Space Congress Programs

4-27-2004

2004 Forty-First Space Congress Program

Canaveral Council of Technical Societies

Follow this and additional works at: https://commons.erau.edu/space-congress-programs

Scholarly Commons Citation
https://commons.erau.edu/space-congress-programs/40

This Book is brought to you for free and open access by Scholarly Commons. It has been accepted for inclusion in Space Congress Programs by an authorized administrator of Scholarly Commons. For more information, please contact commons@erau.edu.
41st Space Congress

DETERMINATION:
MEETING TODAY'S CHALLENGES,
ENABLING TOMORROW'S VISION

April 27-April 30, 2004

CONFERENCE PROGRAM
Chairman’s Message

On behalf of this year’s organizing committee, we are proud to welcome you to the 41st Space Congress, the industry’s longest running space symposium. This committee, representing all facets of the aerospace community, has come together to continue the tradition of providing a first class forum for speakers, open discussion and the presentation of scientific papers.

This year’s Space Congress theme, Determination: Meeting Today’s Challenges, Enabling Tomorrow’s Vision, is echoed throughout the week, beginning with our opening keynote speaker, Apollo 17 Commander and last man on the moon, Astronaut Gene Cernan. Today’s challenges are addressed by a blue ribbon panel of experts who discuss the Shuttle’s Return to Flight, and top scientists providing in-depth updates on planetary exploration. We will hear from the nation’s leading expert on the Chinese space program, Dr. Joan Johnson Freese. Tomorrow’s vision for the exploration of space is explored by Mars expert, Dr. Robert Zubrin and panelists who discuss destinations for both robotic and human space exploration. EELV program leaders and start-up companies vying for the X-Prize will present the military and commercial side of the space business.

We will honor the legacy of exploration with a special evening event featuring legendary test pilot Chuck Yeager and learn about extreme exploration with Dr. Seth Shostak, Senior Astronomer for SETI.

Although this year’s Space Congress honors many of the traditions associated with this event, there are some departures as well. Most notable is the elimination of the exhibits. Because of the high cost associated with building a temporary structure large enough to house exhibits on site, including them became a financial liability for Space Congress’s sponsoring organization, The Cape Canaveral Council of Technical Societies. We chose instead to focus our resources on programming, bringing in consistently high caliber presenters, panelists and speakers from all facets of the aerospace industry.

With the addition of a second ballroom facility at the Radisson, in future years it may be feasible to once again make exhibits a part of Space Congress.

One of the traditions we are proud to continue is educational outreach. This year’s youth science fair, featuring more than 90 participants from Brevard County, is being held at the Kennedy Space Center Visitor Complex. This move allows us to showcase these extraordinary projects to Space Center guests from around the world. There will also be a special Mars Exploration program for 300 selected middle school students this week. In addition, each of the paper sessions will feature a student presenter.

The exploration and use of space propels humanity forward, and forums such as these play a key role in shaping the future of civil, commercial and DOD space endeavors. It is our hope for you that participating in the 41st Space Congress will be a time of both education and inspiration as we explore the determination that it will take for all of us to meet today’s challenges and enable tomorrow’s vision of a space faring society.

Dan LeBlanc
General Chair
41st Space Congress
General Information

Registration and Check-in

Registration:
Monday, April 26
Noon - 5:00 p.m.
Tuesday, April 27
7:30 a.m. - 5:00 p.m.

Location:
Convention Center lobby.

Registration Office Telephone: (321) 799-4845.

Ticket Pricing:
You may purchase additional tickets or single event tickets anytime during regular conference registration hours.

<table>
<thead>
<tr>
<th>Package</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusive Conference Package (incl. meals)</td>
<td>$250.00</td>
</tr>
<tr>
<td>Single Day Inclusive Package (incl. meals)</td>
<td>$100.00</td>
</tr>
<tr>
<td>Conference Registration (excl. meals)</td>
<td>$140.00</td>
</tr>
<tr>
<td>Tuesday Luncheon</td>
<td>$30.00</td>
</tr>
<tr>
<td>Tuesday Reception</td>
<td>$30.00</td>
</tr>
<tr>
<td>Wednesday Luncheon</td>
<td>$30.00</td>
</tr>
<tr>
<td>Wednesday Reception</td>
<td>$30.00</td>
</tr>
<tr>
<td>Thursday Luncheon</td>
<td>$30.00</td>
</tr>
<tr>
<td>Single Session</td>
<td>$25.00</td>
</tr>
<tr>
<td>Golf (each person)</td>
<td>$50.00</td>
</tr>
</tbody>
</table>

Memorabilia and Books
Memorabilia and books are available this year in the convention center lobby.

