



THE SPACE EXPLORER

THE NEWSLETTER OF THE ASSOCIATION OF SPACE EXPLORERS • USA FEBRUARY 1997

Canada Hosts 12th ASE Planetary Congress *Cooperation in Space: Progress for Humanity*

The 12th Planetary Congress of the Association of Space Explorers was held in Ottawa, Montreal, and Quebec City, Canada from September 28-October 4, 1996. Forty-eight US, Russian, and international astronauts and cosmonauts, their spouses and guests enjoyed Canadian hospitality while keeping to a demanding schedule of working sessions and public appearances. The 12th Congress was hosted by Steve MacLean and the Canadian Astronaut Program and was sponsored by, among others, the Canadian Space Agency (CSA), the Department of National Defense (DND), and the Canadian Aeronautics and Space Institute (CASI).

The Congress began on Saturday, September 28 with a Canada-wide educational blitz. Twenty-two flyers visited 11 cities from British Columbia to Newfoundland. Although a planned satellite link-up between the cities and the Russian MIR space station failed

to operate as planned, the appearances generated much excitement and enthusiasm among the many school-children and parents who participated. Those flyers and guests who did not participate in the blitz were treated to an evening hockey game between the Ottawa Senators and Tampa Bay Lightning at the Corel Centre in Ottawa.

On Sunday September 29, con-

gress participants assembled at the Museum of Civilization, perched on the north bank of the majestic Ottawa River in Hull, Ontario. Following breakfast, the flyers toured the museum exhibits, signed autographs, and mingled with the public. After a buffet lunch and a briefing by Steve MacLean, the first working session of the congress took place in the museum itself. Session

see Congress, pg. 4

Jon McBride, Charlie Walker Elected to ASE-USA Board; Joe Allen to Serve Second Term

In December, 1996, elections were held for the ASE-USA Board of Directors to fill the spots vacated by outgoing directors John Blaha and Jack Lousma. With very few votes separating the candidates, Jon McBride and Charlie Walker were elected and Joe Allen was re-elected to a second term with 76% of the ballots returned. At the first meeting of the new board the directors elected Jon McBride President, Steve Nagel was

elected Vice President, and Joe Allen was reconfirmed as Treasurer.

Among the many issues facing the new board will be preparing for the upcoming 13th Planetary Congress in Costa Rica, ASE-USA participation in the US Space Foundation's National Space Symposium, and the marketing of Collector's Edition congress posters and ASE memorabilia. □

President's Report by Dick Covey

Dick Covey is the outgoing president of ASE-USA. He was succeeded by Jon McBride on February 1, 1997.

When the Association of Space Explorers first came into existence in 1985, one of the dreams of the founders was that American astronauts and Soviet cosmonauts would some day join together in space exploration. International cooperation has always been at the forefront of our activities. But in those early days, ASE members had to deal with a political environment that made joint space endeavors seem a pipe-dream at best. The world changed, however, and when it did, ASE was positioned to help bring the world's two great space-faring nations programs together. We should not discount the significance of ASE sponsored visits of US astronauts to the Soviet Union in 1990 and 1991, more than a year before the first round of government sponsored talks in 1992 led to the cooperative effort that is now called the Space Station Phase 1 Program. Those early trips provided significant insight and facilitated the government contacts that followed. After several years of Russians flying on the Space Shuttle and Americans living aboard the Mir Space Station, 1996 marked a year that should make ASE's founders proud. Americans and Russians aboard the Mir are living, working and exploring space together on a continual basis. The Russians are, for the time being, partners on the

International Space Station. And there is the rub: Having overcome politics, we are now faced with an economic environment that threatens the very existence of the Russian space program and its continuing stature as an ISS partner. Where ASE might have helped international cooperation through changing political times, helping through the changing economics of Russia today is a more daunting task. Let's hope that the critical financial issues currently being addressed will result in continued, not diminished, US-Russian cooperation. This is, after all, one of the reasons we came to be.

