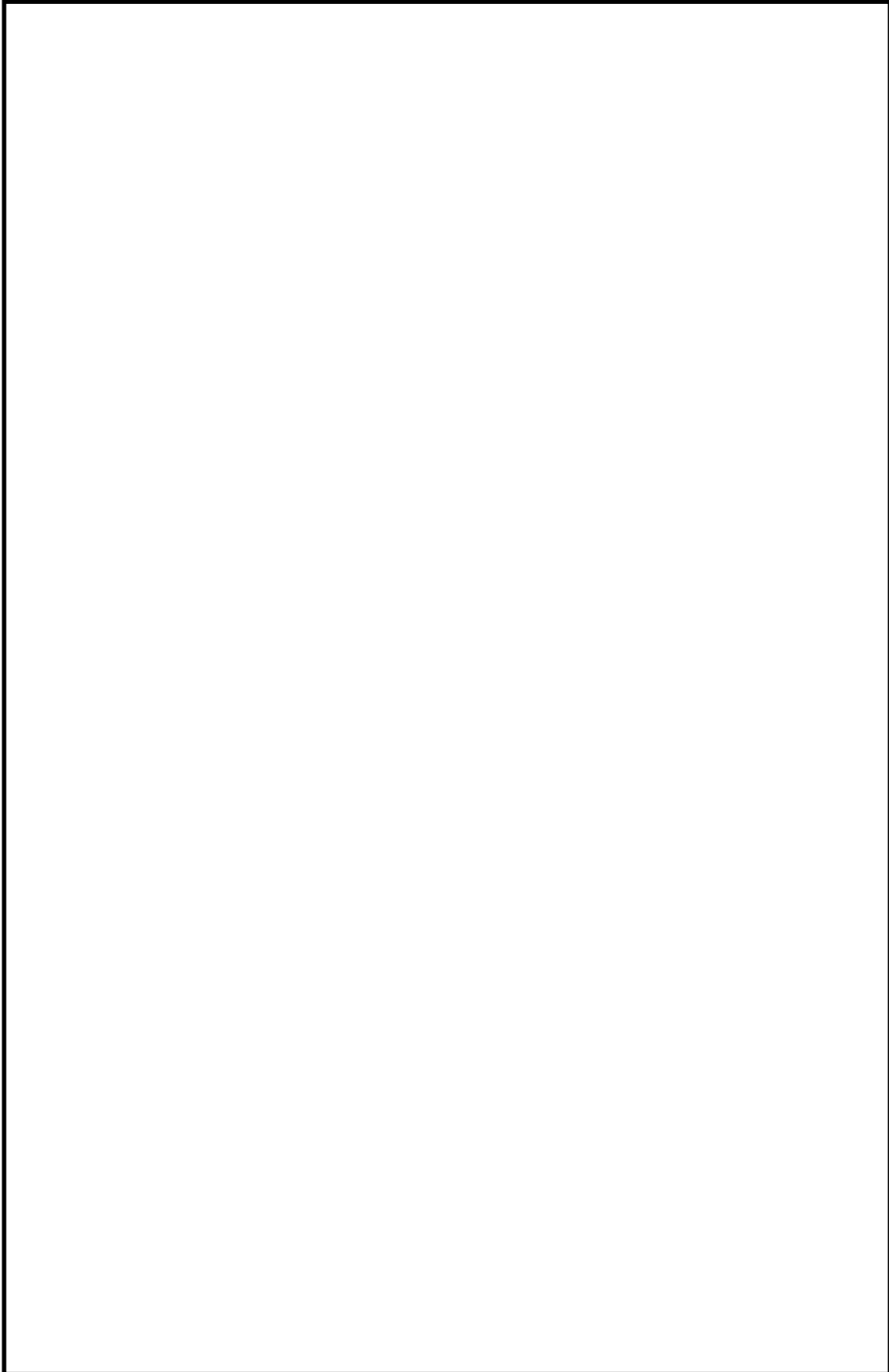


Association of Space Explorers • USA



**Annual Report
2000**

The poster featured on the cover commemorates the 16th Planetary Congress of the Association of Space Explorers (ASE). The Congress took place November 13-17, 2000 in Madrid and Valencia, Spain. Bearing the authentic signatures of forty-four of the participating astronauts from eleven nations, it is part of a series of limited Collector's Edition posters that have been produced and signed at each ASE Congress since the Association was founded in 1985. One hundred eighty posters were signed at the 16th Congress.

The poster has two headings, the main heading in English at the top, with the Russian displayed at the bottom. Around the periphery are printed translations of "Association of Space Explorers" in the native languages of all individuals who have flown in space. Clockwise, from upper left with English at the top, they include Romanian, Dutch, Japanese, Czech, Arabic, Polish, Spanish, Hungarian, Kazakh, Vietnamese, Italian, Bulgarian, Afghan, Hindi, Mongolian, German and French. The background is taken from NASA archive photo # 83 HC 213 which has been used for each set of posters in the series.

Association of Space Explorers • USA

Annual Report 2000

Celebrating 15 Years of ASE

**Association of Space Explorers • USA
1150 Gemini Ave.
Houston, TX 77058**

<http://www.space-explorers.org>

Executive Summary

The Association of Space Explorers (ASE) is an independent, nonprofit 501(c)(3) professional and educational organization of over 270 individuals from 28 nations who have flown citizens in space. Founded in 1985, ASE's mission is to provide a forum for professional dialogue among individuals who have flown in space; to promote space science and exploration for the benefit of all; to enhance education at all levels; to foster environmental awareness; and to encourage international cooperation in space.

Each year since 1985, ASE has convened a Planetary Congress to serve as a forum where members interact professionally and develop ASE programs. The week-long event generates communication on issues of common interest to the international space community, government agencies and the public. Members exchange information about their national space programs, make technical presentations on selected topics relevant to human space flight operations, discuss the Congress theme and present the ASE Planetary Award to a person who has made an outstanding contribution related to that theme. Past recipients of the award include Jacques Yves Cousteau, Oleg Gazenko and Gerard O'Neill, Thomas Paine, Boris Raushenbakh, Yash Pal, Hendrick van de Hulst, Hans Dietrich Genscher, Isaac Asimov, Hermann Bondi, Yuri Gagarin, Stanislaw Lem, Nicolas Matte, José María Figueres, Edith Cresson and Virgiliu Constaninescu.

As the only professional association for astronauts, ASE supports the advancement of space exploration by providing opportunities for communication among space professionals at the international level. The Association has worked closely with other international professional space organizations to expand and invigorate international dialogue on such issues as space safety, rescue and human performance, often resulting in published technical proceedings and papers. ASE regularly sponsors international discussions among astronauts on space flight operations.

With respect to education, ASE seeks to stimulate and inspire continual and higher learning by all people. To do this, ASE shares its members' knowledge and experience with the general public, and in particular with the world's youth. ASE members believe that increased public understanding of ecological and technological issues will help us make wise choices for our environment and for the future direction of space exploration. ASE includes among its educational activities annual international member lecture tours, sponsorship of space-related film, drama and video productions, cooperation in the publication of space-related books and calendars and collaboration with the educational programs of other space-advocacy organizations such as the Challenger Center, National Space Society, United States Space Foundation, and Planetary Society.

ASE considers it important to provide its members with opportunities to communicate their unique perspective of Earth to help stimulate humanity's sense of responsibility for the future of our planet. ASE programs seek to expand the important role space plays in monitoring the impact of human activity on the Earth, since the environmental knowledge gained from space is useful for the resolution of many ecological problems. Among ASE's premier activities in the area of environmental education have been the publication of the international best-seller *The Home Planet* in hard and soft cover, participation in the United Nations Earth Day and Mission to Planet Earth ceremonies, lead partnership in the "Arbor Project" international forest conservation effort, and sponsorship of environmental films and videos.

