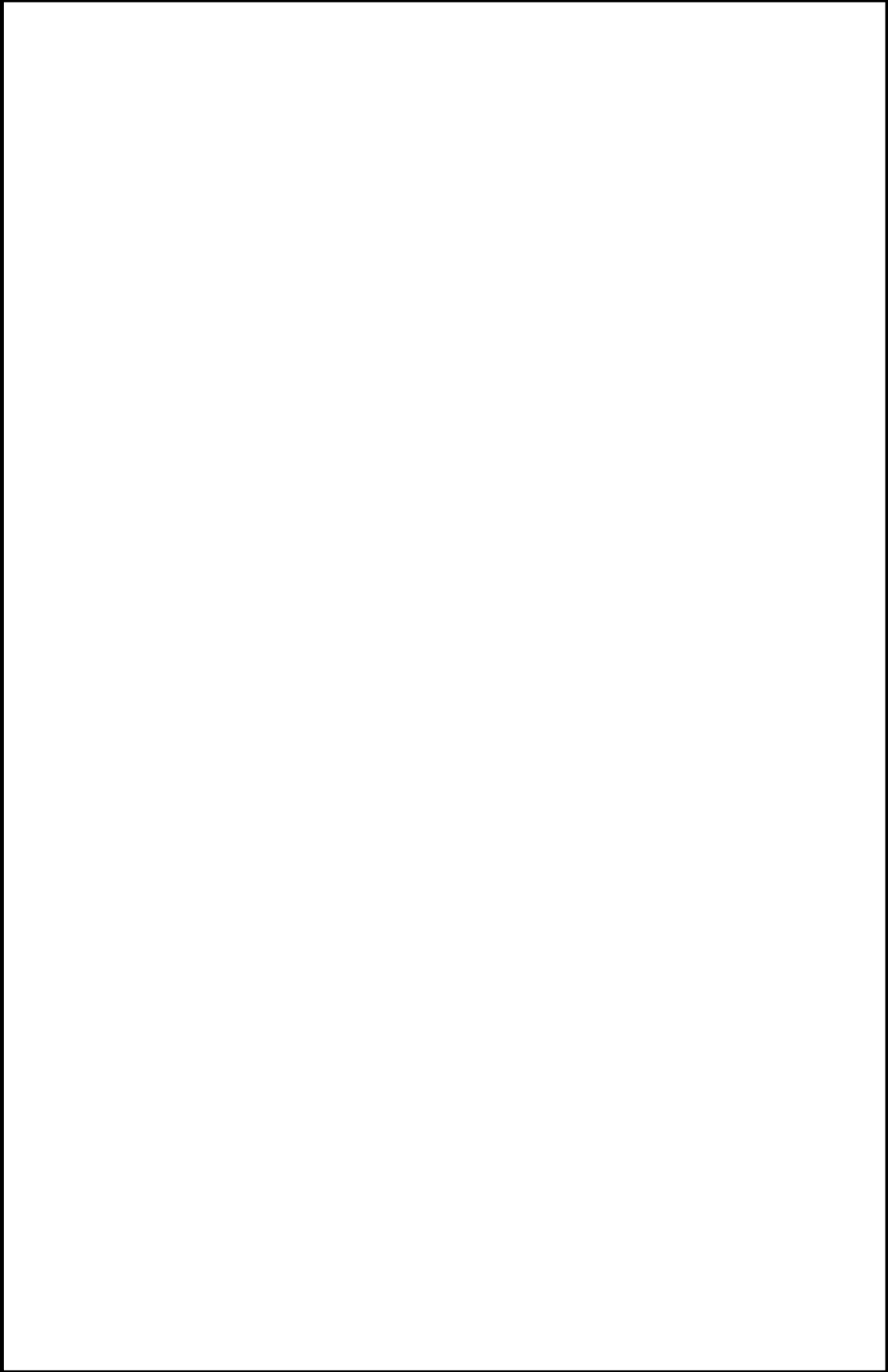


Association of Space Explorers-USA



**Annual Report
1990**

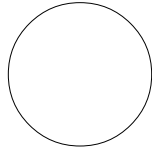
The cover features one of 119 numbered collector's posters commemorating the 6th Planetary Congress of the Association of Space Explorers in Groningen, The Netherlands in July, 1990, signed by fifty-two of the astronauts and cosmonauts from eleven countries who attended. The central image, rendered specially for this poster to reflect the Congress theme "Space Brings People Together" was painted by Dutch space artist Kees Wolthuis. The painting shows a communications satellite, the planet Mars, the moon, the Earth, and two representatives of humanity in the vast new environment of space. The image bespeaks humanity's dependence on artificial life support as it explores the heavens without traditional sources of sustenance, and the simultaneous challenge of finding a new direction for our evolution without traditional sources of reference and orientation. The poster bears two headings in opposite vertical orientations, one in English and one in Russian, the official languages of ASE. Around the periphery the Association of Space Explorers' name is translated into the fourteen national languages of ASE's members. The silver signatures of the explorers float against a starry background of deep space, adopted from NASA archive photo # 83 HC 213.

Signed, numbered commemorative posters from each ASE Congress are provided to individuals and organizations in return for contributions to the Association. Reprinted versions are also available. Inquiries may be directed to the ASE-USA office in San Francisco, California at (415) 931-0585.

Association of Space Explorers-USA

**Annual Report
1990**

**Association of Space Explorers-USA
35 White Street
San Francisco, CA 94109**



ASSOCIATION OF SPACE EXPLORERS-USA

I am pleased to report that 1990 was another significant year for the Association of Space Explorers. During our fifth year, ASE continued to grow in membership and meaningful programs that enhance the astronaut profession and support our organizational mission. Clearly, 1990 was a year marked by several historic milestones:

- *ASE orchestrated the first official U.S. astronaut visit to Soviet space facilities since the Apollo-Soyuz Test Project in 1975;*
- *ASE sponsored an international symposium that, for the first time, brought together astronauts and laboratory scientists to further the understanding of human performance in space;*
- *Forty ASE members expressed their concerns about environmental threats to our home planet during a special Earth Day ceremony at the United Nations General Assembly on April 22, 1990;*
- *ASE's annual planetary congress exceeded all expectations, with fifty-three members from eleven countries attending the week-long conference in The Netherlands;*
- *ASE presented its astronaut lecture program in Europe for the first time and continued its lecture tours in the U.S. and USSR, marking the fourth consecutive year of this successful public education program; and*
- *ASE-USA membership increased by more than 300 percent with the addition of nearly sixty American astronauts to our roster.*

During the past five years, ASE has built and sustained a record of accelerating achievement. Our contributions during the past year reflect the quality of our membership and the dedication of our staff. I am proud of our many achievements. I encourage you to review this report and assess, for yourself, the accomplishments of the Association of Space Explorers during 1990.

John Fabian
President

ASE co-chairmen John Fabian (seated) and Alexei Leonov confer at a meeting of the ASE Executive Committee in Noordwijk, The Netherlands prior to the 6th ASE Planetary Congress.

The Association of Space Explorers (ASE) is an independent, nonprofit, international professional organization of individuals who have flown in space. Established in 1985, ASE unites the efforts of its members to enhance education, strengthen environmental stewardship, encourage international cooperation and promote space exploration for the benefit of all people and all nations. Since its founding, ASE has developed and implemented a series of innovative programs which have had a measurable impact in each of its mission areas. Active participation by its members, over 150 fliers from 18 countries, has been the basis of the Association's success.

EDUCATION

By sharing the knowledge and experience of its members with the public, especially youth, as well as with the international space community and national governments, ASE believes that it can help nurture the development of an informed and thoughtful human community on our planet. Increased technical and planetary awareness among the people of the world and their institutions will contribute to humanity's ability to make wise choices for its future, especially in the areas of maintaining a global ecological balance and in determining the direction of our exploration of space.

ASE's international member lecture program, now in its fourth year, is the current focal point of the Association's educational activities.

ENVIRONMENTAL STEWARDSHIP

ASE is committed to communicating the unique perspective of Earth its members possess to help stimulate humanity's sense of responsibility to the future of our environment. ASE programs also promote the expansion of the proven and vital role space plays in monitoring the impact of human activity on the planet. Integral to this is the member's understanding that broad distribution of the environmental knowledge gained from space is essential for the global resolution of the ecological challenges that face us.

ASE's commitment to environmental preservation is represented by the crystal treaty presented to the United Nation's General Assembly on Earth Day 1990. Signed by 40 ASE members participating in the U.N.'s Earth Day ceremony, the treaty is on permanent display at the United Nations.