After two years, I am stepping down as President of the Board of Directors of ASE-USA. Newly elected board member Jon McBride has been chosen as the 1997 President. Jon just completed a term on the International Executive Committee, including serving as Co-Chair last year. He is well prepared and motivated to lead ASE-USA. With all of our support, I am confident that Jon will successfully continue and enhance the initiatives underway. Charlie Walker, who replaced Jon on the executive committee, also joins the ASE-USA board. Joe Allen has been elected to serve on the board for another three years, as well as Treasurer for 1997. Steve Nagel will serve as Vice-President for 1997, replacing Fred Gregory who continues on the board

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BOARD OF DIRECTORS

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Andy Turnage Editor

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SeaWiFS

by Dr. Mary Cleave

STS 61-B, STS 30

Dr. Mary Cleave flew as a mission specialist on STS 61-B (Nov., 1985) and STS 30 (May, 1989). She is currently Project Manager for the Sea-viewing Wide Field-of-view Sensor (SeaWiFS) project at the NASA/Goddard Space Flight Center in Greenbelt, MD.

The Sea-viewing Wide Field-of-view Sensor (SeaWiFS) Project represents a new way of doing business for NASA. Rather than building, launching, and controlling a satellite to study an important aspect of the Earth's environment, NASA will purchase commercially available data from a privately built and operated satellite and use these data for environmental research.

The SeaStar spacecraft, developed by Orbital Sciences Corporation (OSC), will carry and launch the SeaWiFS instrument into low-earth orbit using an extended Pegasus launch vehicle. The SeaWiFS instrument, including an optical scanner and an electronics module, is designed to provide global observations of ocean

color every 48 hours to determine ocean bio-optical properties. The Goddard Space Flight Center (GSFC) is responsible for production of data products, such as chlorophyll concentrations, and the calibration and validation of those [data] products. These [data] products will benefit fisheries management, delineate ocean circulation and dispersion patterns of sediments and greatly improve our understanding of the global carbon cycle.

SeaWiFS project goals include determining the magnitude and variability of primary production by marine phytoplankton on a global scale and quantifying the ocean's role in the global carbon cycle and other biogeochemical cycles. In addition, the spatial and temporal distributions of phytoplankton blooms and the relationships between these blooms and large-scale ocean physical processes will be quantified.

The SeaWiFS instrument was built by Hughes/Santa Barbara Research Center and will

be the only scientific payload on the SeaStar spacecraft. SeaStar is scheduled for launch to low-Earth orbit from the US West Coast in May, 1997. The Pegasus XL launch vehicle will be released at an altitude of 39,000 feet from a modified Lockheed-Martin L-1011. Following separation, an onboard hydrazine propulsion system will then raise the spacecraft to its final 750km circular noon sun-synchronous orbit, which will be reached one month after launch. Although the SeaStar satellite has a life requirement of five years, OSC has established a ten year life goal.

This launch was originally scheduled for August, 1993, which would have been a two year spacecraft flow. It has taken much longer than expected; this is an example of how doing business in new ways can sometimes bring unexpected (and undesirable) results. More information is available through the SeaWiFS homepage on the World Wide Web at <http://seawifs.gsfc.gov/SEAWIFS.html>.□

**Check Out ASE's WWW Home Page at
<http://explorer.csc.com/ASE/ASE.html>**

Fabian Leads Member Panel at IAF 1996

Two ASE events were held at the International Astronautical Federation (IAF) Congress in Beijing in October, 1996. The first was a panel chaired by John Fabian (USA), comprised of ASE members Gennadi Strekalov (Russia), Charlie Precourt (USA), Franz Viehböck (Austria), Chris Hadfield (Canada), John Bartoe (USA), and Wubbo Ockles (NED), as well as former US astronaut Norm Thagard. The discussion focused on international cooperation in space and the implications of cooperative missions for the International Space Station and future missions to the Moon and Mars. As part of the session, the audience of approximately 300 was introduced to ASE and its mission, goals and objectives.

The second event was a visit by John Fabian, Gennadi Strekalov, Vitaly Sevastionov, Franz Viehböck, Chris Hadfield, and John Bartoe to the Beijing University of Aeronautics and Astronautics, where they spoke to 350 engineering and aviation students on their respective space flight experiences. □

DUES REMINDER

Please remit your dues by March 31 to keep your membership current for 1997.