ASE maintains a commitment to fostering international cooperation in space exploration. Since space exploration is a technology-intensive and financially expensive activity, ASE members understand that when many countries jointly invest their resources and ingenuity in common undertakings, all stand to benefit. Chief among ASE's activities in this area are professional exchanges and facilities visits among astronauts of different national space programs, sponsorship of international dialogue on space rescue, and a series of high level invitational discussions in Washington which have resulted in several papers on new opportunities for space cooperation in the changing global political environment.

ASE is committed to continuing its work to improve the quality and effectiveness of the human enterprise in space. Global developments suggest that international cooperation in space science and exploration will continue to expand in the 21st century. The Association of Space Explorers will continue to contribute both leadership and vision as humanity moves outward from our home planet and toward the stars.

Professional Forum

To promote the exchange of spaceflight experiences and technical information concerning space operations, science, development, testing and training.

1. Conduct an annual ASE Planetary Congress.
2. Take the lead to promote technical presentations at annual ASE Planetary Congresses.
3. Conduct regular technical interchange meetings for spaceflight crews

Space Science and Exploration

To promote the exploration of space to enrich human life, bring nations together, advance science and technology, and stimulate intellectual curiosity and the expansion of knowledge.

1. Emphasize space science and exploration in development of annual Congress themes and agenda.
2. Advocate space exploration through public statements, position papers, symposia, and media interviews.

Education

To share knowledge gained from our experience emphasizing the significance and benefits of space science and exploration.
To promote scholastic excellence by supporting educators and motivating students.

1. Establish and distribute ASE Educator Awards.
2. Jointly sponsor activities with other educational organizations.
3. ASE member participation in educational appearances on behalf of ASE.
4. ASE member attendance at annual ASE Congress and participation in associated community activities.

Environmental Awareness

To promote understanding of our home planet and the limits of its natural resources, and encourage the use of space platforms in characterizing and monitoring Earth's resources.

1. Establish private sector affiliations and partnerships in pursuit of shared environmental goals.
2. Identify and support and/or participate in public and community environmental awareness-related projects.
3. Develop exhibits with environmental focus.
4. Seek national and international environment - focused member appearances opportunities.

International Cooperation

To encourage international human spaceflight and other cooperative space endeavors, promote technical exchanges, advocate operational compatibility, and contribute to related programs in other professional organizations.

1. Support or sponsor fora on international cooperation, including examination of such issues as compatibility of equipment and procedures.
2. Strengthen ASE affiliation with related international professional organizations.
3. Support active-duty astronaut international visits and exchanges.

Annual Planetary Congresses

I Congress
October 2-7, 1985

Cernay, France

Theme: The Home Planet

Award: Jacques-Yves Cousteau

II Congress
October 13-17, 1986
Budapest, Hungary

Theme: Towards Space Civilization

Award: Gerard O'Neill and Oleg Gazenko

III Congress
October 12-23, 1987
Mexico City, Mexico

Theme: The Next Generation in Space

Award: Thomas Paine

IV Congress
October 3-7, 1988
Sofia, Bulgaria

Theme: Space and Evolution

Award: Boris Raushenbakh

V Congress
November 11-15, 1989
Riyadh, Saudi Arabia

Theme: Space for Earth

Award: Yash Pal

VI Congress
July 2-6, 1990
Groningen, The Netherlands

Theme: Space Brings People Together

Award: H.C. Van de Hulst

VII Congress
September 30-October 5, 1991
Berlin, Germany

Theme: Space Has No Boundaries

Award: Hans Dietrich Genscher

VIII Congress
August 23-30, 1992
Washington, DC

Theme: To Mars Together

Award: Isaac Asimov

IX Congress
October 10-17, 1993
Vienna, Austria

Theme: Space for Life

Award: Hermann Bondi

X Congress
August 9-16, 1994
Moscow/Lake Baikal, Russia

Theme: Space and Ecology

Award: Yuri Gagarin (posthumous)

XI Congress
September 12-19, 1995
Warsaw, Poland

Theme: Space and Contemporary Society

Award: Stanislaw Lem

XII Congress
September 28-October 4, 1996
Montreal/Ottawa/Quebec, Canada

Theme: Cooperation in Space,

Progress for Humanity

Award: Nicolas Matte

XIII Congress
September 12-19, 1997
San José, Costa Rica

Theme: Space Technology for Sustainable Development

Award: José María Figueres

XIV Congress
October 19-23, 1998
Brussels, Belgium

Theme: Space and Education- A Message to the Youth

Award: Edith Cresson

XV Congress
October 4-9, 1999
Bucharest, Romania

Theme: Space and Astronomy- Toward the New Millennium

Award: V.N. Constantinescu

XVI Congress
November 13-17, 2000
Madrid/Valencia, Spain

Theme: A New Space for Humanity

Award: S.A.R. Prince Filipé

To promote the exchange of space flight experiences and technical information concerning space operations, science, development, testing and training.

The Annual Planetary Congress is ASE's primary forum for professional exchange among U.S., Russian and international astronauts and cosmonauts. ASE members meet to review and discuss developments in astronautics, to evaluate existing ASE programs and to plan future activities. The Congress affords a unique opportunity for communication between members of the international space community, government agencies and the public.

Sixty-three astronauts and cosmonauts from twelve nations gathered in Spain November 13 through 17, 2000 for the Sixteenth Planetary Congress of the Association



of Space Explorers. The theme of the Congress was "A New Space for Humanity," reflecting the belief that the upcoming millennium represents a new era of international cooperation in the pursuit of a permanent human presence in space; the XVI Congress was hosted by astronauts Pedro Duque and Michael Lopez-Alegria.

The Opening Ceremony of the Congress took place Monday morning at the Juan Carlos I Congress Auditorium. Following opening remarks by Congress President Pedro Duque, the Vice

President of the Spanish Government, Mariano Rajoy, delivered a well received speech. His comments were succeeded by brief statements by ASE co-Presidents Frederick Gregory and Victor Savinykh, and Michael Lopez-Alegria then closed the inaugural session. A brief cocktail reception was held after the reception, and Duque, Lopez-Alegria and NASA Astronaut Franklin Chang-Diaz participated in a one hour press conference for Spanish speaking print, radio and television media.

That afternoon, the first technical session of the Congress, Crew Safety and Technical Issues was hosted by international Committee on Crew Safety and Technology Development co-chairs Frederick Gregory and Gennadi Strelalov. The session included several interesting presentations. Charles Ensign of the Spaceport Engineering and Technology Directorate at KSC discoursed on probabilistic risk assessment techniques as applied to aerospace systems, Jay Buckey reported on new technologies for hearing assessment and voice communications in noisy environments, Scott Gahring of the ISS Independent Assurance Office at JSC gave his

organization's perspective on risk assessments with regard to recent technical issues on the international space station, and Rick Husband provided an overview on the status of the CRV / X-38 program; while the fliers were in session, their spouses and other guests of the Association took a city tour of Madrid. That evening, the delegations had dinner at the Ryscal XI restaurant in central Madrid, after which all were invited to a traditional Flamenco show organized by the restaurant.

Tuesday morning the delegates attended the second session of the Congress, "Space Exploration as a Driver of New Technologies," at the Ministry of Science and Technology. Hosted by Pedro Duque, the session included remarks by the Secretary of State for Political Sciences and Tech-



Rusty Schweickart(l) and Ed Lu discuss the history and evolution of extra vehicular activity

nology of the Ministry of Science and Technology Ramón Marimón, representatives of Spanish industry including Vincent Gomez of CDTI, Eugenio Galdón of ONO, Álvaro Azcarraga of SENER, Francisco Liceaga of INASMET , Jacinto García Palacios of HISPASAT and Mr. Marimón. The recurring theme of their remarks was that space exploration is a stimulant of popular imagination and serves as a driver of technological innovation, the benefits of which have far reaching economic, social and cultural impact.