INTERNATIONAL COOPERATION

ASE members recognize that as a technology-intensive and financially expensive human activity, space exploration benefits greatly when the resources and ingenuity of many countries are brought together for common purposes. Similarly, the benefits obtained from the exploration and use of space, a resource for all humanity, should be universally distributed to ensure the inclusion of all people in this exciting movement toward the stars. For these reasons, ASE is committed to fostering international cooperation in space exploration.

Through its international symposia and professional exchanges, ASE provides opportunities for spacefaring nations to share and learn about information gained through each others' experiences. ASE is the only organization that sponsors international discussions on space flight operations among astronauts.

SPACE EXPLORATION

ASE programs directly support the advancement of space exploration by providing opportunities for communication among space professionals at the international level. Working closely with other international professional space organizations, ASE has expanded and invigorated international dialogue on such issues as space rescue and human performance in space.

Several ASE members have been appointed to key committees within the international space community, including ASE-USA President John Fabian who was appointed in 1990 as a member of the International Academy of Astronautic's Committee on International Space Plans and Policy.

ANNUAL PLANETARY CONGRESS

The ASE Annual Planetary Congress serves as a forum where members gather to interact professionally, review programs already in place and plan the Association's activities for the future. The week-long event generates communication on issues of common interest between the international space community, government agencies and the general public. The Congress is a source of renewed vitality, commitment and growth for ASE as it pursues its objective of achieving an exciting and symbiotic relationship between the frontier environment of space and all life on Earth.

*INTERNATIONAL ASTRONAUT
LECTURE PRESENTATIONS*

For the fourth consecutive year, ASE sponsored a series of public lectures presented by its members. These appearances provide an opportunity for the general public, the space community and government agencies of the host countries to keep abreast of recent developments in space exploration around the world. In 1990, ASE lecture presentations took place in the United States, the Soviet Union and Germany.

UNITED STATES

In their first such collaboration, ASE, the National Aeronautics and Space Administration (NASA) and the Smithsonian Institution Resident Associate Program cosponsored the program "*Six Evenings with Pioneers of Space Exploration: From Mercury to Mir*" at the National Air and Space Museum in Washington, DC during February and March. The lectures brought ASE members Deke Slayton, Owen Garriott, Tom Stafford, Vladimir Titov and Valery Kubasov together with other astronauts to share with audiences their experiences in exploring space.

Opening with "The Dawn of America's Manned Space Program", Deke Slayton, an original Mercury Seven astronaut, recounted the achievements of the Mercury and Gemini programs. On another evening, Vladimir Titov discussed his record year-long mission aboard the Soviet orbital station Mir. Owen Garriott followed Titov with his recollections of the U.S. Skylab program. Both men discussed the short and long term biomedical effects of their missions and how this knowledge could be used to assist future exploration.

A third lecture reunited Valery Kubasov and Tom Stafford to speak about the 1975 Apollo-Soyuz Test Project and its importance to the development of future joint space missions. Other presentations featured T.K. Mattingly speaking about the Apollo program, the crew of STS-32 describing their successful January 1990 Space Shuttle Columbia mission to retrieve the Long Duration Exposure Facility, and a final presentation on "Missions of the Future" by astronaut Henry Hartsfield together with Franklin Martin.

The combined efforts of ASE, NASA and the Smithsonian Institute produced a highly successful and well-attended series of lectures, with each evening drawing audiences of approximately 400. ASE is exploring the possibility of hosting similar series in

the future.

While they were in the country, ASE made its Soviet lecturers available for visits to community schools and government officials, as part of a continuing informal program of helping broaden the international relationships of the American space-supporting community and U.S. government agencies. Titov met with Congressional leaders Representatives Robert Roe and Constance Morella, took a tour of the Pentagon, and visited several public schools in the Washington area. Kubasov met with Ray Walters of the National Space Council, House of Representatives members Roe and Mike Andrews, and Craig Covault of Aviation Week and Space Technology magazine. He also spoke to a group of Soviet and American schoolchildren.

GERMANY

In April, ASE conducted its first European lecture tour, hosted in Germany by ASE member Sigmund Jähn and the German Urania Society. The five-city tour was organized to educate the general public as well as the German space community and government on American and Soviet space programs. U.S. astronaut Walter Cunningham and Soviet astronaut Alexander Ivanchenkov joined Sigmund Jähn for the week-long series of public and private appearances.

The first stop was the Potsdam Central Institute of Terrestrial Physics of the Potsdam Academy of Sciences and a tour of the site of the Potsdam Conference. In Berlin, the trio visited the laboratories of and gave a talk at the Institute of Space Research of the Berlin Academy of Sciences, met with scientists at two planetaria, and spoke to a club of Young Pioneer Cosmonauts. The group was joined by ASE member Reinhard Furrer at the Berlin Urania Society where they spoke to a crowd of 900. After a stop in Dresden for a presentation at the Dresden Urania Society, the three completed their tour in Karl-Marx-Stadt where they addressed a student group in a planetarium and visited the Jähn Planetarium in their host's home town.

During the talks, Cunningham and Ivanchenkov presented the news of their nations' space programs and together with Jähn shared their views on humanity's future in space. All of the speakers were warmly received and the lectures enjoyed lively audience participation. Cunningham noted that "in terms of the ASE objective of peaceful cooperation and building bridges between East and West, it was a real

success.”

SOVIET UNION

In October, ASE member Rusty Schweickart traveled to the Soviet Union to participate in the ASE-USSR’s fourth annual international lecture tour. A veteran visitor to the USSR, Schweickart was the first American ASE member to lecture there since Soviet economic reforms had created conditions requiring ASE-USSR to be financially self-reliant. Schweickart was impressed with the effort made by his hosts to manage the tour in a radically altered economic environment.

Schweickart shared with his audiences news of the American space program and reflected on his experiences in space. The three-city tour began with a joint appearance by Schweickart and Soviet astronaut Georgi Grechko at the Moscow Planetarium. After

touring the renowned Energiya Design Bureau with Grechko and astronaut Oleg Makarov, Schweickart made a guest lecture at the Palace of Culture of a turbine engine manufacturing plant. In Kiev Schweickart gave two lectures to the general public at the local planetarium, and then in Kherson made presentations at the local high school and at the Kherson planetarium. All of the lectures were well attended, and Schweickart was well received in all three cities.

The value of ASE’s international lecture program was made apparent in both Kiev and Kherson where Schweickart encountered numerous audience questions relating to such space myths as an old naked, bearded Russian man saving the lives of Neil Armstrong and Buzz Aldrin on the moon and the CIA storing several frozen aliens in their vaults. The apparent tenacity of these types of stories in such a large part of the world’s popular imagination underscored the importance of international communication and education in ASE’s programs.



From left, Walter Cunningham, Alexander Ivanchenkov, Sigmund Jähn, and an official from the Dresden Urania Society stop for a photograph in Dresden during ASE’s April lecture tour in Germany.

UNITED NATIONS EARTH DAY CEREMONY

"ONLY ONE EARTH"

In response to a special invitation from the United Nations Environmental Program, forty ASE members from thirteen countries participated in a special ceremonial Earth Day tribute on April 22, 1990 at the U.N. General Assembly in New York City. The "Only One Earth" program provided an opportunity for ASE members to share with the U.N. delegates their unique perspectives on resolving the challenges of global environmental degradation that affect all life on Earth.

Part of a multi-media presentation delivered in the six official languages of the United Nations, ASE's message emphasized the interdependent and global nature of human and ecological systems and the impor-

tant role that space exploration plays in global environmental preservation. ASE members bore witness to the fact that studying the Earth from orbit helps us understand the impact of human behavior on the planet. They suggested that the international sharing of this scientific information is critical for identifying, studying and comprehensively solving global environmental problems.