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chairs Roberta Bondar and Gennadi Strekalov lead the discussion on the benefits of space life sciences research with a brief video of Strekalov's TM-10 flight. Bondar reported on the applicability of space-based studies on ailments such as spinal cord injuries and diseases of the nervous system. Also in this session, Charlie Walker presented a paper on the preparation of biological and medical research materials in orbit. Following the day's activities, congress participants attended a screening of the IMAX film *Blue Planet* before having dinner with corporate and community leaders in the museum's Great Hall of Civilization.

Monday began with a buffet breakfast sponsored by CASI at the Hotel Laurier, where Jon McBride and Vladimir Kovolyonok spoke on behalf of the assembled flyers, and Don Williams showed a brief, animated film of a possible future crewed mission to Mars. Following the breakfast, the delegations traveled to Rideau Hall, the official residence of the Governor-General of Canada, where the official Opening Ceremony of the Congress was held. The Governor-General welcomed the astronauts and cosmonauts to Canada and expressed his appreciation for the dedication and commitment of all the world's flyers in the pursuit of space exploration.

Returning to the Museum of Civilization, the flyers convened the

second working session of the Congress. Discussion centered around the need to consolidate ASE activities through the re-establishment and tasking of the international standing committees. Committee chairs were selected and tasked with organizing their respective committees and preparing mid-term and long-term plans, to be reported on at each mid-year meeting of the executive committee and at each congress. In the evening the delegations were treated to a reception on Parliament Hill followed by dinner at the private residences of Ottawa's business, political, and cultural leaders.

On Tuesday morning, congress participants traveled two hours by bus directly to the Canadian Space Agency near Montreal for the congress Theme Session. Romanian-born Canadian Nicolas Mateesco Matte, a pioneer scholar in the field of space law, delivered the keynote address. Prior to accepting the Crystal Helmet Planetary Award, he reminded the assembled flyers and dignitaries of the importance and efficacy of codifying international standards of conduct and cooperation in outer space. Matte also expressed his admiration for those

cont'd next page

New ASE-USA Life Members

Buzz Aldrin
Dick Covey
Rick Hauck
Susan Helms
Charlie Walker

[flyers] who are "living proof that the impossible could become possible." He also noted his belief that in an everchanging world, the legal profession still has an important role in the development of national and global space activities; he spoke of the need for an "inter-disciplinary and multi-cultural approach to [the] teaching and practice of space exploration." Following the theme session, the flyers and companions took advantage of some free time to visit historic downtown Montreal before departing for a dinner sponsored by CASI at the Bonaventure Hotel.

Wednesday was another full day for the delegates-- returning to CSA in St. Hubert, the third working session of the congress was held featuring a presentation by Gordon Fullerton on the flight characteristics of thrust vector propulsion systems. Mario Runco reported on his recent flight on STS-77, and Chris Hadfield, Steve MacLean and Bob Thirsk discussed Canadian activities in space. Also, a video was shown by Alexei Leonov on his Voskhod 2 spaceflight and EVA. Following a buffet lunch with the Canadian astronauts and the employees of CSA, the flyers attended the official christening of the Canadian Space Agency as the John H. Chapman Space Center.

Concluding the ceremony and visit to Montreal, the assembled astronauts and cosmonauts signed commemorative congress posters and assembled in the futuristic lobby of the CSA for a

group photo. Directly from the space center, the delegations traveled 3 hours by bus to a reception on board Canada's newest frigate, the HMCS Ottawa in Quebec City Harbor; there they were treated to a buffet and a warm welcome by the officers and crew.

Thursday, the last full day of the congress, was devoted almost exclusively to working sessions. Held at Canadian Forces Base Valcartier in Quebec City, the flyers listened to several interesting presentations. Konstantin Feoktistov delivered a highly detailed and technical presentation on the aerospike engine design; Frank Culbertson discussed Phase I and Phase II Shuttle/Mir operations and plans; Koichi Wakata talked about the cultural and language barriers to international crew training and operations and Charlie Precourt discoursed on the implications international cooperation will have on space flight (crew) safety. Precourt also made some specific recommendations for establishing an international body, staffed by current and former astronauts, with safety oversight responsibilities.

