putnam County Library System, Cookeville, TN . . . . . .[A370]

Rawlins Municipal Library, Pierre, SD . . . . . .[A370]
Rhode Island Library Association, Cranston, RI . . . . . .[A322]
Rock Springs Public Library, Rock Springs, WY . . . . . .[A370]
Sheridan County Public Library, Sheridan, WY . . . . . .[A370]
State Library of Hawaii, Honolulu, HI . . . . . .[A322]
State Library of Iowa, Des Moines, IA . . . . . .[A370]
To'Hajiilee Community School Library, Canoncito, NM . . . . . .[A370]
Tulsa Central Public Library, Tulsa, OK . . . . . .[A370]
Tuzzy Consortium Library, Barrow, AK . . . . . .[A370]
Washington County Free Library, Hagerstown, MD . . . . . .[A370]
Wilmington Public Library, Wilmington, DE . . . . . .[A370]
Wyoming Library Association, Buffalo, WY . . . . . .[A322]

Mass Media

Public Radio/TV Stations(s)

WPSX-TV, Channel 3/Clearfield, University Park, PA . . . . . .[A303]

Commercial Radio/TV Station(s)

CBS Corporation, New York, NY . . . . . .[A10]

Newspapers and Magazines

Al Dia, Philadelphia, PA . . . . . .[A371]
Brownsville Herald, Brownsville, TX . . . . . .[A371]
Chronicle Telegram, Elyria, OH . . . . . .[A371]
Daily Courier, Kelowna, Canada . . . . . .[A371]
Daily Herald, Elgin, IL . . . . . .[A371]
Denver Post, Denver, CO . . . . . .[A371]
El Tiempo Latino, Arlington, VA . . . . . .[A371]
Herald-Standard, Uniontown, PA . . . . . .[A371]
La Noticia, Charlotte, NC . . . . . .[A371]
La Oferta, San Jose, CA . . . . . .[A371]
La Opinion, Los Angeles, CA . . . . . .[A371]
Los Angeles Times, Los Angeles, CA . . . . . .[A371]
Noticias del Mundo, Long Island City, NY . . . . . .[A371]
Sentinal, Seabrook, MD . . . . . .[A371]
South Bend Tribune, South Bend, IN . . . . . .[A371]
Stillwater News Press, Stillwater, OK . . . . . .[A371]
Times Record, Brunswick, ME . . . . . .[A371]
Vistazo, San Jose, CA . . . . . .[A371]

Other Organizations

Condit Exhibits, Denver, CO . . . . . .[A12]
Jeff Kennedy Associates, Inc., Somerville, MA . . . . . .[A5, A10]
Loch Ness Productions, Groton, MA . . . . . .[A2]
Mystic Scenic Studios, Dedham, MA . . . . . .[A10]
New Curiosity Shop, Bethesda, MD . . . . . .[A223]
Pacific Visions Communications, Los Angeles, CA . . . . . .[A279]
Randi Korn and Associates, Inc., Alexandria, VA . . . . . .[A10]
Superior Exhibits and Design, Inc., Elk Grove Village, IL . . . . . .[A5]
TIAA-CREF, Boston, MA . . . . . .[A206]

APPENDIX E. Conferences

The conferences at which the Office of Space Science (OSS) Education and Public Outreach (E/PO) program had a substantial presence in FY 2002 are listed below. Numbers in brackets to the right of each conference refer to the listing(s) in Appendix A of the activity(ies) that were carried out at that conference.

National Education and Outreach

American Association of Physics Teachers (AAPT) Meeting,
Philadelphia, PA, January 2002 . . . . . [A37, A148, A171, A172, A219]

American Indian Science and Engineering Society (AISES) Meeting,
Albuquerque, NM, November 2001 . . . . . [A56, A219]

Americans for the Arts Convention,
Nashville, TN, June 2002 . . . . . [A279]

Association for Supervision and Curriculum Development (ASCD) Conference,
San Antonio, TX, March 2002 . . . . . [A170, A322]

Association of Science-Technology Centers (ASTC) Conference,
Phoenix, AZ, October 2001 . . . . . [A210, A215, A216, A336]

International Planetarium Society Conference,
Wichita, KS, July 2002 . . . . . [A99, A147, A210, A219, A314, A328]

International Technology Education Association (ITEA) Conference,
Columbus, OH, March 2002 . . . . . [A170, A188, A322]

Mexican American Engineers and Scientists Meeting,
Houston, TX, October 2001 . . . . . [A33]

National Alliance of Black School Educators (NABSE) Conference,
Los Angeles, CA, November 2001 . . . . . [A55, A166]

National Congress on Aviation and Space Education,
Arlington, VA, May 2002 . . . . . [A207]

National Council for the Teachers of Mathematics (NCTM) Conference,
Las Vegas, NV, April 2002 . . . . . [A152, A189, A203, A229, A336, A347]