The comments of orbiting Soviet astronauts Alexander Balandin and Anatoly Solovyov broadcast live via television to the proceedings enabled the U.N. delegates to gain a first hand impression of the Earth from a vantage point that transcended their political differences. From on board the Mir space station, each astronaut described the view of the Earth and the

"Only One Earth"
Ceremony Participants

- | | | | |
|---------------------------------------|--------------------------------------|---------------------------------------|------------------------------------|
| <i>Loren Acton, USA</i> | <i>John Fabian, USA</i> | <i>Alexei Leonov, USSR</i> | <i>Arnaldo Tamayo-Mendes, Cuba</i> |
| <i>Vladimir Aksyonov, USSR</i> | <i>Mohammed Faris, Syria</i> | <i>Byron Lichtenberg, USA</i> | <i>Gherman Titov, USSR</i> |
| <i>Sultan Al-Saud, Saudi Arabia</i> | <i>Bertalan Farkas, Hungary</i> | <i>Vladimir Lyakhov, USSR</i> | <i>Vladimir Titov, USSR</i> |
| <i>Alexander Alexandrov, Bulgaria</i> | <i>Konstantin Feoktistov, USSR</i> | <i>Ed Mitchell, USA</i> | <i>Alexander Viktorenko, USSR</i> |
| <i>John-David Bartoe, USA</i> | <i>Reinhard Furrer, Germany</i> | <i>Wubbo Ockels, The Netherlands</i> | <i>Igor Volk, USSR</i> |
| <i>Patrick Baudry, France</i> | <i>Rick Hauck, USA</i> | <i>Dumitru Prunariu, Romania</i> | <i>Alexander Volkov, USSR</i> |
| <i>Jerry Carr, USA</i> | <i>Mirosław Hermaszewski, Poland</i> | <i>Vladimir Remek, Czechoslovakia</i> | <i>Charlie Walker, USA</i> |
| <i>Bob Cenker, USA</i> | <i>Leonid Kizim, USSR</i> | <i>Nikolai Rukavishnikov, USSR</i> | <i>Taylor Wang, USA</i> |
| <i>Mary Cleave, USA</i> | <i>Sergei Krikalyov, USSR</i> | <i>Victor Savinykh, USSR</i> | <i>Al Worden, USA</i> |
| <i>John Creighton, USA</i> | <i>Alexander Laveikin, USSR</i> | <i>Rusty Schweickart, USA</i> | <i>Boris Yegorov, USSR</i> |

Soviet astronaut Anatoly Solovyov, right, holds up the Mir station's on-board copy of ASE's The Home Planet as he and Alexander Balandin describe the view of Earth from space to the United Nations delegates.

OUR PLANET EARTH FILM

destructive impact of human activity as seen from space. Their comments were representative of a new global perspective that has helped nations come together to address the planet's environmental challenges. John Fabian and Alexei Leonov, co-chairs of the ASE, concluded ASE's presentation with a call for increased international cooperation in space exploration and for the preservation of Planet Earth.

In recognition of the important role it plays in global conservation and preservation, ASE presented the United Nations with a crystal treaty signed by all the participating explorers (see previous page). The treaty is on permanent display at the U.N.

An ASE-sponsored film, "Our Planet Earth", produced by filmmaker Mickey Lemle for the United Nations and featuring interviews with ASE members shot at the 5th ASE Congress in Riyadh, Saudi Arabia in 1989 was released for global distribution by the U.N. in early 1990. The film explores the personal impressions of astronauts from several countries as they looked back at the Earth from space. It is ASE's hope that the film, which has been translated into many different languages, will communicate a universal message of the beauty and fragility of our planet and elicit an increased sense of personal responsibility for the care of our common home.

Promoting environmental stewardship is an important component of ASE's mission. It is through programs like "Only One Earth" and "Our Planet Earth" that the Association seeks to educate the public and its governments on the urgency of taking action to preserve the Earth and about the role space can play in that process.

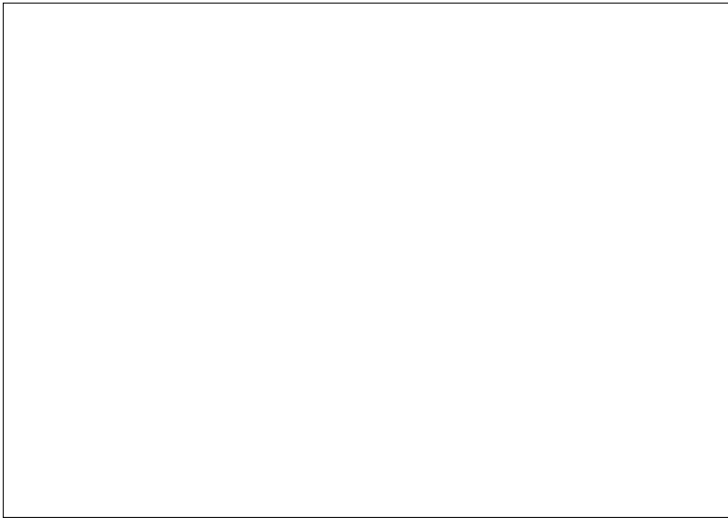


Photo courtesy of Mark Greenberg/Visions Photo

From left, John Fabian, Alexander Alexandrov, Alexei Leonov, Sergei Krikalyov, Sultan Al-Saud, Bertalan Farkas, Dr. Noel Brown, Mirosław Hermaszewski, Vladimir Remek, (above) Gherman Titov, Vladimir Titov, Wubbo Ockels and John Creighton appear on the U.N. General Assembly diaz during Dr. Brown's Earth Day address to U. N. delegates.

From right, Alexei Leonov, Patrick Baudry, Victor Savinykh, Mohammed Faris and Rusty Schweickart sign the Crystal Treaty presented to the United Nations at the Only One Earth ceremony.

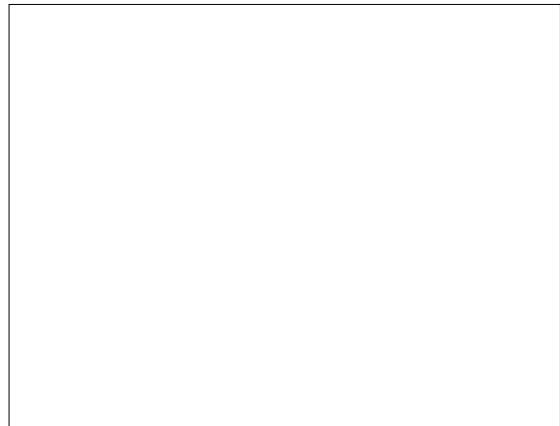


Photo courtesy of Mark Greenberg/Visions Photo

ASTRONAUT PROFESSIONAL EXCHANGES

The Association stepped up its sponsorship of astronauts' visits to their international colleagues' facilities in 1990, laying some of the personal and professional groundwork for the official U.S.-USSR and other cooperative space endeavors now being considered over the next few years. As ASE-USA President John Fabian has said, "Increasing international cooperation in our space program appears closer today than ever before. As progress is made toward these international goals, an operational dialogue among space fliers will become increasingly important".

At the invitation of the ASE-USSR and the Gagarin Cosmonaut Training Center, four active duty NASA astronauts traveled to the Soviet Union in February 1990 to tour Soviet space facilities, including the Baikonur Cosmodrome launch complex in Kazakhstan, the Gagarin Center in Star City outside Moscow, and the Flight Control Center in Kaliningrad. Astronauts Paul Weitz, Deputy Director of the Johnson Space Center, Dan Brandenstein, Chief of the Astronaut Office at the Johnson Space Center, Ron Grabe and Jerry Ross joined ASE-USA President John Fabian in what was the first such visit by a group of U.S. astronauts to these sites since the Apollo-Soyuz Test Project in 1975.

At Baikonur, the delegation witnessed the launch of the Soyuz TM-9 spacecraft carrying Soviet astronauts Anatoly Solovyov and Alexander Balandin to their six-month mission aboard the Mir orbital station during

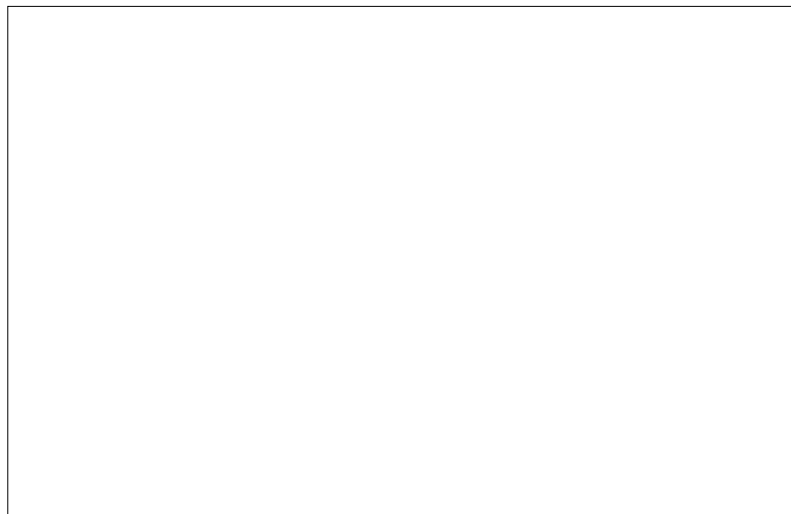
which they would add the Kristall Technological Module to the complex and perform two space walks to effect repairs on the station. The visiting astronauts also toured and acquainted themselves with the facilities of the Proton and Energiya launch vehicles and the Buran shuttle.