Message/Locator Assistance
The Canaveral Council of Technical Societies (CCTS), the sponsoring organization, maintains a message locator desk and message board in the Convention Center for the convenience of Space Congress participants. Registrants who wish to leave lodging and local phone number information can do so by filling out a locator form at the CCTS message/locator desk. The Message Desk direct telephone number is (321) 799-4846.

QUICK REFERENCE CONTACT NUMBERS
Registration (321) 799-4845
Message Service (321) 799-4846
KSC Visitor Complex (321) 449-4444
Youth Science Fair (321) 449-4444
Press Room (321) 799-9771
Radisson Resort Lobby (321) 704-0000

Press Room

Location:
Bermuda Room — off the main lobby of the Radisson Resort at the Port.

Hours:
Tuesday, April 27 — Thursday, April 29
7:30 a.m. — 7:00 p.m.

Direct Telephone: (321) 799-9771

Proceedings
Proceedings will be available online after the close of the 41st Space Congress at www.spacecongress.org.

41st Space Congress Youth Science Fair

Sponsored by

United Space Alliance

Location:
IMAX Exhibition Hall, Kennedy Space Center Visitor Complex
Open to the Public at no charge.

Tickets:
Admission tickets to the Visitor Complex available at registration or at will call windows 1-4 at the Visitor Complex.

Hours:
Tuesday, April 27 9 a.m. - 5:30 p.m.
Wednesday, April 28 9 a.m. - 5:30 p.m.
Thursday, April 29 9 a.m. - 12 noon
Friday, April 30 9 a.m. - 5:30 p.m.
Saturday, May 1 9 a.m. - 4:00 p.m.

Over 90 youth science fair displays and demonstrations will be exhibited. Awards presented on Thursday, April 29, at the "Evening with the Astronauts" event.

Directions from Radisson:
State Road 528 west to I-95 north. Travel approximately 6 miles to Exit #212 (S.R. 407). Head east/north on SR 407 until it dead-ends into SR 405. Turn right (east) on SR 405 and follow the signs for Kennedy Space Center. You will travel approximately 9 miles on SR 405. The KSC Visitor Center will be on your right.

For information call (321) 452-2121 or email kscinfo@dncinc.com.
General Information

Canaveral Council of Technical Societies (CCTS)
Member Societies
The Air Force Association
American Institute of Aeronautics & Astronautics
American Institute of Chemical Engineers
American Meteorological Association
American Society of Civil Engineers
American Society of Heating, Refrigeration and Air Conditioning Engineers
American Society for Industrial Security
American Society of Mechanical Engineers
American Society for Quality
American Society for Safety Engineers
American Society for Training and Development
Armed Forces Communications and Electronics Association
Association for the Advancement of Cost Engineering International
Florida Engineering Society
Florida Space Business Roundtable
Human Factors & Ergonomics Society
Institute of Electrical and Electronic Engineers, Canaveral Section
Institute of Electrical and Electronic Engineers, Melbourne Section
International Society on System Engineering, Space Coast Chapter
International Society of Logistics Engineers, Space Coast Chapter
Missile, Space & Range Pioneers, Inc.
NASA Alumni League
National Contract Management Association
National Space Club – Florida Committee
Project Management Institute – Space Coast
Society of American Military Engineers
Society of Manufacturing Engineers
Society of Technical Communications, Space Tech Chapter
Society of Women Engineers

Associate Members
Association for Quality and Participation
Brevard Council of Teachers and Mathematics
National Management Association, Florida Space Coast Council
USAF Space & Missile Museum Foundation

Advisor Organizations
Brevard Community College
Embry-Riddle Aeronautical University
Florida Institute of Technology
Florida Solar Energy Center
Florida Space Research Center
University of Central Florida

41st Space Congress

MONDAY, APRIL 26
12:00 noon - 5:00 p.m. Registration

TUESDAY, APRIL 27
7:00 a.m. - 8:30 p.m. Registration
8:30 a.m. - 9:00 a.m. Opening Ceremony
Free to the Public
Salon II & III

Join us as the 41st Space Congress is officially opened by Brig. Gen. J. Gregory Pavlovich
Commander, 45th Space Wing and Director, Eastern Range, P.A.F.B., and James W. Kennedy,
Director, Kennedy Space Center, NASA.