National Education Association Expo, Dallas,
TX, June 2002 . . . . . [A279]

National Organization for the Professional Advancement of
Black Chemists and Chemical Engineers (NOBCChE) Conference,
New Orleans, LA, March 2002 . . . . . [A57, A58, A356]

National Science Teachers Association (NSTA) National Convention,
San Diego, CA, March 2002 . . . . . [A32, A99, A133, A136, A140, A144, A145, A147, A152, A156, A160, A166, A169, A170, A172, A175, A187, A189, A192, A194, A199, A203, A204, A207, A210, A211, A215, A216, A219, A229, A244, A253, A323, A336, A364, A388]

National Society of Black Physicists Meeting,
Huntsville, AL, March 2001 . . . . . [A55]

National Urban League Conference,
Los Angeles, CA, July 2002 . . . . . [A55]

Natives, Africans, Asians, Latinos(as) and Allies (NAALA) Gathering,
Mission, SD, June 2002 . . . . . [A56]

Office of Space Science Education and Public Outreach Conference,
Chicago, IL, June 2002 . . . . . [A356]

Parent Teacher Association (PTA) Convention,
San Antonio, TX, June 2002 . . . . . [A279]

Public Library Association Conference,
Phoenix, AZ, March 2002 . . . . . [A330]

Richard Tapia Celebration of Diversity in Computing,
Houston, TX, October 2001 . . . . . [A57]

Society for Advancement of Native Americans and Chicanos in Science National Conference,
Anaheim, CA, September 2002 . . . . . .[A56, A152, A153, A349]

Regional Education and Outreach

Altamont Journey through the Universe Week,
Altamont, KS, April 2002 . . . . . .[A52]
Association for Experiential Education Rocky Mountain Regional Conference,
Prescott, AZ, April 2002 . . . . . .[A210]
Balticon SciFi Convention,
Baltimore, MD, May 2002 . . . . . .[A336]
California Association for the Gifted Conference,
Palm Springs, CA, February 2002 . . . . . .[A156]
California Science Teachers Association Meeting,
Palm Springs, CA, October 2001 . . . . . .[A156, A159, A166, A203, A215, A229, A349]
Capricon Science Fiction Convention XXII,
Arlington Heights, IL, February 2002 . . . . . .[A363]
Cybercamp 2002,
Riverton, WY, August 2002 . . . . . .[A169]
DucKon 11 Science Fiction Convention,
Schaumburg, IL, June 2002 . . . . . .[A363]
Expanding Your Horizons,
Rohnert Park, CA, March 2002 . . . . . .[A262]
Farpoint SciFi Convention,
Elkridge, MD, February 2002 . . . . . .[A336]
Georgia Science Teachers Association Conference,
Jekyll Island, GA, February 2002 . . . . . .[A169]
Illinois Technical Conference for Educators,
St. Charles, IL, March 2002 . . . . . .[A363]
KATS KAMP 2002: Kansas Association of Teachers of Science,
Junction City, KS, April 2002 . . . . . [A169, A170]
Louisiana Library Association Conference, Baton
Rouge, LA, March 2002 . . . . . .[A330]
Marquette Journey to the Universe Week,
Marquette, MI, March 2002 . . . . . .[A52]
Mathematics, Science and Technology Conference,
Bakersfield, CA, February 2002 . . . . . .[A349, A363]
Mid Atlantic Planetarium Society Meeting,
Worchester, MA, May 2002 . . . . . .[A99, A320]
NASA Awareness Days: North Dakota Tribal Colleges,
Spirit Lake, ND, April 2002 . . . . . .[A56]
National Science Teachers Association (NSTA) Midwestern Area Convention,
Columbus, OH, November 2001 . . . . . .[A171, A207]
National Science Teachers Association (NSTA) Southern Area Convention,
Memphis, TN, December 2001 . . . . . .[A229]
National Science Teachers Association (NSTA) Western Area Convention,
Salt Lake City, UT, October 2001 . . . . . .[A207, A210]
National Teacher Training Institute,
Tucson, AZ, August 2001 . . . . . .[A270]
Nogales Journey to the Universe Week,
Nogales, AZ, February 2002 . . . . . .[A52]
Pennsylvania State Science Teachers Association,
Hershey, PA, December 2001 . . . . . .[A148]
Rural Technology Institute (RTI),
Lawrence, KS, July 2002 . . . . . .[A169]