At the Gagarin Training Center the astronauts were given an opportunity to test Soviet flight training equipment. Brandenstein performed a mock docking with the Mir station while flying the Soyuz simulator, and tested an earthbound replica of the station's exercise treadmill. Ross donned the latest version of the Soviets' extravehicular activity (EVA) spacesuit and flew their visual simulator of the Manned Maneuvering Unit (MMU). The delegation also toured the physical training facilities, the water immersion facility, the Mir station simulator complete with its Kvant 2 and Kristall modules, and the Buran mission control room. The group completed its visit with a viewing of films of the first flights of the Soviet MMU recently performed by Alexander Serebrov.

In May, ASE-USA sponsored a tour by Mr. Serebrov of the Kennedy Space Center at Cape Canaveral, Florida and of the Johnson Space Center in Houston, Texas, as well as his participation in the annual meeting of the American Institute of Aeronautics and Astronautics.

At Kennedy, accompanied by ASE-USA President John Fabian and hosted by NASA and astronaut Brewster Shaw, Serebrov visited the Space Shuttle Columbia perched on its launch pad and toured the

Photo courtesy of NASA



From left, Jerry Ross, Paul Weitz, Alexei Leonov, John Fabian, Dan Brandenstein, Ron Grabe, Vyacheslav Zudov and Vladimir Kovalyonok meet in Star City during the the American astronauts' February tour of Soviet space facilities.

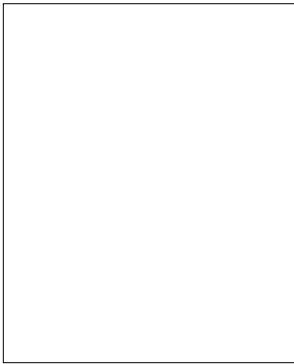
Center's vehicle assembly building, an engine firing room and the shuttle landing facility. Of particular interest to Serebrov was his tour of the Canaveral Air Force Station's launch pads, where he visited the launch sites of Projects Mercury and Gemini as well as the Air Force Space Museum.

Astronauts Brandenstein, Ross and Grabe, who had toured Soviet space facilities in February as Serebrov neared completion of his Soyuz TM-8 mission, hosted Serebrov's visit to the Johnson Center. There, Serebrov visited the Space Shuttle and Space Station Freedom mock-ups and attended a demonstration of the use of the Shuttle's robot arm at the Manipulator Development Facility. At JSC's immersion facility he observed astronauts Mike Lounge and Jeff Hoffman in training for Columbia's Astro 1 mission. He also donned a Shuttle space suit and deftly maneuvered the Center's MMU simulator, a rather different piece of equipment than the Soviet version which he had been the first to fly in space.

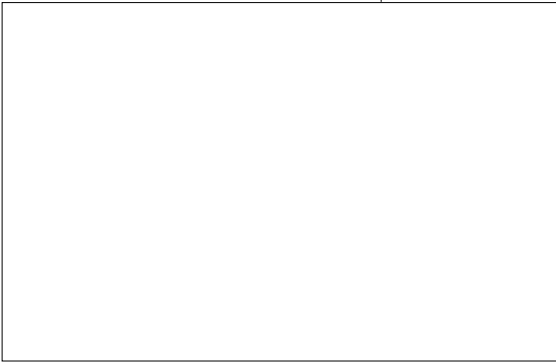
The tour culminated in an open discussion between Serebrov and thirty astronauts at the Astronaut Office. Serebrov discussed his recent six-month flight on Mir and his five EVAs, two of them with the MMU. The value of this informal exchange was evident in the questions asked by the astronauts concerning living conditions on a space station, the use of the MMU tether, and other activities in the Soviet space program.

USA-HUNGARY INFORMATION EXCHANGE

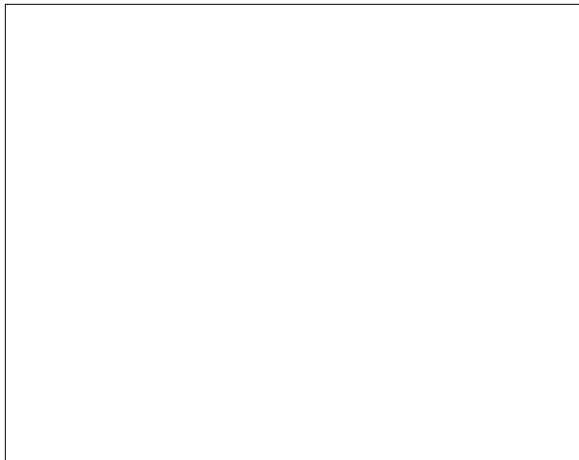
In February 1990, ASE-USA President John Fabian was invited to Hungary as the guest of ASE member Bertalan Farkas to discuss potential areas of Hungarian participation in international space research. Fabian and Farkas visited space physics, aerospace medicine, and remote sensing facilities where they received briefings on past Hungarian activities associated with the Soviet-led Intercosmos Program and Phobos Mars probes. Fabian provided information on equivalent programs in the United States and at the European Space Agency along with names of other individuals and organizations doing similar work.



Jerry Ross dons a Soviet extravehicular activity suit at the Gagarin Cosmonaut Training Center.



Dan Brandenstein watches as Alexander Serebrov tries out the cockpit of one of NASA's T-38 aircraft used by astronauts.



Alexander Serebrov tries on a NASA manned maneuvering unit at the Johnson Space Center in Houston.

HUMAN PERFORMANCE IN SPACE

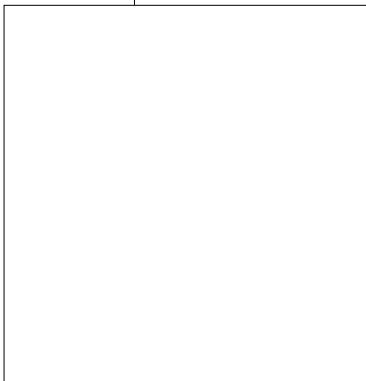
Together with the Committee on Space Research, an international organization of space scientists, ASE co-sponsored a symposium titled "Human Performance in Space" in July in The Hague, The Netherlands. This was the first time that an international group of astronauts and leading laboratory scientists has convened to discuss the challenges posed by long duration human missions in space. Chaired by Dr. Byron Lichtenberg, a member of ASE and a payload specialist on the Shuttle's first Spacelab flight, the conference resulted in increased understanding by both professional groups of the problems experienced by space explorers during and after their missions, the sources of these problems, and ways in which scientists and astronauts can work together to alleviate them.

The one-day symposium began with ASE members reporting on their experiences and the results of their experiments in space. The scientists followed with papers on methods of counteracting some of the biomedical problems brought on by weightlessness and on ways of improving physical and operational performance on long duration missions. The conference culminated with agreement by both groups that their

continued international and cross disciplinary cooperation could make space travel safer and more productive for all explorers. This symposium represents one of many ASE programs that seek to encourage communication among professionals within the space industry to further the advancement of international space exploration. (A list of the papers presented at this symposium appears below.)

SPACE RESCUE

Since 1987 ASE has been a principal advocate of a universal space rescue capability. In 1989, ASE sponsored a conference on space rescue at its Fifth Planetary Congress in Riyadh, Saudi Arabia at which seven experts from the United States, the Soviet Union and France made presentations on past, present and future space rescue activities. As a follow up to this conference, ASE-USA mailed letters to House and Senate space-related Committee members and to officials of NASA, the European Space Agency, the Japanese Ministry of Science and Technology, the National Research Council, the National Space Council, the American Institute of Aeronautics and Astronautics, and the Canadian Space Agency describing the proceedings and encourag-



Soviet astronaut Dr. Valery Polyakov discusses his personal impressions of long term space flights at the joint ASE-COSPAR symposium on Human Performance in Space in The Hague.

**PAPERS PRESENTED AT HUMAN PERFORMANCE
IN SPACE SYMPOSIUM**

V. V. Polyakov
"Long-Term Space Flights - Personal Impressions"

J. D. Rummel
"Development of Life Support Requirements for
Long-Term Space Flight"

A. E. Nicogossian/J. D. Rummel
"Development of Countermeasures for Medical Problems
Encountered in Space Flight"

A.I. Grigoriev
"Physiological Changes in Space Flight"

J. L. Chretien
"Strengthening and Enhancing Human Performance in Space
through International Cooperation"

O. Garriott
"Crew Motivation and Performance in Long Duration Space Flight"

O. Y. Atkov
"Some Medical Aspects of an Eight Month Space Flight"

H. Oser
"Considerations for Future Human Spaceflight"

Y. A. Senkevich
"Selection and Training of Candidate Cosmonauts
to be Sent as a Team in Long Term Space Flights"

ing these agencies and officials to take action to expand the international dialogue on space rescue. Publication of the conference's full proceedings was completed in 1990 and distributed to the U.S. Congress and to space agencies and aerospace companies around the world.