Following the working session, the Executive Session of the congress was held; during this session Fred Gregory and Alexei Leonov were elected to the Co-Presidency of the international association, and Miroslaw Hermaszewski, Ulf Merbold, and Charlie Walker were elected to the international executive committee. □

Report, cont'd from pg. 2

but also will serve as Co-Chair of the Executive Committee. The two outgoing board members, Jack Lousma and John Blaha have served us well. Jack always made himself available for our board activities and led our corporate membership growth over the past two years. John's activities were limited because of his training for and flight aboard Mir. But what a great representative of ASE! My personal thanks to both for their support of our goals and objectives.

My primary objectives over the past two years have been to strengthen the financial foundation of our organization and expand its offerings to you, our members. We have not been nearly as successful as I had hoped, but through the committed support of the board, we are on a strong vector in the right direction. A key to future success in these areas is our executive director, Andy Turnage. Andy is still a part time employee, although the hours he puts in are closer to full time. We need to recognize and compensate him as a full time employee as soon as possible. Those of you who have had the chance to deal with Andy know how valuable he has become to ASE-USA.

I have been privileged to serve as the President of ASE-USA . Thanks to all the members, board members, and Andy, who were there helping all the way. □

12th Planetary Congress-Keynote Address

by Dr. Nicolas Mateesco Matte, OC, QC, FRSC *

Assembled Space Explorers,
Dear Friends,

It was only a few days ago, while on a scientific mission to Bucharest, I received the kind invitation to participate in this year's planetary congress, convened by the Association of Space Explorers (ASE).

The choice of Montreal and Ottawa as the sites of the 12th Planetary Congress honors Canada, my adoptive country, as well as its achievements in space, being the third nation in the world to place a satellite in orbit.

It is, indeed, a privilege for me to be with you here today, and I am deeply touched that the ASE has bestowed this prestigious award upon me. My sense of gratitude only grows as I read the list of other past recipients, all pioneers in their field and in their contribution to the ideals of the ASE, that is the development of space science and exploration, the enhancement of education and environmental awareness, and the promotion of international cooperation.

I receive this distinction as trustee of all individuals in this room and around the world who, through their commitment to improved knowledge of the universe and better conditions of life on Earth, have paved the way to the last frontier.

I remember well the days when, as a young attorney, experts in my native Romania and elsewhere used to discourse about what it would take to send objects or people in [to] space, and what rules should be put into place to govern putative space activities, but it took the fearless mission of Yuri Gagarin, and the spectacular events to follow, including the dramatic landing of astronauts Armstrong and Aldrin on the moon, right up to the recently completed flights of astronauts Thirsk, Garneau, and Chris Hadfield and Shannon Lucid, who just returned, to convert such flights of fancy into flights of daring.

In those years, and thereafter, I and other jurist colleagues employed ourselves to putting in place various norms of international conduct in space. This took the form of resolutions of the United Nations General Assembly, as well as treaties and conventions also adopted by the United Nations and opened for ratification by signatory states. Even today, after all these years and all these advances in technology, the Outer Space Treaty of 1967 stands as the magna carta of the space age, embodying fundamental principles, such as I) Space exploration for the benefit of all countries and being the province of all mankind; II) Freedom of exploration and use of space, without national appropriation; III) The interdiction against weapons of mass destruction in space; IV) The safe rescue of astronauts in distress; V) Principles of liability in case of damage caused by space objects; VI) The need for international cooperation in space, and many others.

Naturally, this remarkable and visionary document does not stand alone, and was later followed by several other texts, which together constitute the basic framework of universally applicable rules governing space activities. In the time since, other legal texts have also been adopted, creating intergovernmental organizations such as the European Space Agency, operational service entities like

12th Planetary Congress-Keynote Address

Intelsat and Inmarsat, or putting in place partnerships for the realization of specific projects, as in the case of the International Space Station.