After lunch, the delegates returned to the Ministry for the first of two sessions on the International Space Station. Chaired by US astronaut Steven Smith, this session focused primarily on US activities onboard and contributions to the ISS. In the opening presentation, astronauts Edward Lu and Michael Lopez-Alegria reported on the sequence of ISS assembly missions that have occurred to date, talked briefly about their own missions to the ISS and shared dramatic pictures and descriptions of their EVA excursions on the exterior of the station.

Beth Stubbings, a senior engineer in the NASA / JSCEVA Project Office followed with an overview of the space-walking tools, strategies, protocols, and suit modifications that have been developed to meet the challenges inherent to the assembly of the ISS and in the session's last presentation Frank Longhurst, Columbus Project Manager for ESA reported on the status of the Columbus laboratory and its scientific research facilities; he also discussed ESA's work on the Automated Transfer Vehicle (ATV) and other key ISS elements and systems in the fields of structures, robotics, data management, labo-

ratory support equipment and life support.

While the fliers were engaged in the business of the Congress, the companions traveled to the nearby town of Segovia for the day where they visited the Roman aqueduct, the cathedral, Casa Picos and the Alcazar. Following lunch at the famous Casa Cándido, they returned to Madrid and joined up with the fliers for an evening performance of the musical "Jekyll and Hyde."



The delegates gather at the Teatro Apolo with the cast and crew of Jekyll & Hyde

Wednesday morning the fliers moved to the College of Aeronautical Engineers for the second of the two-part ISS series; chaired by ESA astronaut Reinhold Ewald, the session focused primarily on partner contributions to the station.

In his opening remarks, Ewald pointed to the challenges facing future expedition crews in terms of the necessity to train at numerous different facilities on three continents.

In the first presentation, Ed Lu highlighted the partners' different ways of doing things and the new methods that have to be developed to meet this training challenge. He also talked about computerized command and control software and procedures that will be used on station, on board storage and item tracking, communication, simulator fidelity, and EVA training.



Astronaut Michael Lopez-Alegria presents the Mayor of Madrid with a Comunidad de Madrid pennant flown on STS 92

NASDA astronaut Chiaki Mukai followed with a presentation on the numerous hardware contributions Japan is preparing for the ISS, including the internal and external facilities for experiments and storage, the KIBO module and the HTV transfer vehicle. Former ESA astronaut Ulf Merbold then reported on European plans for utilization of ISS, including a description of the micro-g facilities and other hardware contributions. He also described other path finding experiments such as the Global Time System for world-wide clock synchronization and the FOCUS ensemble, which provides real-time information on global natural fire catastrophes. Former ESA astronaut Ernst Messerschmid concluded the session with an over-

view of the ESA Astronaut Center and the activities of the 16 European astronauts in ISS technical development and ESA astronaut flight preparations.

Following lunch at the Royal Opera House (Teatro Real), the fliers returned to the College for the Executive Session, where the internal business of the international association is conducted. Cosmonaut Toktar Aubakirov opened the session with an overview of his plans to host the XVII Congress, to be held in Kazakhstan September 23-30, 2001 and Franco Malerba made a proposal, which was formally approved, to host the XVIII Congress in Italy. Loren Acton and Dumitru Prunariu reported on the ASE-Globetree Foundation partnership, and elections were held in which Alexei Leonov and John Fabian were selected to replace outgoing Executive Committee members Frederick Gregory and Viktor Savinykh. While the fliers were working, the spouses had some free time and finished the day with a visit to the world famous Prado museum.

At the conclusion of the Executive Session, the fliers returned to the hotel for the traditional poster signing ceremony. That evening, Pedro Duque made a presentation to the general public at the Planetarium of Madrid. Following this, the fliers were joined by their spouses and companions for a reception hosted by the Mayor of Madrid, where Duque and Lopez-Alegria were awarded Leonov Medallions for their efforts in organizing the XVI Congress; Michael Lopez-Alegria also presented to the Mayor a Comunidad de Madrid pennant which he had flown to the International Space Station on board STS 92.

Thursday morning the delegates traveled by train to Valencia on the southeast coast of Spain. Upon arrival the fliers visited the futuristic City of Arts and Sciences, where Russian cosmonaut Sergei Avdeev chaired a session on the Mir space station; meanwhile, the spouses took a guided city tour of Valencia. Back at the City of Arts and Sciences, Avdeev gave a comprehensive overview of the history of the Russian space station program, beginning with the early Salyut stations and culminating with the assembly sequence and operation of the Mir station. Avdeev reported on some of the difficulties inherent with operating and staffing the station over its 13 year life, as well as some of the lessons learned in meeting these challenges.

Vladimir Soloviev concluded the session with a report on the Russian plans to de-orbit the station in February of 2001. That evening, the fliers and spouses enjoyed dinner of traditional Spanish Paella at the famous La



The final technical sessions of the Congress took place in the futuristic City of Arts and Sciences in Valencia.

Marcelina Restaurant, which included a serenade by a "Tuna" university musical troupe.

The final technical session of the Congress took place Friday morning, once again at the City of Arts and Sciences. The Future Projects sessions was chaired by US astronaut Franklin Chang-Diaz and included presentations by Chang-Diaz, Louis Freidman of the Planetary Society and a round-table discussion by representatives of the Spanish scientific community. Chang-Diaz opened the session with a discussion of the basic principles of the Variable Specific Impulse Magnetoplasma Rocket (VASIMR) operations and reported on the latest theoretical and experimental results of his efforts to develop the advanced propulsion capability. He also described the conceptual application of the VASIMR to a fast human Mars missions, as well as plans for near-term flight demonstrations.

Louis Freidman, Executive Director of the Planetary Society followed with a presentation on the future astronaut as explorer and tele-operator, arguing that the robotic and human exploration programs should be integrated so that the human goal becomes part of the robotic mission, and the robotic mission developments become part of the planning for human exploration. Freidman expounded on two visions of Mars exploration, one of the lonely astronaut(s) hiking in bulky pressure suits across an alien world, recording his and her impressions and another of astronauts in shorts and t-shirts in a Mars base with 3D goggles, a computer and a joystick tele-operating vehicles working in harsh and hostile environments. Freidman proposed a mission architecture wherein both visions merge to create a picture of the future human explorer on Mars.

That afternoon Duque and Lopez-Alegria made a presentation on living and working in space to the general public at the City of Arts and Sciences.

That evening the delegates gathered for the Closing Ceremony, the final event of the Congress. Held at the City of Arts and Sciences, the banquet was presided over by the Prince of Asturias; following remarks by Pedro Duque, Eduardo Zaplana, president of the Generalitat Valenciana and Michael Lopez-Alegria, the Prince was awarded the Crystal Helmet for his patronage of and support for the XVI Congress. After the ceremony and dinner, the closing ceremony was punctuated by a magnificent fireworks display, concluding an extremely well organized and interesting Congress.

To share knowledge gained from our experience emphasizing the significance and benefits of space science and exploration and to promote scholastic excellence by motivating students through the use of space-related curricula. ASE members strive to improve public understanding of our endeavors in space and to inspire young people to continue the challenge begun nearly forty years ago with the launch of Yuri Gagarin, Earth's first human emissary to outer space.