Science Olympiad Eastern Regional,
Newark, DE, January 2002 . . . . . .[A148]
Science Teachers Association of New York State (STANYS) Conference,
Ellenville, NY, November 2001 . . . . . .[A219]
Science Teachers Association of Texas Meeting,
Austin, TX, November 2001 . . . . . .[A160, A199]
Science Teachers' 2001 Workshop,
University Park, PA, September 2001 . . . . . .[A270]
South Carolina Science Council 26th Annual Convention,
Myrtle Beach, SC, October 2001 . . . . . .[A37]
Texas Library Association Conference,
Dallas, TX, April 2002 . . . . . .[A330]
Texas Middle School Association Conference,
Houston, TX, February 2002 . . . . . .[A187]
Tuskegee-Montgomery Journey to the Universe Week,
Tuskegee-Montgomery, AL, January 2002 . . . . . .[A52]
Washington Journey to the Universe Week,
Washington, DC, October 2001 . . . . . .[A52]
Western Alliance Conference of Planetarium Associations, Eugene, OR,
October 2001 . . . . . .[A210]

Science

AAS Division of Planetary Sciences Meeting,
New Orleans, LA, November 2001 . . . . . .[A329, A394]
ALCON,
Salt Lake City, UT, July 2002 . . . . . .[A309]
American Association of Variable Star Observers (AAVSO) Meeting,
Waikoloa Beach, HI, June 2002 . . . . . .[A384]
American Astronautical Society (AAS) Meeting,
Pasadena, CA, November 2001 . . . . . .[A349]
American Astronomical Society (AAS) Meeting,
Albuquerque, NM, June 2002 . . . . . .[A40, A259, A349]
American Astronomical Society (AAS) Meeting,
Washington, DC, January 2002 . . . . . .[A40, A98, A259, A349, A384]
American Geophysical Union (AGU) Meeting,
San Francisco, CA, December 2001 . . . . . .[A364, A398]
American Geophysical Union (AGU) Meeting,
Washington, DC, May 2002 . . . . . .[A398]
Coral Gables Conference 2001,
Fort Lauderdale, FL, December 2001 . . . . . .[A384]
Eye to the Future,
Minneapolis, MN, May 2002 . . . . . .[A336]
Lunar and Planetary Science Conference,
League City, TX, March 2002 . . . . . .[A343, A395]
Maryland Technology Showcase,
Baltimore, MD, December 2001 . . . . . .[A327]
Multiwavelength Observations of Coronal Structure and Dynamics,
Kailua-Kona, HI, January 2002 . . . . . .[A356]
National Astronomical League Conference,
Salt Lake City, UT, August 2002 . . . . . .[A147, A320]
Royal Astronomical Society Meeting,
Bristol, United Kingdom, April 2002 . . . . . .[A320]
SPIE's Astronomical Telescopes and Instrumentation 2002,
Waikoloa, HI, August 2002 . . . . . .[A349]
World Congress on Information Technology,
Adelaide, Australia, February 2002 . . . . . .[A320]

APPENDIX F. Awards

Awards and other forms of public recognition received by the Office of Space Science (OSS) Education and Public Outreach (E/PO) program in FY 2002 are listed below. Each listing contains the following information:

Organization:
Organization making or sponsoring the award.

Award:
Name of the award.

Mission/Program:
OSS mission or program receiving the award.

Activity/Person:
OSS E/PO product or activity, or OSS-affiliated individual receiving the award.

Sponsor	
Organization	**Award**
American Library Association	Great Web Sites for Kids
AOL.com	AOL Hot Link
Ask Jeeves (*http://www.askjeeves.com*)	Silver Platter Site Award
Association of Universities for Research in Astronomy	AURA Achievement Award
CPSnet	Ocean of Knowledge Seal
Discover Magazine	Pick of the Web
Docherty Family	Red Stag Bronze Award
Eisenhower National Clearinghouse	Digital Dozen Award
Geetha Zone Awards	Geetha's Great Design Award
Griffith Observatory	Star Award
lightOS.com	8th Annual Golden Ace Award for Science
MarcoPolo Education Foundation	Science NetLinks
Maxim Magazine	Guide to the Web—Hot 99 Sites
NASA Goddard Space Flight Center (GSFC)	NASA GSFC Award for Excellence in Outreach
NASA Jet Propulsion Laboratory	NASA Exceptional Achievement Medal
NASA Jet Propulsion Laboratory	NASA Group Achievement Award
NASA Jet Propulsion Laboratory (JPL)	NASA JPL Award for Excellence (Quality)
National Academy Press	Coolest Science Site
National Science Teachers Association (NSTA)	NSTA sciLINKS
National Science Teachers Association (NSTA)	NSTA sciLINKS
New Scientist Magazine	Web Pick
PC World Magazine	Best of the Web
President of the United States	Presidential Meritorious Executive Award
Suite101.com	Top Five Web Sites: Science
Time Warner Cable	Best of the Web
UKBest50	Best 50 Astronomy Sites
USA Today	Hot Site
Yahoo! International	Best Spanish Science and Technology Web Site
Yahoo.com	Yahoo! Picks
Yahoo.com	Yahooligan's Five Coolest Sites