In 1990, ASE continued its effort to expand international dialogue on space rescue. The primary focus of this activity was ASE's participation in the ongoing rescue-related work of the International Academy of Astronautics (IAA). At the request of IAA's leaders and on behalf of all space fliers, ASE-USA President John Fabian drafted a statement on universal space rescue to be used as a guide for the work of IAA's Committee on Safety and Rescue in Space (COSAR). Appointed in 1990 to serve as a member of that Committee, ASE member John-David Bartoe subsequently led the drafting of a plan to guide the Committee's work on space rescue over the next five years. The plan reflects the growing importance attached to space rescue and responds to the newly identified challenges it poses. The work of these two ASE members is being used by COSAR as the basis for the preparation of a "road map on space rescue" which is scheduled to be presented at the 1992 meeting of the International Astronautical Federation (IAF) at the World Space Congress in Washington, DC.

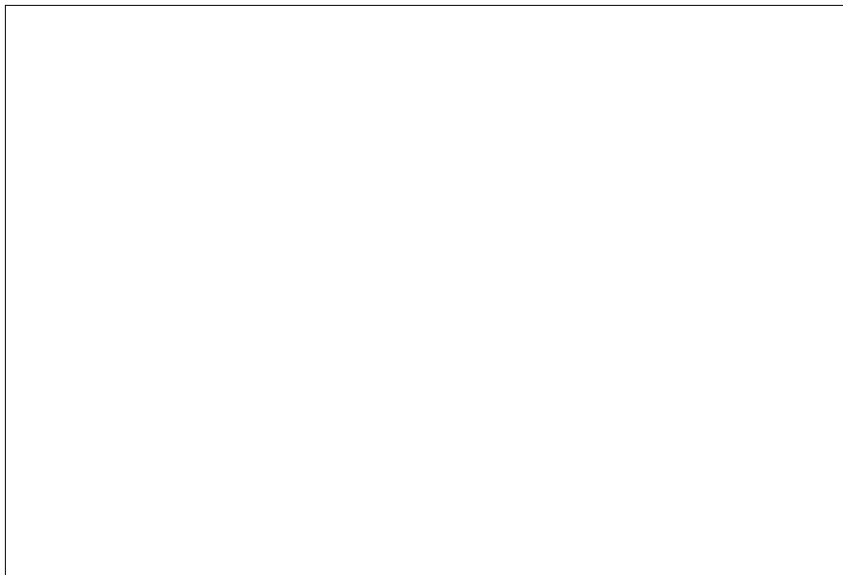
Universal space rescue remains an ASE priority. Plans for 1991 include continued ASE participation in the work of IAA committees as well as involvement in national and international space rescue conferences.

COOPERATION WITH INTERNATIONAL ORGANIZATIONS

ASE expanded its joint work with other international organizations in 1990 to broaden its promotion of safe, productive and beneficial space exploration. John Fabian was appointed to IAA's Committee on International Space Plans and Policy, and ASE Executive Committee members Ernst Messerschmid and Bertalan Farkas worked with John-David Bartoe on IAA's COSAR committee. Both committees furthered their work at the annual IAF Congress in Dresden, Germany during the first week of that country's reunification.

The Dresden meeting drew fourteen ASE members from seven countries to participate in committee work and present papers on a variety of space exploration topics. David Walker reported on U.S. manned space programs, John-David Bartoe, Jean-Loup Chretien and Ernst Messerschmid made presentations on international cooperation on space stations, Vladimir Aksyonov addressed remote sensing satellite questions, and Vladimir Solovyov delivered an update on work being conducted aboard the Soviet Mir space station.

ASE involvement at these annual international meetings and its members' work on key committees of their sponsoring organizations insures that the Association's goals and perspectives will be heard as these groups develop policy prescriptions for improvement in all aspects of humanity's exploration of space.



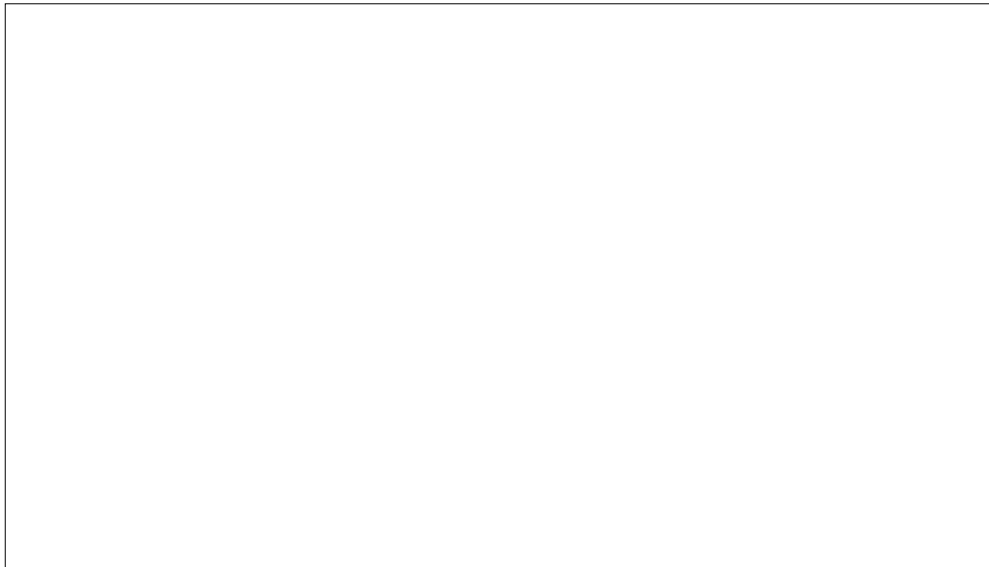
From left, ASE speakers Owen Garriott, Jean-Loup Chretien, Valery Polyakov, Wubbo Ockels, Oleg Atkov and Byron Lichtenberg gather during a break at the ASE-COSPAR symposium.

*SIXTH PLANETARY CONGRESS**"SPACE BRINGS PEOPLE TOGETHER"*

In the largest such gathering in history, fifty-three astronauts and cosmonauts from eleven countries gathered in The Netherlands from July 2-6, 1990, for the Sixth Annual ASE Planetary Congress hosted by ASE member Wubbo Ockels. The annual Congress, which serves as a forum where members initiate, develop and evaluate programs in all four ASE mission areas - education, environmental stewardship, international cooperation and the advancement of beneficial space exploration, facilitates communication between the space community, the government and the public. July's week-long session allowed ASE members to re-establish acquaintances, strengthen professional bonds, and issue a call to all spacefaring nations to cooperate in the use of space for the benefit of humankind.

On the opening day, Congress participants heard updates on the activities of several national space programs. Wubbo Ockels reported on recent Dutch efforts, Bruce McCandless reviewed the year's U.S. Shuttle missions, and Sergei Krikalyov presented news of the Soviets' Mir station program. In a 15th anniversary retrospective of their historic meeting in space, Alexei Leonov and Tom Stafford shared their thoughts on the Apollo-Soyuz Test Project of 1975.

The Congress keynote address, "Space Without Frontiers", was delivered by the noted Dutch astronomer H.C. van de Hulst, the recipient of ASE's 1990 Planetary Award at the Congress. Recognized for his pioneering work in bringing about international cooperation in space science research, van de Hulst suggested that when a system without frontiers, such as science, meets a system with frontiers, such as politics, as often occurs with large scale science projects



ASE members assemble for their annual group photo after the 6th Congress opening ceremony in the Martinikerk of Groningen, The Netherlands:

1-Valery Polyakov, USSR; 2-Abdul Mohmand, Afghanistan; 3-Sigmund Jähn, Germany; 4-Vitaly Sevastyanov, USSR; 5-Anatoly Filipchenko, USSR; 6-Vladimir Dzhanibekov, USSR; 7-Bertalan Farkas, Hungary; 8-Oleg Atkov, USSR; 9-Vladimir Kovalyonok, USSR; 10-Valery Ryumin, USSR; 11-Leonid Kizim, USSR; 12-Alexei Leonov, USSR; 13-Alexander Alexandrov, Bulgaria; 14-Miroslaw Hermaszewski, Poland;

15-Igor Volk, USSR; 16-Vyacheslav Zudov, USSR; 17-Alexander Alexandrov, USSR; 18-Sergei Krikalyov, USSR; 19-Svetlana Savitskaya, USSR; 20-Valentin Lebedev, USSR; 21-Ulf Merbold, Germany; 22-Vladimir Aksyonov, USSR; 23-Byron Lichtenberg, USA; 24-John Fabian, USA; 25-Pavel Popovich, USSR; 26-Jerry Carr, USA; 27-Bob Overmyer, USA; 28-Jon McBride, USA; 29-Scott Carpenter, USA; 30-Tom Stafford, USA; 31-Wubbo Ockels, The Netherlands; 32-Pete Conrad, USA; 33-Alexei Yeliseiev, USSR; 34-Rusty Schweickart, USA; 35-Taylor Wang, USA; 36-Don Williams, USA; 37-Valery Kubasov, USSR; 38-Ernst Messerschmid, Germany; 39-Walt Cunningham, USA; 40-Don Lind, USA; 41-John-David Bartoe, USA; 42-James van Hoften, USA; 43-Reinhard Furrer, Germany; 44-Don Peterson, USA; 45-Oleg Makarov, USSR; 46-Loren Acton, USA; 47-Rick Hauck, USA; 48-Bruce McCandless, USA; 49-Lodewijk van den Berg, USA; 50-Owen Garriott, USA. Not pictured: Jean-Loup Chretien, France; Georgi Grechko, USSR; Dumitru Prunariu, Romania.

like space, a dialogue between the political and scientific systems must take place in order to minimize the turbulence which could be encountered. His prescription ran consistent with ASE's own ongoing efforts to foster such dialogue.