ASTRONAUT APPEARANCES

In 2000, ASE members engaged in public appearances in the United States, Japan, Sweden, The Netherlands, Brazil, Russia, Germany, Austria, France and Spain. ASE members reached thousands of students, teachers and parents through participation in the KSC Visitor Complex's Astronaut Encounter as well as through visits to educational institutions, public lectures and cooperative arrangements with other space advocacy organizations. ASE continues to work to provide astronauts and cosmonauts opportunities to make public and educational appearances.

EDUCATIONAL PARTNERSHIPS

ASE continued its existing educational partnerships and began developing new opportunities for the future. Work continued, in cooperation with the Future Foundation, on the Planet Earth: The United Nation, a DVD ROM-based interactive program encompassing the history and achievements of all of the human space flights that occurred during the 20th century. ASE partnered with the JSC Distance Learning Center to facilitate astronaut remote telepresence in classrooms nationwide and began discussions with the Challenger Center on the development of an ASE-Challenger Center cooperative youth affiliate program.

COMMITTEE ON EDUCATION

The International Standing Committee on Education continued to develop on-line educational resources for students and teachers, which are available on the ASE web site. The committee, chaired by Millie Hughes-Fulford, was chartered to develop and distribute space-related curricula and other interactive materials for use in K-12 educational programs; develop, in coordination with NASA and other appropriate agencies and organizations, space and technology-related programs and activities for students, teachers and parents; promote and assist in the distribution of Internet and exhibit-based materials for facilitating awareness and understanding of human space exploration, astronomy and space science and technology among educators, students and educational institutions; and coordinate astronaut lecture tours and appearances to promote general public awareness of human space exploration programs.

To encourage international cooperation in human space flight and other space endeavors, coordinate astronaut/cosmonaut technical exchanges, advocate operational and design compatibility and contribute to related programs in other professional organizations.

CREW SAFETY

In 2000, ASE's International Standing Committee on Crew Safety and Technology Development completed work on a set of advanced crew safety concepts for long-duration missions, such as a crewed mission to Mars. The paper was presented by committee member Don Peterson at the AIAA Space 2000 Conference and Exposition.

The committee also hosted the traditional Crew Safety and Technical Issues session at the XVI Congress in Spain. The session included presentations on probabilistic risk assessment techniques as applied to aerospace systems, new technologies for hearing assessment and voice communications in noisy environments, risk assessments with regard to recent technical issues on the international space station, and an overview on the status of the X-38 Crew Return Vehicle program.

The committee, chaired by Frederick Gregory, is chartered to identify the factors that will be critical to the safety and health of human crews on extended stays in space, along with innovative and revolutionary solutions for overcoming any obstacles; identify promising advanced technologies that will enable practical human exploration of the solar system and make recommendations for development and implementation; and to promote and assist in the international standardization of space flight design and operational requirements with emphasis on crew safety.

TECHNICAL INTERCHANGE

ASE hosted the second of an on-going series of technical interchange meetings at the Johnson Space Center; in 2000, ASE organized a brief on NASA's Longitudinal Health Study, an effort to characterize the long-term effects of spaceflight on astronaut health; these events provide opportunities for the exchange of technical information and experience among active and retired US and international astronauts and cosmonauts.

ASE also issued an invitation to representatives of China's fledging astronaut corps to attend the XVI Congress and report on their efforts to launch an indigenous vehicle and crew into space; while the opportunity was deferred to a future Congress, ASE continues its efforts to generate the exchange of technical information and experience between China and the international spaceflight community.

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 Helen Sharman
 Dirk Frimout
 Charlie Walker
 Mario Runco, Jr.

The following individuals had joined the Association of Space Explorers and performed or begun their respective space missions as of December 31, 2000

* Loren Acton, USA STS 51F	Georgi Beregovoi, Russia † Soyuz 3	Kalpana Chawla, USA STS 87
James Adamson, USA STS 28, STS 43	* Anatoly Berezovoi, Russia Soyuz T-5	Jean-Loup Chrétien, France Soyuz T-6, Soyuz TM-7, STS 86
Viktor Afanasyev, Russia Soyuz TM-11, Soyuz TM-29	John Blaha, USA STS 29, STS 33, STS 43, STS 58 STS 79/MIR 22/STS 81	Mary Cleave, USA STS 61B, STS 30
Toyohiro Akiyama, Japan Soyuz TM-11	* Karol Bobko, USA STS 6, STS 51D, STS 51J	Jean-François Clervoy, France STS 66, STS 84, STS 103
* Vladimir Aksyonov, Russia Soyuz 22, Soyuz T-2	Roberta Bondar, Canada STS 42	Michael Clifford, USA STS 53, STS 59, STS 76
Sultan Al-Saud, Saudi Arabia STS 51G	Kenneth Bowersox, USA STS 50, STS 61, STS 73, STS 82	Michael Coats, USA STS 41-D, STS 29, STS 39
Buzz Aldrin, USA Gemini 12, Apollo 11	Vance Brand, USA ASTP, STS 5, STS 41B, STS 35	Kenneth Cockrell, USA STS 56, STS 69, STS 80
Alexander Alexandrov, Russia Soyuz T-9, Soyuz TM-3	Daniel Brandenstein, USA STS 8, STS 51G, STS 32, STS 49	Catherine Coleman, USA STS 73, STS 93
* Alexander Alexandrov, Bulgaria Soyuz TM-5	Roy Bridges, Jr., USA STS 51-F	Michael Collins, USA Gemini 10, Apollo 11
Joseph Allen, USA STS 5, STS 51A	Curtis Brown, Jr., USA STS 47, STS 66, STS 77, STS 85 STS 95, STS 103	Charles Conrad Jr., USA † Gemini 5, Gemini 11, Apollo 12, Skylab 2
* Scott Altman, USA STS 90, STS 106	Mark Brown, USA STS 28, STS 48	Richard Covey, USA STS 51I, STS 26, STS 38, STS 61
Jerome Apt, USA STS 37, STS 47, STS 59, STS 79	James Buchli, USA STS 51C, STS 61A, STS 29, STS 48	John Creighton, USA STS 51G, STS 36, STS 48
Anatoly Artsebarsky, Russia Soyuz TM-12	* Jay Buckley, Jr., USA STS 90	Robert Crippen, USA STS 1, STS 7, STS 41C, STS 41G
Yuri Artyukhin, Russia† Soyuz 14	Nikolai Budarin, Russia STS 71, Soyuz TM-21	* Roger Crouch, USA STS 83, STS 94
Oleg Atkov, Russia Soyuz T-10	Daniel Bursch, USA STS 51, STS 68, STS 77	Walter Cunningham, USA Apollo 7
* Toktar Aubakirov, Kazakhstan Soyuz TM-13	Valeri Bykovsky, Russia Vostok 5, Soyuz 22, Soyuz 31	Nancy Currie, USA STS 57, STS 70, STS 88
* Sergei Avdeev, Russia Soyuz TM-15, Soyuz TM-28	Robert Cabana, USA STS 41, STS 53, STS 65, STS 88	* Jan Davis, USA STS 47, STS 60, STS 85
James Bagian, USA STS 29, STS 40	Kenneth Cameron, USA STS 37, STS 56, STS 74	Vladimir Dezhurov, Russia Soyuz TM-21
Michael Baker, USA STS 43, STS 52, STS 68, STS 81	Scott Carpenter, USA Mercury 7	Takao Doi, Japan STS 87
Alexander Balandin, Russia Soyuz TM-9	Gerald Carr, USA Skylab 4	Brian Duffy, USA STS 45, STS 57, STS 72, STS 92
Daniel Barry, USA STS 72, STS 96	Manley Carter, USA † STS 33	Charles Duke, Jr., USA Apollo 16
John-David Bartoe, USA STS 51F	Robert Cenker, USA STS 61C	Bonnie Dunbar, USA STS 61A, STS 32, STS 50, STS 71, STS 89
Yuri Baturin, Russia Soyuz TM-28	Eugene Cernan, USA Gemini 9, Apollo 10, Apollo 17	* Pedro Duque, Spain STS 95
* Patrick Baudry, France STS 51G	* Franklin Chang-Díaz, Costa Rica STS 34, STS 46, STS 60, STS 75 STS 91	Samuel Durrance, USA STS 35, STS 67
Ivan Bella, Slovakia Soyuz TM-29		