Recipient	
Mission/Program	**Activity/Person**
Galileo	Galileo: Journey to Jupiter Web Site
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
New Millennium	Space Place Web Site
Hubble Space Telescope/ViewSpace	John Stoke
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Navigator	Planet Quest: The Search for Another Earth
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Navigator	Planet Quest: The Search for Another Earth
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Navigator	Planet Quest: The Search for Another Earth
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Solar System Exploration Theme Lead	NASA Solar System Exploration Web Site
Hubble Space Telescope	Hubble Space Telescope Online Outreach
Solar and Heliospheric Observatory (SOHO)	Dr. Steele W. Hill
New Millennium/Space Place	Nancy Leon
Mars Public Engagement Program	Odyssey Mars Orbit Insertion
Solar System Exploration Forum	Rosalie Betrue, Rebecca Knudsen, Edward Gonzales
Navigator	Planet Quest: The Search for Another Earth
Astromaterials Program	Astromaterials Curation Web Site
Hubble Space Telescope	Amazing Space
Hubble Space Telescope	Hubble Space Telescope Online Outreach
Hubble Space Telescope	Hubble Space Telescope Online Outreach
Office of Space Science Education and Public Outreach Program	Dr. Jeffrey D. Rosendhal
Hubble Space Telescope	Hubble Space Telescope Online Outreach
Navigator	Planet Quest: The Search for Another Earth
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Chandra X-Ray Center (CXC)	CXC Public Outreach Web Site
Science Data and Computing Technology Program	Science@NASA
Navigator	Planet Quest: The Search for Another Earth
Navigator	Planet Quest: The Search for Another Earth

APPENDIX G. NASA Education Leads

The Office of Space Science (OSS) Education and Public Outreach (E/PO) program products and activities described in this report are only one part of a broad, coordinated NASA Education Program that is led by the NASA Office of Education and spans all of the NASA Strategic Enterprises and Field Centers. The persons responsible for conducting education programs at each of these locations are listed below.

NASA HEADQUARTERS

Office of Education
Dr. Adena Williams Loston
Associate Administrator for Education
NASA Headquarters
Code N
202-358-0103
Adena.Loston@nasa.gov
http://education.nasa.gov/

Office of Aerospace Technology
Mr. Bill Anderson
NASA Headquarters
Code RP
202-358-4732
William.e.Anderson@nasa.gov
http://www.aerospace.nasa.gov/edu/

Office of Biological and Physical Research
Ms. Bonnie McClain
Chief, Education
NASA Headquarters
Code U
202-358-2181
Bonnie.j.McClain@nasa.gov
http://spaceresearch.nasa.gov/fun_learning/edu.html

Office of Earth Science
Dr. Ming-Ying Wei
Manager, Earth Science Enterprise Education Programs
NASA Headquarters
Code YO
202-358-0771
Ming-Ying.Wei-1@nasa.gov
http://www.earth.nasa.gov/

Office of Space Flight
Mr. Melvin De Gree
NASA Headquarters
Code MP
202-358-4779
Melvin.Degree-1@nasa.gov
http://spaceflight.nasa.gov

Office of Space Science
Dr. Jeffrey Rosendhal
Education and Public Outreach Director
NASA Headquarters
Code S
202-358-2470
Jeffrey.d.Rosendhal@nasa.gov
http://spacescience.nasa.gov/education/

NASA CENTERS

NASA Ames Research Center (ARC)
Mr. Donald James
Director of Education
NASA Ames Research Center
650-604-4967
http://www.arc.nasa.gov/kids.html

NASA Dryden Flight Research Center (DFRC)
Ms. Jennifer L. Baer-Riedhart
Chief, Public Affairs, Commercialization, and Education Office
NASA Dryden Flight Research Center
Mail Stop 4839A
661-276-3689
http://www.dfrc.nasa.gov/Education/

NASA Glenn Research Center (GRC)
Mr. John Hairston, Jr.
Director of Education
NASA Glenn Research Center
External Programs Directorate
216-433-8686
http://www.grc.nasa.gov/Doc/educatn.htm

NASA Goddard Space Flight Center (GSFC)
Dr. Robert Gabrys
Director of Education
NASA Goddard Space Flight Center
301-286-7205
http://education.gsfc.nasa.gov/

NASA Jet Propulsion Laboratory (JPL)
Dr. Parvin Kassaie
Director of Education
NASA Jet Propulsion Laboratory
Mail Stop 180-109
818-354-8814
http://education.jpl.nasa.gov/

NASA Johnson Space Center (JSC)
Mr. Mike Kincaid
Chief, Education and Student Programs Branch
NASA Johnson Space Center
Human Resources Office/AH2
281-483-6848
http://education.jsc.nasa.gov/

NASA Kennedy Space Center (KSC)
Ms. Pamela Biegert
Deputy, Education Programs and University Research Division
NASA Kennedy Space Center
Mail Code XA-D
321-867-4444
http://www-pao.ksc.nasa.gov/kscpao/educate/edu.htm