Addressing the theme "Space Brings People Together", German astronauts Sigmund Jähn and Reinhard Furrer commented on the benefits yielded by international cooperation in space exploration in the East and West, respectively. Laying out the potential benefits of future cooperation, Tom Stafford followed with a review of the work conducted by his Synthesis Group, a U.S. panel charged with developing Moon/Mars mission architecture proposals out of hundreds of ideas submitted to the nation's Space Exploration Initiative Outreach Program. Alexei Leonov concluded the session proposing the creation of an international institute whose goal would be to prepare today's toddlers for missions to Mars in twenty to thirty years.

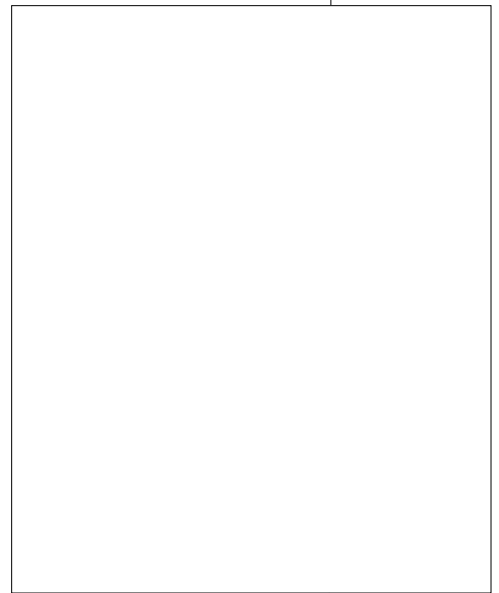
Another Congress working session was devoted to universal space rescue and environmental protection, two areas of ongoing concern to ASE. The session opened with a viewing of the ASE-sponsored film "Our Planet Earth", produced by filmmaker Mickey Lemle for the United Nations (see page 7). Taylor Wang reported on ASE's participation in April's Earth Day ceremony at the U.N., and Vladimir Aksyonov, Vladimir Dzhani-bekov and Vladimir Kovalyonok discussed Soviet initiatives in monitoring the environment from space. John-David Bartoe and Alexander Alexandrov concluded the session with a review of ASE space rescue activities since the Riyadh Congress, including the publication and distribution of the Proceedings of the Riyadh Congress Conference on Space Rescue.

Two additional working sessions were held in collaboration with the 28th international meeting of the Committee on Space Research (COSPAR). At the first, a public session addressing the challenges of an interna-

Congress host Wubbo Ockels, right, joins ASE honoree H. C. van de Hulst after van de Hulst's receipt of ASE's annual planetary award, the crystal helmet (foreground).



Bruce McCandless updates the Congress participants on the U.S. space program.



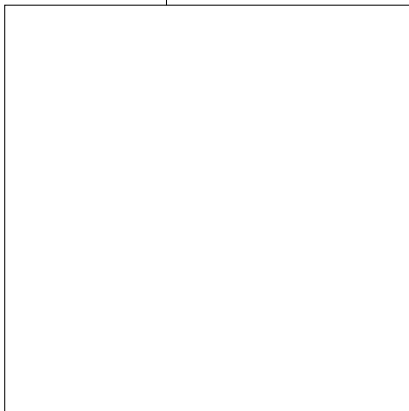
From left, Soetlana Savitskaya, Vladimir Dzhani-bekov and Vitaly Sevastyanov review documents at a Congress session as Igor Volk looks on.

tional manned Mars mission, six ASE members spoke to an audience of 300 at the Congress Center in The Hague about several issues that would arise in the face of such an unprecedented and monumental undertaking. (See box below). The second session consisted of a joint scientific session with COSPAR on human performance in space. The seminar, described in greater detail on page 10 of this report, was the first time leading international scientists joined with astronauts to exchange detailed results of their research, and served as a major milestone in ASE's advocacy of making space travel safe for the explorer.

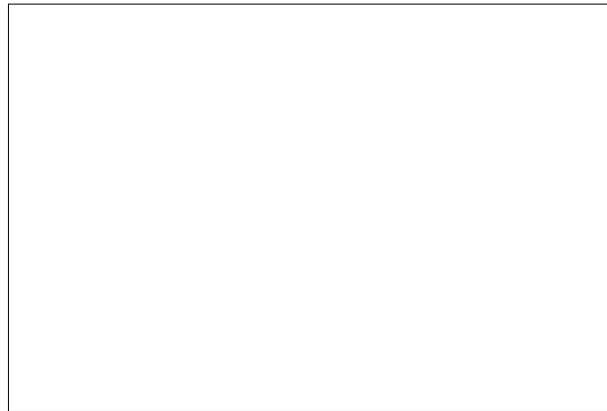
At the close of the Congress the participants approved a Congress statement on the theme "Space Brings People Together" that voiced their common understanding of the role space plays in contributing to humanity's sense of kinship, interdependence and planetary stewardship through space-based communication, space exploration and Earth observation. The statement called upon the world's spacefaring nations to increase the level of

international cooperation in space, both in low Earth orbit and in the exploration of the moon and planets. The statement appears in appendix III of this report.

The 6th Congress provided an opportunity for informal interaction among ASE members and between members and municipal, provincial and national government leaders and the general public. Congress community activities included participation in the opening of the Noordwijk Space Exposition and a visit to several departments at Groningen University. In addition to their program work, the members elected Jon McBride, Oleg Makarov and Wubbo Ockels to join John Fabian, Alexei Leonov, Ernst Messerschmid and Bertalan Farkas on the international Executive Committee. The membership also accepted an offer from Sigmund Jähn and Reinhard Furrer to host the 7th ASE Congress in Berlin in 1991 and welcomed an ASE-USA initiative to host the 8th Congress in Washington DC in 1992, International Space Year.



Rick Hauck, left and Alexander Alexandrov participate in a Congress session.



From left, Ernst Messerschmid, Tom Stafford, Jerry Carr, John Fabian, moderator P. Smolders, interpreter Harris Coulter, Alexei Leonov, Valery Polyakov and Wubbo Ockels address the challenges of an international manned mission to Mars.

ASE SPEAKERS AT THE COSPAR SESSION ON
AN INTERNATIONAL MANNED MARS MISSION

Tom Stafford	Mission Objectives
Alexei Leonov	Applying the Experience of the Apollo-Soyuz Test Project
John Fabian	Political Realities
Ernst Messerschmid	Transportation and Propulsion
Jerry Carr	Habitability and Long Duration Questions
Valery Polyakov	Biomedical Issues

The following individuals had joined the Association of Space Explorers and performed their respective space missions as of December 31, 1990.