Lev Dyomin, Russia † Soyuz 15	Linda Godwin, USA STS 37, STS 59, STS 76	Thomas Jones, USA STS 59, STS 68, STS 80
Vladimir Dzhanibekov, Russia Soyuz 27, Soyuz 39, Soyuz T-6, Soyuz T-12, Soyuz T-13	* Viktor Gorbato, Russia Soyuz 7, Soyuz 24, Soyuz 37	Leonid Kadenyuk, Ukraine STS 87
Donn Eisele, USA † Apollo 7	Georgi Grechko, Russia Soyuz 17, Soyuz 26, Soyuz T-14	* Alexander Kaleri, Russia Soyuz TM-14, Soyuz TM-26/MIR 23, Soyuz TM-30
Ronald Evans, USA † Apollo 17	* Frederick Gregory, USA STS 51B, STS 33, STS 44	Janet Kavandi, USA STS 91, STS 99
* Reinhold Ewald, Germany Soyuz TM-25	William Gregory, USA STS 67	Scott Kelly, USA STS 103
Leopold Eyharts, France Soyuz TM-27	Alexei Gubarev, Russia Soyuz 17, Soyuz 28	Yevgeni Khrunov, Russia † Soyuz 5
* John Fabian, USA STS 7, STS 51G	Jugderdemidyn Gurragchaa, Mongolia Soyuz 39	Susan Kilrain, USA STS 83, STS 94
* Mohammed Faris, Syria Soyuz TM-3	Chris Hadfield, Canada STS 74	Leonid Kizim, Russia Soyuz T-3, Soyuz T-10, Soyuz T-15
Bertalan Farkas, Hungary Soyuz 36	Jean-Pierre Haigneré, France Soyuz TM-17, Soyuz TM-29	Pyotr Klimuk, Russia Soyuz 13, Soyuz 18, Soyuz 30
Konstantin Feoktistov, Russia Voskhod 1	Terry Hart, USA STS 41C	Valeri Korzun, Russia Soyuz TM-24
Martin Fettman, USA STS 58	* Henry Hartsfield Jr., USA STS 4, STS 41D, STS 61A	Vladimir Kovalyonok, Russia Soyuz 25, Soyuz 29, Soyuz T-4
* Anatoly Filipchenko, Russia Soyuz 7, Soyuz 16	Frederick Hauck, USA STS 7, STS 51A, STS 26	Kevin Kregel, USA STS 70, STS 78, STS 87, STS 99
Klaus Dietrich Flade, Germany Soyuz TM-14	Steven Hawley, USA STS 41D, STS 61C, STS 31, STS 82, STS 93	Sergei Krikalyev, Russia Soyuz TM-7, Soyuz TM-12, STS 60 STS 88, Soyuz TM-31
C. Michael Foale, USA STS 45, STS 56, STS 63, STS 84/Mir 23- 24/STS 86, STS 103	* Terence Henricks, USA STS 44, STS 55, STS 70, STS 78	* Valeri Kubasov, Russia Soyuz 6, ASTP, Soyuz 36
Dirk Frimout, Belgium STS 45	Susan Helms, USA STS 54, STS 64, STS 78, STS 101	Alexander Laveikin, Russia Soyuz TM-2
* Gordon Fullerton, USA STS 3, STS 51-F	Karl Henize, USA † STS 51F	Alexander Lazutkin, Russia Soyuz TM-25
Reinhard Furrer, Germany † STS 61-A	* Miroslaw Hermaszewski, Poland Soyuz 30	Valentin Lebedev, Russia Soyuz 13, Soyuz T-5
F. Andrew Gaffney, USA STS 40	Richard Hieb, USA STS 39, STS 49, STS 65	* Alexei Leonov, Russia Voskhod 2, ASTP
Guy Gardner, USA STS 27, STS 35	* Jeffrey Hoffman, USA STS 51D, STS 35, STS 46, STS 61, STS 75	Fred Leslie, USA STS 73
* Jake Garn, USA STS 51D	* Millie Hughes-Fulford, USA STS 40	Byron Lichtenberg, USA STS 9, STS 45
Marc Garneau, Canada STS 41G, STS 77, STS 97	James Irwin, USA † Apollo 15	Don Lind, USA STS 51B
* Owen Garriott, USA Skylab 3, STS 9	* Alexander Ivanchenkov, Russia Soyuz 29, Soyuz T-6	Steven Lindsey, USA STS 87, STS 95
Edward Gibson, USA Skylab 4	* Georgi Ivanov, Bulgaria Soyuz 33	Gregory Linteris, USA STS 83, STS 94
Yuri Gidzenko, Russia Soyuz TM-22, Soyuz TM-31	Sigmund Jähn, Germany Soyuz 31	Michael Lopez-Alegria, USA STS 73, STS 92
Yuri Glazkov, Russia Soyuz 24	Brent Jett, USA STS 72, STS 81, STS 97	John Michael Lounge, USA STS 51I, STS 26, STS 35