NASA Langley Research Center (LaRC)
Dr. Samuel Massenberg
Director of Education
NASA Langley Research Center
Office of Education, Code 400
757-864-5800
http://edu.larc.nasa.gov/

NASA Marshall Space Flight Center (MSFC)
Mr. Jim Pruitt
Manager, Education Programs Department
NASA Marshall Space Flight Center
Mail Code CD60
256-544-8800
http://education.msfc.nasa.gov/

NASA Stennis Space Center (SSC)
Dr. David Powe
Manager, Educational Programs
NASA Stennis Space Center
228-688-3830
http://education.ssc.nasa.gov/

APPENDIX H. Geographical Index

This index lists by geographical location the institutions and organizations involved in the Office of Space Science (OSS) Education and Public Outreach (E/PO) program during FY 2002. It includes institutions and organizations that contributed to leading the E/PO efforts of OSS missions or programs, carrying out OSS E/PO activities, developing new OSS E/PO products, serving as host sites for OSS E/PO events or exhibits, and/or to serving as the media outlet for OSS E/PO materials or programs. The numbers in the brackets to the right of each listing refer to entries in Appendix A or B in which the institution's or organization's participation is described.

Alabama

Auburn
4-H National [A322]
Auburn University [A167]

Birmingham
Oak Mountain Middle School [A264]
University of Alabama at Birmingham [A275]

Brewton
Brewton Middle School [A264, A265]

Fort Rucker
Fort Rucker [A363]

Gadsden
Gadsden Public Library [A370]

Hoover
Hoover High School [A303]

Huntsville
Constellation Aerospace Newsletter [A363]
National Space Science and Technology Center [A158, A187]
U.S. Space and Rocket Center [A363]
University of Alabama at Huntsville [A44, A336, A363]

Jacksonville
Alabama Aerospace Teachers Association [A211]

Marshall Space Flight Center
NASA Marshall Space Flight Center [A5, A44, A236, A239, A270, A271, A359, A381]

Maxwell Air Force Base
National Headquarters Civil Air Patrol [A322]
Southeast Region Civil Air Patrol [A322]

Mobile
Environmental Studies Center [A363]

Montgomery
Gayle Planetarium [A370]
Maxwell-Gunter Air Force Base Youth Center [A370]
Montgomery Zoo [A370]

Normal
Alabama A&M University [A44]

Opelika
Opelika Middle School [A264, A265]

Alaska

Anchorage
Anchorage School District [A50]
Anchorage Town Square [A363]
Imaginarium Science Discovery Center [A207, A370, A378]

Barrow
Tuzzy Consortium Library [A370]

Copper Center
Kenny Lake School [A363]

Eagle River
Eagle River Nature Center [A363]

Fairbanks
Fairbanks Public Library [A363]
University of Alaska Fairbanks [A168, A271]

Juneau
Alaska State Library Association [A322]

Ketchikan
White Cliff Elementary School [A363]

Arizona

Ahwatukee
Casa Vida Homeschool Enrichment Center [A277]

Amado
Smithsonian Astrophysical Observatory/ Fred Lawrence Whipple Observatory [A280]

Coolidge
Central Arizona Community College [A187]

Cottonwood
Mingus High School [A343]

Flagstaff
Lowell Observatory [A186]
Northern Arizona University [A50]
U.S. Geological Survey [A2, A10, A186, A236, A239, A271]

Florence
Florence Unified School District Office [A187]

Gilbert
San Tan Elementary School [A277]

Glendale
Copperwood Elementary School [A363]
Glendale Community College [A50, A139]
Glendale Public Library [A363]

Grand Canyon
Grand Canyon National Park [A363]

Mesa
Boy Scouts of America-Mesa District [A363]
East Valley Astronomy Club [A50]

Nogales
Nogales High School [A262, A277, A343]
Wade Carpenter Middle Academy [A277]

Parker
Parker Public Library [A370]

Peoria
Lake Pleasant Desert Outdoor Center [A363]

Phoenix
Academic Research Lab [A49, A50, A59]
Arizona Science Center [A363]
Challenger Learning Center [A187]
Crowne Plaza [A343]
Desert Marigold Elementary School [A363]
Gateway School [A280]
Phoenix Astronomical Society [A363]
Phoenix Civic Center [A187]
Starlight Park Elementary School [A363]
Valley Academy Charter School [A363]
Valley Forward Earth Fest Day, 2002 [A363]
Wesley Bolin Park [A343]

Pinon
Pinon Unified School District [A50]

Prescott
Prescott Resort and Casino [A343]

Prescott Valley
Lake Valley Elementary School [A363]

Red Valley
Red Rock Day School [A50]

Rio Rico
Calabassas Middle School [A343]
Rio Rico High School [A343]