As I look to the future, I am hopeful. I can see the need to refine juridical principles to better fit contemporary circumstances, and the continued relevance of the United Nations which, despite its shortcomings, remains the only effective means to obtain global consensus on issues of universal concern. I also mention the important contribution of the Institute and Centre of Air and Space Law of McGill University here in Montreal, to this day the only institution which grants masters and doctoral degrees in space law and from whose doors have walked many distinguished space law scholars and practitioners.

And, as I contemplate the old maxim *da mihi factum dabo tibi jus*, new facts require new regulations, I continue to believe not only in the importance of the contribution of the legal profession to national or global space activities, but also the clear need for an inter-disciplinary and multi-cultural approach to teaching and practice of space exploration. These are the principles upon which another important organization, the International Space University, was founded. They will serve as important beacons as we embark on the next phase of space exploration, with the advent of the International Space Station.

Dear space explorers, as I prepared these notes, I reflected on the incredible journeys the space explorers assembled here have embarked on. I, too, have been on a few journeys, although not of the same kind! In the course of my young life, I have seen the transition from the dawn of the space age to today, when space activities are more common, although no less spectacular. I have seen the gradual thaw from the Cold War to the lifting of the Iron Curtain, with all its myriad possibilities for enhanced international cooperation. I myself have moved with my family from Romania, which has produced an extraordinary man of courage (astronaut Dorin Prunariu, well known to you all), to a new home in Canada, a nation also well endowed with space explorers. I have seen the age when activities in space were dominated by governments to today, when the private sector is increasingly participating and space services have become part of daily life. All that I have seen, my friends and colleagues, we have seen together, and let me assure you that, although I have never flown into space, I will always be ready to go, should there be a need for an attorney in orbit!

Men and women space explorers, I salute you. Embracing the maxim *per aspera ad astra*, you are living proof that the impossible could become possible. You are our messengers, for you bring with you our ideals of peaceful international cooperation and our hopes for the new millennium. You are our eyes in the beyond, for you bring back to Earth a different perspective on our lovely but fragile planet, thereby conveying important messages about our collective duty to what Tsiolkovsky and Oberth called our cradle. You are educators, a mission I have also felt deeply about in the course of my academic career. You are in our thoughts as you brave danger and gravity, and in the dreams of so many, young and not so young, who would like to see what you see. And when you grieve the loss of your own, we grieve with you, never to forget. You are true pioneers, whom I thank, once again, for this generous award. □

* Dr. Nicolas Matte was the 1997 recipient of ASE's Planetary Award, the Crystal Helmet

12th ASE Planetary Congress
Statement
Quebec City, Canada

Forty-eight astronauts and cosmonauts from twelve countries gathered in Canada from September 28-October 4, 1996 for the 12th Annual Planetary Congress of the Association of Space Explorers. Hosted by the Canadian Space Agency in St. Hubert, technical sessions were held in Ottawa, Montreal, and Quebec City.

Technical sessions included presentations on Life Sciences and biomedical research in space, advanced propulsion technologies, and current international cooperative space operations. The theme of the 12th Congress was "Cooperation in Space: Progress for Humanity." The theme and location of this year's congress was chosen in recognition and support of the continued spirit of cooperation that has sent over 350 citizens of 26 countries into Earth orbit on international missions of peace and exploration.

Considering that the many international cooperative efforts in space, beginning with the Apollo-Soyuz Test Project in 1975 and continuing with the construction of the International Space Station with its 15 partners, have contributed significantly to the advancement of the human condition here on planet Earth, and further,

Recognizing that many of these achievements were made possible by the Outer Space Treaty of 1967; as a result we honor those who have contributed to the promulgation of this historic treaty. Therefore, we

Resolve that Nicolas Mateesco Matte be awarded the Crystal Helmet Planetary Award for his pioneering work in institutionalizing international standards of conduct and cooperation in outer space.

We astronauts and cosmonauts of the world call on all space-faring nations and peoples to participate in the development of international cooperation in space science, technology and operations for the benefit of all humanity and our home, the Earth, as we move forward together into the new millennium.