Jack Lousma, USA Skylab 3, STS 3	Boris Morukov, Russia STS 106	Alexander Poleshchuk, Russia Soyuz TM-16
James Lovell Jr., USA Gemini 7, Gemini 12, Apollo 8, Apollo 13	* Chiaki Mukai, Japan STS 65, STS 95	Valeri Polyakov, Russia Soyuz TM-6, Soyuz TM-18
G. David Low, USA STS 32, STS 43	Mike Mullane, USA STS 41D, STS 27, STS 36	Leonid Popov, Russia Soyuz 35, Soyuz 40, Soyuz T-7
* Edward Lu, USA STS 84, STS 106	Talgat Musabayev, Kazakhstan Soyuz TM-19, Soyuz TM-27	* Pavel Popovich, Russia Vostok 4, Soyuz 14
Vladimir Lyakhov, Russia Soyuz 32, Soyuz T-9, Soyuz TM-6	Steven Nagel, USA STS 51G, STS 61A, STS 37, STS 55	Charles Precourt, USA STS 55, STS 71, STS 84, STS 91
Steven MacLean, Canada STS 52	Bill Nelson, USA STS 61C	* Dumitru Prunariu, Romania Soyuz 40
* Franco Malerba, Italy STS 46	George Nelson, USA STS 41C, STS 61C, STS 26	William Readdy, USA STS 42, STS 51, STS 79
* Oleg Makarov, Russia Soyuz 12, Soyuz 27, Soyuz T-3	Rodolfo Neri, Mexico STS 61B	* Kenneth Reightler, Jr., USA STS 48, STS 60
Yuri Malenchenko, Russia Soyuz TM-19, STS 106	James Newman, USA STS 51, STS 69, STS 88	James Reilly II STS 89
Yuri Malyshev, Russia Soyuz T-2, Soyuz T-11	Claude Nicollier, Switzerland STS 46, STS 61, STS 75, STS 103	Thomas Reiter, Germany Soyuz TM-22
Gennady Manakov, Russia Soyuz TM-10, Soyuz TM-16	* Andrian Nikolayev, Russia Vostok 3, Soyuz 9	Vladimir Remek, Czech Republic Soyuz 28
Musa Manarov, Russia Soyuz TM-4, Soyuz TM-11	Ellen Ochoa, USA STS 56, STS 66, STS 96	Richard Richards, USA STS 28, STS 41, STS 50, STS 64
* Richard Mastracchio, USA STS 106	Wubbo Ockels, The Netherlands STS 61A	Yuri Romanenko, Russia Soyuz 26, Soyuz 38, Soyuz TM-2
William McArthur, USA STS 58, STS 74, STS 92	Bryan O'Connor, USA STS 61B, STS 40	Kent Rominger, USA STS 73, STS 80, STS 85, STS 96
Jon McBride, USA STS 41G	Yuri Onufrienko, Russia Soyuz TM-23	Stuart Roosa, USA † Apollo 14
Bruce McCandless II, USA STS 41B, STS 31	Stephen Oswald, USA STS 42, STS 56, STS 67	Jerry Ross, USA STS 61B, STS 27, STS 37, STS 55, STS 74, STS 88
Michael McCulley, USA STS 34	Robert Overmyer, USA † STS 5, STS 51B	Valeri Rozhdestvensky, Russia Soyuz 23
Donald McMonagle, USA STS 39, STS 54, STS 66	Gennadi Padalka, Russia Soyuz TM-28	Nikolai Rukavishnikov, Russia Soyuz 10, Soyuz 16, Soyuz 33
Carl Meade, USA STS 38, STS 50, STS 64	William Pailles, USA STS 51J	Mario Runco, Jr., USA STS 44, STS 54, STS 77
Bruce Melnick, USA STS 41, STS 49	Scott Parazynski, USA STS 66, STS 86, STS 95	Valeri Ryumin, Russia Soyuz 25, Soyuz 32, Soyuz 35, STS 91
* Ulf Merbold, Germany STS 9, STS 42, Soyuz TM-20	Ronald Parise, USA STS 35, STS 67	Albert Sacco, Jr., USA STS 73
* Ernst Messerschmid, Germany STS 61A	Julie Payette, Canada STS 96	* Viktor Savinykh, Russia Soyuz T-4 Soyuz TM-5, Soyuz T-13
Edgar Mitchell, USA Apollo 14	Gary Payton, USA STS 51C	Svetlana Savitskaya, Russia Soyuz T-7, Soyuz T-12
Abdul Mohmand, Afghanistan Soyuz TM-6	Donald Peterson, USA STS 6	Hans Schlegel, Germany STS 55
Mamoru Mohri, Japan STS 47, STS88	William Pogue, USA Skylab 4	

Harrison Schmitt, USA Apollo 17	Valentina Tereshkova, Russia Vostok 6	Janice Voss, USA STS 57, STS 63, STS 83, STS 94, STS 99
* Russell Schweickart, USA Apollo 9	Norman Thagard, USA STS 7, STS 51B, STS 30, STS 42, Soyuz TM-21/Mir 18/STS 71	Koichi Wakata, Japan STS 72, STS 92
Richard Searfoss, USA STS 58, STS 76, STS 90	Robert Thirsk, Canada STS 78	* Charles Walker, USA STS 41D, STS 51D, STS 61B
Ron Sega, USA STS 60, STS 76	Donald Thomas, USA STS 65, STS 70, STS 83, STS 94	David Walker, USA STS 51A, STS 30, STS 53, STS 69
* Alexander Serebrov, Russia Soyuz T-7, Soyuz T-8, Soyuz TM-8, Soyuz TM-17	* Pierre Thuot, USA STS 36, STS 49, STS 62	Ulrich Walter, Germany STS 55
* Vitaly Sevastyanov, Russia Soyuz 9, Soyuz 18	Gherman Titov, Russia † Vostok 2	Carl Walz, USA STS 51, STS 65, STS 79
Salizhan Sharipov, Russia STS 89	* Vladimir Titov, Russia Soyuz T-8, Soyuz TM-4, STS 63	Mary Ellen Weber, USA STS 70, STS 101
Rakesh Sharma, India Soyuz T-11	Michel Tognini, France Soyuz TM-15, STS 93	David Williams, Canada STS 90
Helen Sharman, United Kingdom Soyuz TM-12	Valery Tokarev, Russia STS 96	Donald Williams, USA STS 51D, STS 34
* Vladimir Shatalov, Russia Soyuz 4, Soyuz 8, Soyuz 10	Bjarni Tryggvason, Canada STS 85	Alfred Worden, USA Apollo 15
Brewster Shaw, USA STS 9, STS 61B, STS 28	Richard Truly, USA STS 2, STS 8	Boris Yegorov, Russia † Voskhod 1
Georgi Shonin, Russia † Soyuz 6	Vasily Tsibliev, Russia Soyuz TM-17	Alexei Yeliseyev, Russia Soyuz 5, Soyuz 8, Soyuz 10
Loren Shriver, USA STS 51C, STS 31, STS 46	Pham Tuan, Viet Nam Soyuz 37	Sergei Zalyotin, Russia Soyuz TM-30
Donald Slayton, USA † ASTP	Yuri Usachev, Russia Soyuz TM-18, Soyuz TM-21, STS 101	Vitaly Zholobov, Russia Soyuz 21
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Thomas Stafford, USA Gemini 6, Gemini 9, Apollo 10, ASTP	Pavel Vinogradov, Russia Soyuz TM-26	
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Kathryn Sullivan, USA STS 41G, STS 31, STS 45	Alexander Volkov, Russia Soyuz T-14, Soyuz TM-7, Soyuz TM-13	
Arnaldo Tamayo-Mendes, Cuba Soyuz 38	Boris Volynov, Russia Soyuz 5, Soyuz 21	
Joseph Tanner, USA STS 66, STS 82, STS 97	James Voss, USA STS 44, STS 53, STS 69, STS 101	

† Deceased

* Attended 16th Congress

In July **1982**, former NASA astronaut Rusty Schweickart met informally with cosmonauts Alexei Leonov, Vitaly Sevastyanov, Georgi Grechko and several key Soviet officials in Moscow to explore the idea of establishing an organization of space explorers and found interest in and support for the idea. In April, 1983 a follow-on ad hoc working group of astronauts and cosmonauts laid out a set of guiding principles that would govern such an organization and set plans in motion for the establishment of an annual meeting. A final astronaut/cosmonaut planning meeting took place near Paris in September 1984.

The 1st Planetary Congress of the Association of Space Explorers opened at the same chateau in Cernay, France on October 2, **1985**. Twenty-five astronauts and cosmonauts from 13 nations participated. At an April 1983 planning meeting, the participants had realized that they shared an enhanced reverence for the Earth as a result of their space flight experience, and decided that the theme of the first meeting should be "The Home Planet." In this spirit, they also decided to present an award to an individual whose life demonstrated a commitment to the Earth's environment, and unanimously agreed upon Captain Jacques-Yves Cousteau. Cousteau made the keynote presentation at the Congress, saying to those present, "You help us contemplate the stars. You have changed the views of mankind toward the outside, toward the cosmos, toward the unknown." The members also drafted an international charter, laid out an organizational purpose and goals, selected a seven member international executive committee, initiated a book project, held an Alan Bean-Alexei Leonov art exhibit, and set their next meeting for October, 1986 in Budapest, Hungary.

The 2nd Planetary Congress took place in Budapest in **1986**, drawing 32 flyers from 12 countries; the theme of the Congress was "Toward Space Civilization." The fliers honored Dr. Oleg Gazenko, the foremost Soviet expert in space biomedical problems and Dr. Gerard O'Neill, the space colonization visionary. In their official Congress statement, the group called for a continuation of the cooperative spirit of the Apollo Soyuz Test Project in future space exploration. ASE members reported on recent developments in their respective space programs, made a series of community appearances, finalized the ASE charter, selected an official ASE logo, moved forward on approval for ASE's first book, *The Home Planet*, and approved a program of joint astronaut/cosmonaut lecture tours.