Scottsdale
East Valley Astronomy Club [A363]
Scottsdale Community College [A363]

Shonto
Shonto Preparatory School [A50]

Tempe
Arizona Library Association [A322, A370]
Arizona State University [A22, A24, A37, A51, A53, A59, A78, A105, A106, A107, A108, A109, A139, A158, A160, A163, A186, A187, A188, A196, A210, A221, A250, A270, A275, A276, A277, A280, A310, A343, A344, A346, A347, A348, A360, A363, A364, A391, A392]
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IMAX Theatre at Arizona Mills [A363]
KAET-TV, Channel 8/Phoenix [A270]
Medtronics [A363]

Tsaile
Diné College [A43, A50]

Tucson
Coronado Instruments [A12]
Flandrau Science Center [A2]
KUAS-TV, Channel 27/Tucson [A270]
KUAT-TV, Channel 6/Tucson [A270]
Maxwell Middle School [A201]
National Optical Astronomy Observatory (NOAO) [A12, A37, A89, A154, A236, A271]
Pima Air and Space Museum [A370]
Pima County Community College [A221]
Planetary Science Institute [A37, A239, A270]
Pompea & Associates [A210, A236, A398]
University of Arizona [A141, A179, A201, A202, A210, A225, A270, A364, A398]

Yuma
Arizona Western College [A363]
Engineering Society Joint Meeting (ASCE, ASPE, SAME) [A363]
Marine Corps Air Station [A363]

Post Auditorium [A363]
The Retired Officers Association [A363]
Yuma Proving Grounds [A363]

Arkansas

Arkadelphia
Henderson State University [A363]

Bell Vista
Sugar Creek Astronomical Society [A334]

Berryville
Berryville Elementary School [A363]

Conway
Arkansas Library Association [A322]
KAFT-TV, Channel 13/Fayetteville [A270]
KEMV-TV, Channel 6/Mountain View [A270]
KETG-TV, Channel 9/Arkadelphia [A270]
KETJ-TV, Channel 19/Jonesville [A270]
KETS-TV, Channel 2/Little Rock [A270]

Fayetteville
Arkansas Air Museum [A370]
Vandergrift Elementary School [A363]

Fort Smith
Chaffin Junior High School [A264]
Fort Smith Public Library [A370]

Harrison
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Jonesboro
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Little Rock
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Pine Bluff
Arts and Science Center for Southeast Arkansas [A370]

Rogers
Birch Kirksey Middle School [A277]

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Southwest Middle School [A363]
The Bison [A363]
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California

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Alhambra
Atherton Baptist Homes [A343]
Mark Keppel High School [A278]

Aliso Viejo
Don Juan Avila Elementary School [A363]

Altadena
St. Elizabeth Parish School [A343]

Anaheim
Anaheim Sertoma Club [A343]
Revere Elementary School [A277]
St. Anthony Claret School [A363]

Apple Valley
Lewis Center for Educational Research [A166, A167, A264, A265, A267]

Aptos
Aptos High School [A262]
Cabrillo College [A262]

Arcadia
Arcadia Christian School [A261]
Arcadia High School [A278]
First Avenue Middle School [A277]

Asilomar
California Mathematics Council [A229]

Atherton
Selby Lane Air & Space Science Technology Magnet School [A334]

Bakersfield
McKee Intermediate School [A363]

Baldwin Park
Walnut Elementary School [A277]

Barstow
Barstow High School [A267]
Henderson Elementary School [A267]
Keystone School [A267]
Mojave River Museum [A363]

Skyline North Elementary School [A267]

Beale Air Force Base
Pacific Region Civil Air Patrol [A322]

Benicia
Benicia Library [A363]

Berkeley
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APPENDIX I. Mission/Program Acronym Index

Listed below are the more than 100 Office of Space Science (OSS) missions and programs that contributed to OSS Education and Public Outreach (E/PO) program activities in FY 2002. The listing is alphabetized by acronym, with the exception that missions/programs without acronyms are inserted alphabetically according to their full name. Numbers in brackets to the right of each entry refer to that mission or program's listing in Appendix B.