* Loren Acton, USA STS 51-F	Daniel Brandenstein, USA STS 8, STS 51-G, STS 32	Donn Eisele, USA † Apollo 7
James Adamson, USA STS 28	James Buchli, USA STS 51-C, STS 61-A, STS 29	Anthony England, USA STS 51-F
* Vladimir Aksyonov, USSR Soyuz 22, Soyuz T-2	Valery Bykovski, USSR Vostok 5, Soyuz 22, Soyuz 31	Joe Engle, USA STS-2, STS 51-I
Sultan Al-Saud, Saudi Arabia STS 51-G	* Scott Carpenter, USA Mercury 7	Ronald Evans, USA † Apollo 17
Buzz Aldrin, USA Gemini 12, Apollo 11	* Gerald Carr, USA Skylab 4	* John Fabian, USA STS-7, STS 51-G
* Alexander Alexandrov, USSR Soyuz T-9, Soyuz TM-3	Manley Carter, USA † STS 33	Mohammed Faris, Syria Soyuz TM-3
* Alexander Alexandrov, Bulgaria Soyuz TM-5	John Casper, USA STS 36	* Bertalan Farkas, Hungary Soyuz 36
Joseph Allen, USA STS 5, STS 51-A	Robert Cenker, USA STS 61-C	Konstantin Feoktistov, USSR Voskhod 1
* Oleg Atkov, USSR Soyuz T-10	Eugene Cernan, USA Gemini 9, Apollo 10, Apollo 17	* Anatoly Filipchenko, USSR Soyuz 7, Soyuz 16
James Bagian, USA STS 29	* Jean-Loup Chretien, France Soyuz T-6, Soyuz TM-7	William Fisher, USA STS 51-I
Ellen Baker, USA STS 34	Michael Coats, USA STS 41-D, STS 29	Anna Fisher, USA STS 51-A
* John-David Bartoe, USA STS 51-F	Michael Collins, USA Gemini 10, Apollo 11	* Reinhard Furrer, Germany STS 61-A
Patrick Baudry, France STS 51-G	* Charles Conrad, USA Gemini 5, Gemini 11, Apollo 12, Skylab 2	Jake Garn, USA STS 51-D
Alan Bean, USA Apollo 12, Skylab 3	Richard Covey, USA STS 51-I, STS 26, STS 38	* Owen Garriott, USA Skylab 3, STS 9
Georgi Beregovoi, USSR Soyuz 3	John Creighton, USA STS 51-G, STS 36	Charles Gemar, USA STS 38
Anatoly Berezovoi, USSR Soyuz T-5	Frank Culbertson USA STS 38	Robert Gibson, USA STS 41-B, STS 61-C, STS 27
John Blaha, USA STS 29, STS 33	* Walter Cunningham, USA Apollo 7	Edward Gibson, USA Skylab 4
Karol Bobko, USA STS 6, STS 51-D, STS 51-J	Charles Duke, USA Apollo 16	Yuri Glazkov, USSR Soyuz 24
	* Vladimir Dzhanibekov, USSR Soyuz 27, Soyuz 39, Soyuz T-6, Soyuz T-12, Soyuz T-13	Viktor Gorbatko, USSR Soyuz 7, Soyuz 24, Soyuz 37

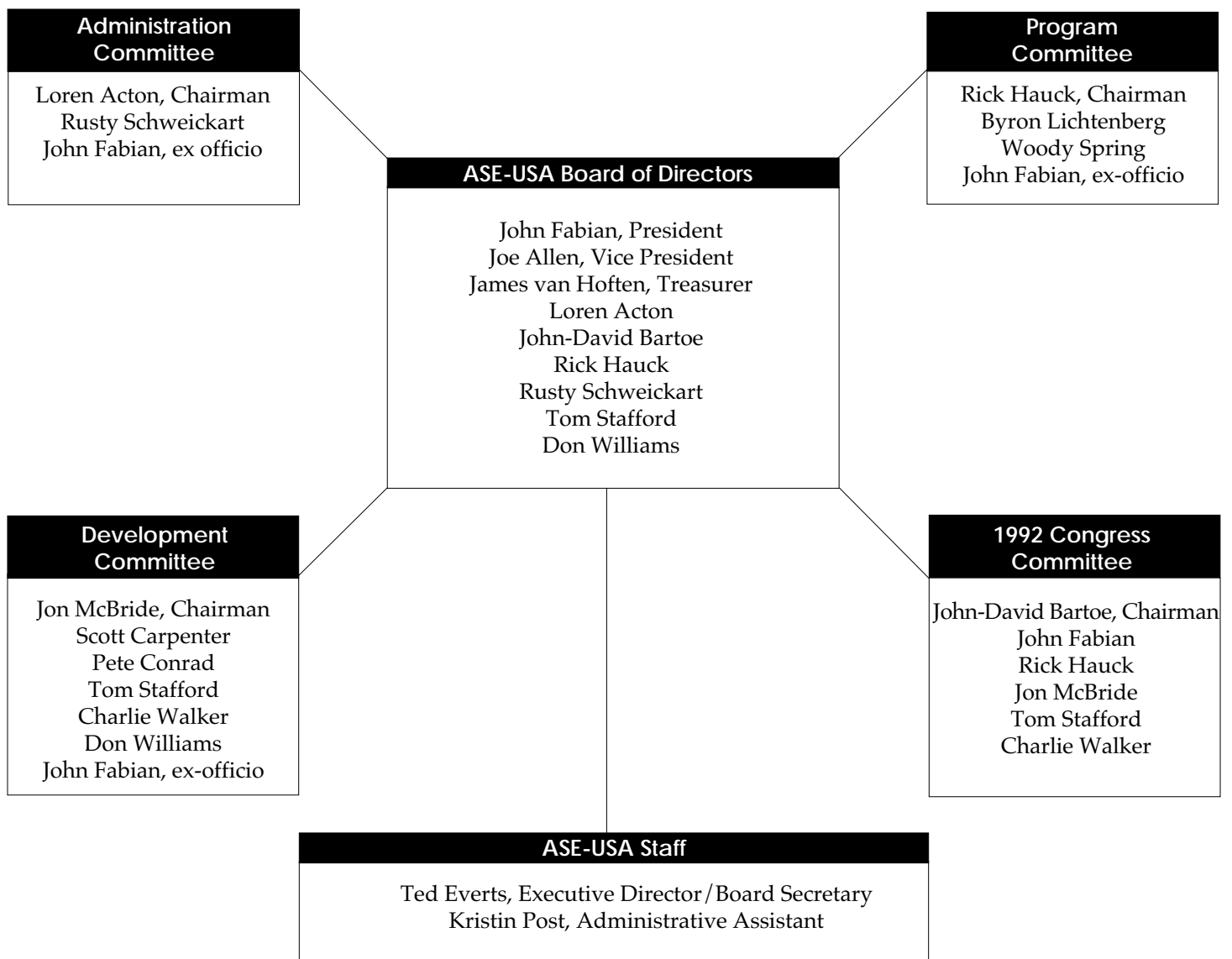
Ronald Grabe, USA STS 51-J, STS 30	Alexander Laveikin, USSR Soyuz TM-2	* Ernst Messerschmid, Germany STS 61-A
* Georgi Grechko, USSR Soyuz 17, Soyuz 26, Soyuz T-14	* Valentin Lebedev, USSR Soyuz 13, Soyuz T-5	Edgar Mitchell, USA Apollo 14
Frederick Gregory, USA STS 51-B, STS 33	* Alexei Leonov, USSR Voskhod 2, ASTP	* Abdul Mohmand, Afghanistan Soyuz TM-6
Jugderdemidyn Gurragchaa, Mongolia Soyuz 39	* Byron Lichtenberg, USA STS 9	Steven Nagel, USA STS 51-G, STS 61-A
Terry Hart, USA STS 41-C	* Don Lind, USA STS 51-B	Bill Nelson, USA STS 61-C
Henry Hartsfield, USA STS-7, STS 41-D, STS 61-A	John Michael Lounge, USA STS 51-I, STS 26, STS 35	George Nelson, USA STS 41-C, STS 61-C, STS 26
* Frederick Hauck, USA STS-7, STS 51-A, STS 26	Jack Lousma, USA Skylab 3, STS 3	Rodolfo Neri, Mexico STS 61-B
Karl Henize, USA STS 51-F	James Lovell, USA Gemini 7, Gemini 12, Apollo 8, Apollo 13	* Wubbo Ockels, The Netherlands STS 61-A
* Mirosław Hermaszewski, Poland Soyuz 30	David Low, USA STS 32	* Robert Overmyer, USA STS 5, STS 51-B
Jeffrey Hoffman, USA STS 51-D, STS 35	Vladimir Lyakhov, USSR Soyuz 32, Soyuz T-9, Soyuz TM-6	* Donald Peterson, USA STS 6
James Irwin, USA Apollo 15	* Oleg Makarov, USSR Soyuz 12, Soyuz 27, Soyuz T-3	William Pogue, USA Skylab 4
Alexander Ivanchenkov, USSR Soyuz 29, Soyuz T-6	Yuri Malyshev, USSR Soyuz T-2, Soyuz T-11	* Valery Polyakov, USSR Soyuz TM-6
* Georgi Ivanov, Bulgaria Soyuz 33	Musa Manarov, USSR Soyuz TM-4, Soyuz TM-11	Leonid Popov, USSR Soyuz 35, Soyuz 40, Soyuz T-7
* Sigmund Jähn, Germany Soyuz 31	* Jon McBride, USA STS 41-G	* Pavel Popovich, USSR Vostok 4, Soyuz 14
* Leonid Kizim, USSR Soyuz T-3, Soyuz T-10, Soyuz T-15	* Bruce McCandless, USA STS 41-B, STS 31	* Dumitru-Dorin Prunariu, Romania Soyuz 40
Pyotr Klimuk, USSR Soyuz 13, Soyuz 18, Soyuz 30	Michael McCulley, USA STS 34	Vladimir Remek, Czechoslovakia Soyuz 28
* Vladimir Kovalyonok, USSR Soyuz 25, Soyuz 29, Soyuz T4	Carl Meade, USA STS 38	Yuri Romanenko, USSR Soyuz 26, Soyuz 38, Soyuz TM-2
* Sergei Krikalyov, USSR Soyuz TM-7	Bruce Melnick, USA STS 41	Stuart Roosa, USA Apollo 14
* Valery Kubasov, USSR Soyuz 6, ASTP, Soyuz 36	* Ulf Merbold, Germany STS 9	Jerry Ross, USA STS 61-B, STS 27