In **1987**, work on *The Home Planet* continued and joint astronaut/cosmonaut lecture tours took place in the U.S. and the USSR. The 3rd Planetary Congress in Mexico City drew 31 members from 11 countries. The theme of the Third Congress was "The Next Generation in Space: People and Technology." The Congress featured a space art exhibit, a day dedicated to community lectures and visits, and space program updates.

In Mexico, ASE explicitly endorsed steps for the world's space programs to take in developing international cooperative efforts in space. Specifically, the fliers resolved to "encourage the exchange of experienced crews between the national space programs and the development of mutually compatible training and operation procedures, advocate the implementation of joint international experiments and operations with existing capabilities on upcoming flights, support the study of the feasibility of establishing permanent international rescue capability for all flight operations, and promote the development of joint projects required for the establishment of a manned Mars mission."

1988 saw the publication of *The Home Planet*, another round of U.S. and Soviet lecture tours, and the 4th Planetary Congress in Sofia, Bulgaria. The theme was "Space & Evolution," and pioneering Soviet space engineer Boris Raushenbakh was honored by the membership. Members continued the tradition of space program updates and community appearances. In Sofia, ASE decided to move forward with its promotion of an international space rescue capability, and laid plans to discuss its associated challenges at the next Congress. The delegates sent a letter to President Reagan with copies to Congressional committees urging that space rescue be considered in the expanding dialogue with the Soviet Union at both the presidential and agency levels. That year, Congress asked NASA to prepare a report on space docking and crew rescue.

In **1989**, ASE expanded its lecture tour program to Japan, sponsored visits by Soviet cosmonauts to NASA facilities, participated in meetings of the IAA Safety and Rescue Committee and the IAA International Space Plans and Policy Committee, sent ASE member John Fabian to the IAF meeting in Malaga, Spain to deliver a paper on the history of space rescue, and prepared for an international conference on space rescue at its 5th Planetary Congress in Riyadh, Saudi Arabia. The theme of the Congress, which drew 50 astronauts from 12 countries, was "Space for Earth," and Yash Pal was honored for his work in harnessing the power of satellites for the benefit of rural communities in India. The members also presented a special award to author/inventor Arthur C. Clarke.

The Congress featured the now standard fare of space program updates, community appearances and an art exhibit. Also, several members granted interviews to a U.N.-commissioned film crew as part of ASE's cooperation in the production of the film *Our Planet Earth*. After hearing from a series of invited experts on the

subject of space rescue, the members issued a statement calling on the space programs to move forward with space rescue, and ASE subsequently prepared detailed proceedings of the rescue conference which were widely distributed to international government officials.

1990 was a banner year for ASE. U.S. membership tripled. ASE sponsored a visit by NASA astronauts to Soviet space facilities and a cosmonaut visit to NASA facilities. 40 ASE members participated in an Earth Day ceremony at the United Nations. ASE joined the Smithsonian Resident Associate Program and NASA in the execution of a lecture series at the National Air and Space Museum. The astronaut / cosmonaut lecture program was expanded to Germany. The IAA International Space Plans and Policy Committee and Crew Safety and Rescue Committee invited ASE-USA leaders John Fabian and John-David Bartoe, respectively, to participate in their work. Bartoe delivered an ASE-sponsored paper on international cooperation on space stations at the IAF meeting in Dresden.

The 6th Planetary Congress in The Netherlands drew 53 astronauts from 11 countries; the theme was "Space Brings People Together." The members honored Dutch astronomer Hendrick van de Hulst for his pioneering efforts in promoting international cooperation in space research and issued a statement outlining the ways space has drawn people together and the promise international space cooperation holds for the future. At the COSPAR meeting in The Hague that same week, ASE sponsored a symposium of laboratory scientists and astronauts on "Human Performance in Space" from both the biomedical and operational perspectives.

ASE activity level remained high in **1991**. ASE-USSR hosted a 30th anniversary celebration of Yuri Gagarin's flight that featured visits to Soviet space facilities, with 19 ASE-USA members participating. ASE and the George Washington University Space Policy Institute launched a series of high-level invitational dinner discussions on international cooperation in space. ASE members participated in environment-focused programming at the NEC company's pavilion at the Telecom '91 exposition in Geneva and ASE entered into a partnership with Groupe Bull, Spot Image and the World Wildlife Fund for Nature to bring together information and human resources for forest conservation. ASE sponsored a 1992 Space Explorers calendar, signed a publishing contract for a book of astronaut and cosmonaut essays, enrolled international ASE members in a U.S. space trading card project, and provided fliers for interviews with a British playwright researching his next work, "The Blue Ball."

The 7th Planetary Congress in Berlin drew 57 astronauts from 10 countries; the theme was "Space Has No Boundaries," and the members honored German Foreign Minister Hans Dietrich Genscher for his work in breaking down barriers to international cooperation in space. The Congress featured space program updates, theme addresses, and a special conference on "Human Exploration of the Solar System" with invited experts among the speakers. Also, members participated in video interviews to be used in the PBS International Space Year documentary series Space Age.

In **1992**, ASE sponsored U.S. members' attendance at a Russian space launch, sent members to Japan, Mexico and Kent State University for speaking engagements, and arranged astronaut participation in several international space conferences in Germany and at the U.S. Space Foundation's 8th National Space Symposium in Colorado Springs. ASE continued its partnership with GW's Space Policy Institute and published a paper calling for a new approach to international cooperation in space. In the area of environmental activity, ASE distributed the Earth Pledge to its U.S. members to sign in support of the Earth Summit process begun in Rio de Janeiro, worked to coordinate astronaut participation in a U.N. ISY Mission to Planet Earth stamp inauguration ceremony, and continued its partnership in the Arbor Project.

In ASE-USA's largest undertaking ever, the 8th Planetary Congress in Washington drew 99 astronauts from 18 countries. The theme of the Congress was "To Mars Together," and members honored both author Isaac Asimov and the Challenger Center for Space Science Education for their work in enhancing awareness of space exploration among the general public. Discussions ranged from space program updates to new ideas and initiatives and the futures of the space agencies. Members made community appearances at Georgetown University, held a joint public session with Carl Sagan and the Planetary Society, and helped build a simulated 'Marsville' settlement with Challenger Center students.

In **1993**, ASE published and distributed the Proceedings of the 8th Congress to space policy makers and leaders of the international space community. On Earth Day ASE sent a member representative to participate in a U.N. ceremony marking the permanent emplacement of the Crystal Treaty presented to the U.N. by members in 1990. Preparatory work on the book of astronaut essays, *The Greatest Adventure*, came to completion. ASE continued its collaboration on the Arbor Project, along with its sponsorship of the George Washington University International Cooperation discussions. The ASE-USA board of directors issued a statement in support of the international space station, and board member John Fabian testified before a Congressional

panel in support of the proposed collaboration with Russia on the station project.

The 9th Planetary Congress, held in Vienna, Austria, drew 81 astronauts from 16 nations. The theme of the Congress was "Space for Life," and the members honored Sir Hermann Bondi for his many contributions to international space scientific research. At the Congress, the members discussed the contributions that space biomedical research has made to the understanding of life's biological processes as well as the future challenges and opportunities presented by an extended human presence in space. The Congress program included space program updates, a special session on Space and the Environment, and community appearances throughout Austria.

1994 marked the 25th anniversary of Apollo 11's landing on the moon. To commemorate the event, ASE members from 5 countries came to Washington to participate in a number of events designed to raise awareness of space exploration and of man's first steps on another world. ASE's second book, *The Greatest Adventure*, was published and enjoyed great initial success.