Acronym	Mission/Program	Reference in Appendices
	2001 Mars Odyssey	B49
2MASS	Two Micron All Sky Survey	B36
ACCESS	Advanced Cosmic-ray Composition Experiment for the Space Station	B84
ACE	Advanced Composition Explorer	B98
Adler	Adler Center for Space Science Education	B5
AIM	Aeronomy of Ice in the Mesosphere	B99
AMS-2	Alpha Magnetic Spectrometer	B85
ARISE	Advanced Radio Interferometry between Space and Earth	B66
ASO Forum	Astronomical Search for Origins Forum	B11
	Astro-E2	B87
Astromaterials	Astromaterials Program	B59
BeppoSAX	Satellite per Astronomia X	B91
	Cassini/Huygens Probe	B37
CATSAT	Cooperative Astrophysics and Technology Satellite	B73
CGRO	Compton Gamma-Ray Observatory	B68
Challenger Center	Challenger Center for Space Science Education	B6
CHIPS	Cosmic Hot Interstellar Plasma Spectrometer	B75
	Cluster II	B109
COBE	Cosmic Background Explorer	B74
Con-X	Constellation X	B69
CONTOUR	Comet Nucleus Tour	B41
CXO	Chandra X-Ray Observatory	B67
	Dawn	B42
	Deep Impact	B43
DePaul B/F	DePaul Broker/Facilitator	B15
DPSO	Discovery Program Support Office	B40
DS-1	Deep Space 1 [New Millennium]	B61
DSMS	Deep Space Mission System	B60
	Europa Orbiter	B58
EUVE	Extreme Ultraviolet Explorer	B76
FAST	Fast Auroral Snapshot Explorer	B100
FIRST	Herschel Space Observatory	B88
FUSE	Far-Ultraviolet Spectroscopic Explorer	B26
GALEX	Galaxy Evolution Explorer	B77
	Galileo	B38
	Genesis	B44
	Geotail	B110
GLAST	Gamma-ray Large Area Space Telescope	B70
GP-B	Gravity Probe B Relativity Mission	B71
HEASARC	High-Energy Astrophysics Science Archive Research Center	B86
HETE-2	High Energy Transient Explorer 2	B78
HST	Hubble Space Telescope	B22
IDEAS	Initiative to Develop Education through Astronomy and Space Science	B1
IMAGE	Imager for Magnetopause-to-Aurora Global Exploration	B102
IMP-8	Interplanetary Monitoring Platform	B103
INTEGRAL	International Gamma-Ray Astrophysics Laboratory	B89
IS	Interstellar Probe	B95

ISTP	International Solar-Terrestrial Physics Program Office	B108
JPL SSE Theme	Jet Propulsion Laboratory Solar System Exploration Theme Lead	B39
JWST	James Webb Space Telescope	B23
KECK	Keck Interferometer	B29
LBTI	Large Binocular Telescope Interferometer	B30
LISA	Laser Interferometer Space Antenna	B72
LPI B/F	Lunar and Planetary Institute Broker/Facilitator	B16
LWS	Living With a Star	B119
MAP	Microwave Anisotropy Probe	B79
Mars E/PO	Mars Public Engagement	B48
	Mars Express	B63
	Mars NetLander	B64
	Mars Pathfinder	B52
	Mars Scout	B55
MARSSB	Mid-Atlantic Region Space Science Broker/Facilitator	B17
MER	Mars Exploration Rover Mission	B50
MESSENGER	Mercury Surface, Space Environment, Geochemistry and Ranging	B45
MGS	Mars Global Surveyor	B51
MI Initiative	Minority Institution Initiative	B2
MMS	Magnetospheric Multiscale	B115
MRO	Mars Reconnaissance Orbiter	B53
MSC	Michelson Science Center	B28
MSL	Mars Science Laboratory	B54
NAI	NASA Astrobiology Institute	B35
Navigator	Navigator Program	B27
NEAR	Near-Earth Asteroid Rendezvous	B46
NEAT	Near-Earth Asteroid Tracking	B62
NESSIE B/F	New England Space Science Initiative in Education Broker/Facilitator	B18
OP E/PO	Outer Planets/Education and Public Outreach Program	B57
OSS/Outreach	OSS Outreach Activities	B7
OSS/Sci. Ctr. Dev.	OSS Science Center Development	B8
P2K	Passport to Knowledge	B9
PI	Planetary Imager	B31
Planck	Planck Surveyor	B90
	Polar	B111
RHESSI	Reuven Ramaty High Energy Solar Spectroscopic Imager	B101
	Rosetta	B65
RXTE	Rossi X-ray Timing Explorer	B80
S2N2 B/F	Space Science Network Northwest Broker/Facilitator	B21
SAMPEX	Solar Anomalous and Magnetospheric Particle Explorer	B104
SECEF	Sun-Earth Connection Education Forum	B14
SERCH B/F	Southeast Regional Clearinghouse Broker/Facilitator	B19
SEU Forum	Structure and Evolution of the Universe Forum	B13
SIM	Space Interferometry Mission	B32
SIRTF	Space Infrared Telescope Facility	B24
SNOE	Student Nitric Oxide Explorer	B105
SOFIA	Stratospheric Observatory for Infrared Astronomy	B25
SOHO	Solar and Heliospheric Observatory	B112
	Solar-B	B116
SPIDR	Spectroscopy and Photometry of the IGMs Diffuse Radiation	B81
SRT	Supporting Research and Technology	B3
SSE Forum	Solar System Exploration Forum	B12
SSI B/F	Space Science Institute Broker/Facilitator	B20
ST-3	StarLight [New Millennium]	B33
ST-5	Space Technology-5 [New Millennium]	B120