Valery Rozhdestvensky, USSR Soyuz 23	Kathryn Sullivan, USA STS 41-G, STS 31
* Nikolai Rukavishnikov, USSR Soyuz 10, Soyuz 16, Soyuz 33	Arnaldo Tamayo-Mendes, Cuba Soyuz 38
* Valery Ryumin, USSR Soyuz 25, Soyuz 32, Soyuz 35	William Thornton, USA STS 8, STS 51-B
Viktor Savinykh, USSR Soyuz T-4, Soyuz T-13	Pierre Thuot, USA STS 36
* Svetlana Savitskaya, USSR Soyuz T-7, Soyuz T-12	Gherman Titov, USSR Vostok 2
* Russell Schweickart, USA Apollo 9	Vladimir Titov, USSR Soyuz T-8, Soyuz TM-4
Margaret Rhea Seddon, USA STS 51-D	Pham Tuan, Viet Nam Soyuz 37
* Vitaly Sevastyanov, USSR Soyuz 9, Soyuz 18	* Lodewijk van den Berg, USA STS 51-B
Rakesh Sharma, India Soyuz T-11	* James van Hoften, USA STS 41-C, STS 51-I
Vladimir Shatalov, USSR Soyuz 4, Soyuz 8, Soyuz 10	Alexander Viktorenko, USSR Soyuz TM-3, Soyuz TM-8
Georgi Shonin, USSR Soyuz 6	* Igor Volk, USSR Soyuz T-12
Donald Slayton, USA ASTP	Alexander Volkov, USSR Soyuz T-14, Soyuz TM-7
Vladimir Solovyov, USSR Soyuz T-10, Soyuz T-15	David Walker, USA STS 51-A, STS 30
Anatoly Solovyov, USSR Soyuz TM-5	Charles Walker, USA STS 41-D, STS 51-D, STS 61-B
Sherwood Spring, USA STS 61-B	* Taylor Wang, USA STS 51-B
Robert Springer, USA STS 29, STS 38	* Donald Williams, USA STS 51-D, STS 34
* Thomas Stafford, USA Gemini 6, Gemini 9, Apollo 10, ASTP	Alfred Worden, USA Apollo 15
Robert Stewart, USA STS 41-B, STS 51-J	Boris Yegorov, USSR Voskhod 1
Gennady Strekalov, USSR Soyuz T-3, Soyuz T-8, Soyuz TM-11	Alexei Yeliseyev, USSR Soyuz 5, Soyuz 8, Soyuz 10
	* Vyacheslav Zudov, USSR Soyuz 23

* indicates participation at the Sixth
ASE Planetary Congress
† indicates deceased

ASE-USA membership more than tripled in 1990 when fifty-seven more astronauts, thirty-three of them on active duty at NASA, elected to join the organization, bringing total U.S. membership to eighty-one at year's end, when ASE counted 150 space explorers as members from eighteen different countries.

In the Fall, four shuttle-generation pilots and missions specialists moved into the leadership of ASE-USA, joining the Apollo astronauts and Shuttle payload specialists who have been leading ASE since its early years. In the Association's first membership-wide elections, Rick Hauck, James van Hoften and Don Williams were elected to the ASE-USA Board of Directors for three-year terms. Jon McBride assumed the mantle of Chairman of the Development Committee.



**GENERAL STATEMENT BY THE
ASSOCIATION OF SPACE EXPLORERS
6th Planetary Congress
6 July 1990 • Groningen, The Netherlands**

The theme of the 6th Planetary Congress of the Association of Space Explorers, "Space Brings People Together", captures the profound impact that space exploration has had on humankind. In only three decades, people of many nations have had their lives intertwined by space activities such as space communication, space exploration and space observations of Earth.

Through space communication, we hear news from every corner of the Earth almost immediately, since the world is less than a half second around in the communication domain. No longer are we satisfied only with learning of events in the nearest town. Now we are eager to know about the entire world. We learn of others' successes and failures, good fortunes and disasters, triumphs and tragedies - and our own lives are forever altered.

Space exploration, both robotic and human, has also drawn us together through international cooperation on space missions. The fantastic Giotto and Vega space probes as well as many Explorer and Intercosmos satellites have involved scientists from around the world. Space Station Mir, and, in the near future, Freedom, draw heavily on international participation. Although only two nations have launched humans into space, the space explorers come from twenty different countries. These programs stimulate a worldwide exchange of knowledge, create a healthy interdependence on each other's expertise and reap benefits not only to the spacefaring nations but to the entire world. Future exploration of the moon and Mars should also involve international cooperation due to the strong mutual interests among the spacefaring nations.

Observations of the Earth from space have perhaps been the most profound in drawing people together. Robotic satellites and space explorers have shown us the beauty of the Earth, the global interdependence of the environment and the worldwide impact which can be caused by man's misuse. Participants of the Congress particularly note the necessity of uniting the efforts of different countries to control serious ecological changes, such as global warming. Observations of the Earth's environment have immensely strengthened our conviction towards stewardship of our home planet.

One of the primary goals of the Association is to widely disseminate information about space exploration, particularly to young people. It is well established that space exploration can be a tremendous stimulus to education, exciting the interest, imagination and motivation of school children around the world. A wealth of material is available at various space agencies for this purpose, but little is disseminated on an international scale. The Association strongly encourages the spacefaring nations to make educationally related space exploration material more readily available internationally. The international aspect of space exploration can add even greater stimulus to young people's education and thus, in the spirit of this year's theme, help draw the children of the world together.

As we look to the future, the Association of Space Explorers is extremely excited at the prospect of international cooperation in space research and exploration. The opportunities for international collaboration are growing on a daily basis, and, more importantly, the tremendous benefits from such partnerships are becoming universally recognized. All inhabitants of Earth will benefit from the unique knowledge to be gained, the close personal association among the partners of international missions, and the sharing of resources needed to accomplish such missions. Consequently, the Association of Space Explorers strongly encourages the nations of the world to continue increasing the level of international cooperation in space, both in low Earth orbit and in the exploration of the moon and planets. In 1987 at the ASE's 3rd Planetary Congress, we urged the spacefaring nations to investigate the feasibility of an international mission to Mars. Now that this concept is widely accepted, we encourage a further step. We believe it is now time for governments to establish the basic understandings and preliminary framework that will permit joint planning for such a mission.

The Association will continue to support the space programs of the members' nations, regional space organizations and international technical societies to enhance achievements of international endeavors in space.

Adopted and signed this 6th day of July, 1990.

ASE is a non profit educational corporation and professional organization which depends on private funding for its programs. Over the years, many foundations, corporations and individuals have made generous contributions in support of these programs. ASE gratefully acknowledges the following organizations and individuals who provided major financial support in 1990:

Bandar bin Sultan bin Abdulaziz, Boeing Aerospace, Caroline L. Everts, William P. Everts Jr., Lockheed Corporation and Paul N. Temple.

For their time, energy and resources, the Association especially thanks:

Evelyn Acton, California Space Development Council, Ginni Galicinao, Dennis Hall, Tom Hilton, Michael Kanouff, Chris Lenz, NASA Office of Congressional Relations, Joos Ockels, Natasha Ward, Wieseltier and Associates, Wilson, Sonsini, Goodrich & Rosati, Yancy Young and Leonid Zhurnya.

REPORTS AND PERIODICALS

Proceedings of the Conference on Space Rescue, 5th Planetary Congress, Riyadh, Saudi Arabia, November, 1989.

ASE-USA 1989 Annual Report

The Spacexplorer newsletter - February, May and September

PRESENTATIONS

"International Cooperation on Space Stations" - ASE paper prepared and delivered by John-David Bartoe at the 41st International Astronautical Congress in Dresden, Germany in October, 1990

"Human Performance in Space" joint ASE-COSPAR symposium - papers presented by astronauts and laboratory scientists

AUDIO-VISUAL PRODUCTIONS

"Our Planet Earth" - ASE-sponsored film produced by Mickey Lemle for the United Nations

"Only One Earth" ASE Lecture Program promotional videotape

"Only One Earth" U.N. Earth Day Ceremony videotape