Also in 1994, ASE addressed the theme "Space and Ecology" at its 10th Planetary Congress in Moscow and Ulan-Ude, Russia. Over 100 astronauts and cosmonauts from 15 countries attended the Congress to discuss ways space-based observation platforms help identify and characterize environmental problems. Of particular concern at this Congress was the long-term health of Lake Baikal in Siberia. ASE members traveled from Moscow to Lake Baikal in order to gain an understanding of the environmental issues surrounding this unique ecosystem and to exchange ideas with local scientists, political leaders and residence. Members also presented a special award to the widow of Yuri Gagarin to honor the world's first man in space on the occasion of the sixtieth anniversary of his birth.

In **1995**, ASE relocated from San Francisco to Washington, DC. Ongoing activities included ASE partnership with the George Washington University's Space Policy Institute and representation of the ASE at the United Nations Committee on the Peaceful Uses of Outer Space. Under the auspices of the ASE's International Standing Committee on Ecology, the Earth Education Exhibit was commissioned for display at the United Nations in Vienna, Austria. ASE also initiated a Corporate Membership Campaign; Charter Corporate Sponsors of ASE include ANSER, Computer Sciences Corporation, INTEC, McDonnell Douglas and Calspan SRL Corporation.

The 11th Planetary Congress in Warsaw/Krakow, Poland drew 50 astronauts and cosmonauts from 12 countries. The theme of the Congress was "Space and Contemporary Society." Science fiction writer Stanislaw Lem was honored with the ASE Planetary Award, the Crystal Helmet. Polish President and Pope John Paul II were presented with special ASE awards, produced by ASE member Alexei Leonov, for their contributions to the development of civil society in Poland. At the Congress, attendees discussed the role and impact of space exploration and technology on modern and future society. Members also attended international space program update sessions and visited several notable Polish educational and scientific institutes.

In **1996**, ASE participated in a variety of activities in concert with other professional and educational space advocacy organizations. ASE and its members supported and participated in the official debut of the X Prize Foundation in St. Louis, appeared at schools, universities and community events nationwide, assisted with the Challenger Centers' Marsville and Space Shuttle simulation projects, participated at the US Space Foundation's National Space Symposium, and co-sponsored the von Braun Exploration Forum and Dinner. Internationally, ASE member Dorin Prunariu represented ASE as an observer-member of the UN Committee on Peaceful Uses of Outer Space and ASE-USA member John Fabian convened an astronaut panel at the International Aeronautics Federation Congress in Beijing, China.

The 12th Planetary Congress was held in Ottawa, Montreal, and Quebec City, Canada, with 48 astronauts and cosmonauts from 14 nations attending. The theme of the 12th Congress was "Cooperation in Space-Progress for Humanity." Canadian legal scholar Nicolas Matescu Matte was awarded the ASE Planetary Award for his pioneering work in the field of space law. ASE also participated in the christening of the Canadian Space Agency as the John H. Chapman Space Center. Congress sessions included discussions on space and life sciences, advanced aerospace and space propulsion technology, updates on US, Russian and Canadian activities in space, and future cooperation in building and operating the International Space Station.

In **1997**, ASE and its members engaged in a number of activities designed to increase public support for human space exploration. In addition to ongoing astronaut visits to various scientific and educational institutions, the ASE continued its participation in the George Washington University's Space Policy Institute evening roundtables and the USSF National Space Symposium; assisted with astronaut participation in the Planetary Society's Planetfest 97; and became a member of the Space Awareness Alliance, a consortium of space advocacy organizations and aerospace companies chartered to actively promote the benefits of space research and

development to life on earth.

The 13th Planetary Congress of the Association was held in San Jose, Costa Rica. Hosted by astronaut Franklin Chang-Diaz, the theme of the Congress was "Space Technology for Sustainable Development", reflecting the association's belief that space technologies can significantly enhance efforts to monitor and characterize the impact of human development on the earth's environment. During the congress, ASE members participated in working sessions focused on crew safety, ecology, and space research and applications and traveled throughout Costa Rica to meet with children, teachers and community leaders.

In **1998** the Association moved its main office from Washington, DC to Houston, Texas. The international standing committee on Crew Safety and Technology Development began work on producing a set of international design standards for caution and warning systems and interfaces for future vehicles as well as a set of advanced crew safety concepts for long-duration, relatively autonomous missions such as a crewed mission to Mars. The committee also prepared preliminary flight safety guidelines for teams competing for the X Prize. In October, ASE members participated in the Future Vessel at the Globe Arena in Stockholm, Sweden, hosted by the Globetree Foundation and sponsored in part by the National Environmental Board of Sweden. ASE members joined scientists, philosophers, artists and over 2000 children from 100 countries at the event and presented the space traveler's perspective on the fragility of our home planet and its environment.

The 14th Planetary Congress was held in Brussels, Belgium, hosted by Belgian flier Dirk Frimout. Eighty-seven fliers from 18 countries participated in the week-long event; the theme of the Congress was "Space and Education-A Message to the Youth" and the fliers actively engaged Belgian and European students in discussing the importance of committing to a life-long process of education. Congress sessions included discussions on crew safety, European activities in space and a review of 1998 international flight operations.

In **1999**, ASE members reached thousands of students worldwide through visits to educational institutions, public lectures and through cooperative arrangements with other space advocacy organizations. Work also continued on the Planet Earth: The United Nation, a cooperative endeavor between The Future Foundation and the Association of Space Explorers. ASE also entered into an agreement with Starport.com to provide on-line educational and entertainment resources for students, parents and teachers.

ASE's International Standing Committee on Crew Safety and Technology Development continued work on a set of advanced crew safety concepts for extended-duration missions and hosted its first technical interchange meeting at the Johnson Space Center. The International Standing Committee on Ecology continued development of its internet-based Earth Education Exhibit on the ASE web site. ASE members also represented the Association at the UN UNISPACE III conference held in Vienna, Austria; a significant result of this meeting was the approval of ASE-UN cooperation in implementing the UN Programme on Space Applications.

Twenty-five astronauts and cosmonauts from 11 countries gathered in Bucharest, Romania, for the 15th Annual Planetary Congress. Hosted by Romanian cosmonaut Dumitru Prunariu, the theme of the 15th Congress was "Space and Astronomy-Toward the New Millennium." During the Congress, astronauts and cosmonauts discussed space science and exploration with students, faculty and representatives of the Romanian scientific community at the International Symposium on Microelectronics, at the Polytechnical University of Bucharest and at Brasov University. Members also gathered at the World Trade Center in Bucharest for a live internet discussion with students in Sweden, organized in cooperation with the Globetree Foundation.

In the year **2000**, ASE continued to participate in a variety of activities and programs that have a direct impact on public awareness of U.S. and international achievements in space. ASE members reached thousands of people through appearances in the United States as well as through sponsored appearances in Japan, Spain, Sweden, Germany, France, Russia, and Brazil. ASE members also participated in the Astronaut Encounter, a new initiative by the KSC Visitor Complex to bring astronauts to the Kennedy Space Center for daily public appearances.

ASE began discussions with the Challenger Center to organize an ASE youth affiliate network dedicated to promoting the exploration and development of space and to the advancement of the scientific literacy of our youth. It is anticipated that the program will be launched by the fall of 2001.

Sixty-three astronauts and cosmonauts from 12 nations gathered in Spain for the 16th Planetary Congress. The theme of the Congress was "A New Space for Humanity," reflecting the belief that the upcoming millennium represents a new era of international cooperation in the pursuit of a permanent human presence in space; the 16th Congress was hosted by astronauts Pedro Duque and Michael Lopez-Alegria.

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