Adopted this 4th Day of October, 1996

Who's Where...	1997 Shuttle Flights		On the Runway...
<p>Roy Bridges, Jr. named Director of Kennedy Space Center</p> <p>Ken Cameron named Executive Direc- tor of Hughes Training, Inc. Houston, TX</p> <p>Rich Clifford Joins Boeing as Flight Ops Manager (ISS) Houston, TX</p> <p>Bob Crippen named President of Thiokol Aerospace Group Brigham City, UT</p> <p>Ed Gibson named President of Casey Holding, Inc. Orlando, FL</p> <p>Bryan O'Connor named President & CEO of Airship Resources Corporation Arlington, VA</p> <p>Ken Reightler promoted to VP of Science, Engineering, Analysis & Test at Lockheed Martin Space Mission Systems & Services Co. Clear Lake, TX</p>	<p>STS-84 5/15/97 OV 104 PAD: A INC: 51.60 DEG ALT: 160 NM S/MM 06 SPACEHAB-DM 9+1 days ODS</p> <p>Charlie Precourt, CDR Eileen Collins, PLT Michael Foale, MS (up) Carlos Noriega, MS (R) Edward Lu, MS (R) Jean Francois Clervoy, MS Yelena Kondakova, MS Jerry Linenger, MS (down)</p> <p>STS-86 9/19/97 OV 104 PAD: A INC: 51.60 DEG ALT: 160 NM S/MM 07 SPACEHAB-DM EDFT 06 MEEP-M, HMC 9+1 Days OOS</p> <p>Jim Wetherbee, CDR Mike Bloomfield, PLT Scott Parazynski, MS Wendy Lawrence, MS (up) Jean Loup Chretien, MS Vladimir Titov, MS Michael Foale, MS (down)</p>	<p>STS-85 7/17/97 OV 103 PAD: A INC: 57.00 DEG ALT: 160 NM CRISTA-SPAS 02 MFD TAS 01 EH 02 11+1 days RMS</p> <p>Curtis Brown, CDR Jeff Ashby, PLT Jan Davis, MS Robert Curbeam, MS Steven Robinson, MS (R)</p> <p>STS 87 10/9/97 OV 102 PAD: B INC: 28.45 DEG ALT: 160 NM USMP 04 SPTN-201-04 16 Days EDO Pallet RMS</p> <p>Kevin Kregel, CDR Steve Lindsey, PLT Winston Scott, MS Kalpana Chawla, MS (R) Takao Doi, MS (R)</p> <p>STS 88 12/4/97 OV 105 PAD: A INC: 51.60 DEG ALT: 170 NM ISS-01-2A Node 1 [PMA 1, PMA 2] MIGHTYSAT 7+2 Days ODS</p> <p>Robert Cabana, CDR Fred Sturckow, PLT Nancy Currie, MS Jerry Ross, MS James Newman, MS</p>	<p>STS 81 1/12/97 OV 104 PAD: A INC: 51.60 DEG ALT: 160 NM S/MM-05 SPACEHAB-DM 9+1 Days</p> <p>Mike Baker, CDR Brent Jett, PLT John Grunsfield, MS Marsha Ivins, MS Jerry Linenger, MS (up) Jeff Wisoff, MS John Blaha, MS (down)</p> <p>On Orbit...</p> <p>STS-82 2/11/97 OV 103 PAD:A INC: 28.46 DEG ALT: 313 NM HST SM-02 10 Days RMS</p> <p>Ken Bowersox, CDR Scott Horowitz, PLT Mark Lee, PLD CDR Greg Harbaugh, MS Steven Smith, MS Joe Tanner, MS Steven Hawley, MS</p> <p>On the Pad...</p> <p>STS-83 3/27/97 OV 102 PAD:A INC: 28.45 DEG ALT: 160 NM MSL-1 OARE 16 Days EDO Pallet</p> <p>Jim Halsell, CDR Susan Still, PLT Janice Ford, MS Donald Thomas, MS Michael Gernhardt, MS</p>
<i>Bold indicates ASE member</i>			

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