STARBASE	Students Training for Achievement in Research Based on Analytical Space Science Experiences	B10
	Stardust	B47
STEREO	Solar-Terrestrial Relations Observatory	B117
STP	Solar-Terrestrial Probes Program Office	B114
SWAS	Submillimeter Wave Astronomy Satellite	B82
Swift	Swift Gamma-Ray Burst MIDEX Mission	B83
SXG	Spectrum-X-Gamma	B92
TIMED	Thermosphere Ionosphere Mesosphere Energetics and Dynamics	B118
TPF	Terrestrial Planet Finder	B34
TRACE	Transition Region and Coronal Explorer	B106
TWINS	Two Wide-angle Imaging Neutral-atom Spectrometers	B107
	Ulysses	B96
URCs	University Research Centers at Minority Institutions	B4
	Viking	B56
	Voyager	B97
VSOP	VLBI Space Observatory Programme	B93
	Wind	B113
XMM-Newton	X-ray Multi-mirror Mission	B94
	Yohkoh	B121

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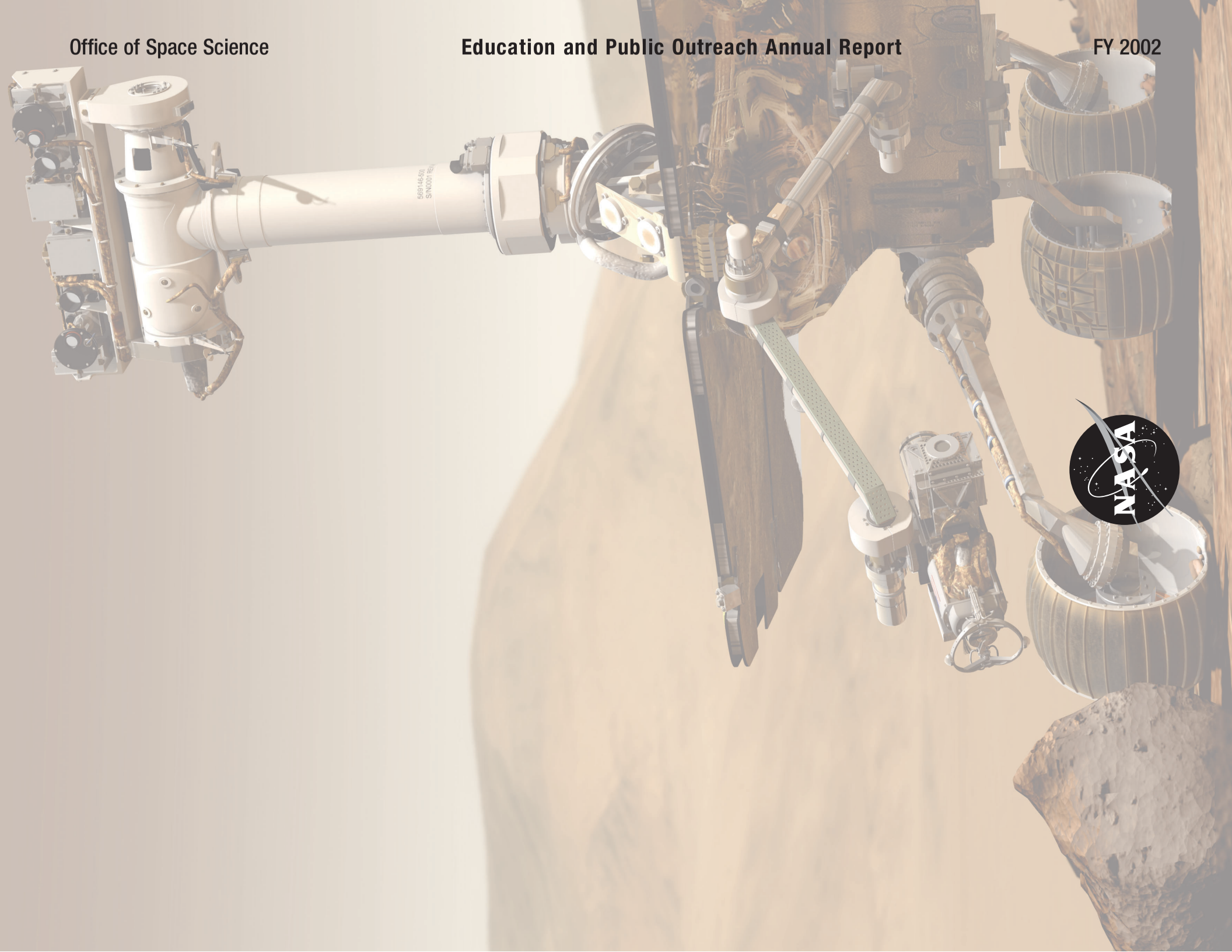
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