9:00 a.m. - 9:45 a.m.
Keynote Address – Free to the Public
Salon II & III
Speaker: Captain Gene Ceman,
Gemini and Apollo Astronaut

Eugene A. Ceman (Captain, USN, Ret.) and retired NASA Astronaut, is a graduate of Purdue University with a Bachelor of Science degree in Electrical Engineering, and a Master of Science degree in Aeronautical Engineering from the U.S. Naval Postgraduate School. During his commission to Attack Squadrons 26 and 112 at Miramar, California Naval Air Station, and Naval Postgraduate School, Ceman logged more than 5000 hours flying time with more than 4800 hours in jet aircraft and over 200 jet aircraft carrier landings.
Captain Ceman was one of fourteen astronauts selected by NASA in October 1963. Ceman was the second American to walk in space, logging two hours and ten minutes outside the spacecraft in extravehicular activities. He was also the spacecraft commander of Apollo 17—the last scheduled manned mission to the moon for the United States, which established several new records for manned space flight at the time. Captain Ceman has logged 566 hours and 15 minutes in space, of which more than 73 hours were spent on the surface of the moon.

In 1976, Captain Ceman retired after over 20 years with the U.S. Navy, and concurrently terminated his formal association with NASA. He began The Ceman Corporation in 1981 to pursue management and consultant interests in the energy, aerospace, and other related industries. He has been actively involved as a co-an anchor on ABC-TV's presentations of the flight of the shuttle, and recently became Chairman of the Board of Johnson Engineering Corporation who provides NASA with Flight Crew Systems Development.

9:45 a.m. - 10:00 a.m. Refreshment Break 1 East Foyer • Main Foyer

10:00 a.m. - 11:30 a.m. Panel Session I
The Future of Space Exploration
Salon II & III
Panel Chair: John Zarrella, CNN Correspondent

John Zarrella is CNN's Miami correspondent, named to this position when the Miami bureau was established in December 1983. John is responsible for CNN's coverage of news in Florida and the Caribbean. Zarrella also is a principal correspondent for CNN's coverage of the U.S. space program, covering such events as John Glenn's 1998 return to space, the Mars Pathfinder mission and numerous space shuttle launches. John Zarrella was the CNN network correspondent on site when the 1986 Challenger shuttle disaster occurred. He also has served as a correspondent on major news events for the network such as the 1995 bombing of the Murrah Federal Building in Oklahoma City, the 1985 hijacking of TWA flight 847 in Beirut, the trial of Manuel Noriega and the Mexico City earthquake in 1985. Zarrella joined CNN in November 1981 as executive producer at CNN world headquarters in Atlanta where he was responsible for the overall look and content of all hard newscasts. John graduated from St. Thomas University, formerly Biscayne College, majoring in English.

Panelists:
1.) Doug Cooke, Deputy Associate Administrator, Office of Exploration Systems, NASA
2.) Gary Martin, Space Architect, NASA
3.) John Karas, Vice President of Space Exploration, Lockheed-Martin
4.) Dr. Harley Thronson, Director of Technology, Office of Space Science, NASA
5.) Michael Lounge, Director of Business Development for Exploration Systems, The Boeing Company

12:00 noon - 1:00 p.m. Sponsored by Luncheon
China's Foray into Space
Salon II & III
Speaker: Dr. Joan Johnson-Freese, Chinese Space Initiative Expert and Chair, National Security Decision Making Department, Naval War College

Dr. Johnson-Freese is the chair of the Naval War College's National Security Decision Making Department. Since earning a doctorate at Kent State University, she has served as Chair of the Transnational Issues at the Asia-Pacific Center for Security Studies, in Honolulu; taught at the Air War College at Maxwell Air Force Base, Alabama; been a visiting fellow at the Institute of Space and Aeronautical Science in Sagamihara, Japan; and directed the Center for Space Policy and Law in Orlando, Florida. Her recent books and monographs include The Viability of U.S. Anti-Satellite (ASAT) Policy: Moving toward Space Control (2000), The Chinese Space Program: A Mystery within a Maze (1998), and Space, the Dormant Frontier: Changing the Paradigm for the 21st Century (1997).

1:00 p.m. - 2:00 p.m. Sponsored by Book Signing and Refreshment Break

Sponsored by Webster UNIVERSITY
2:00 p.m. - 3:15 p.m. Sponsored by ATK
Panel Session II
Space Shuttle Return to Flight and International Space Station Status
Salon II & III
Panel Chair: Major General Michael Kostelnik, Deputy Associate Administrator for Space Station and Shuttle Programs, NASA

Major General Michael C. Kostelnik is NASA's Deputy Associate Administrator for International Space Station and Space Shuttle Programs. Previously, he was commander, Air Armament Center, Air Force Material Command, with headquarters at Eglin Air Force Base, Fla.

The general was commissioned through the Air Force ROTC program in 1969 upon graduation from Texas A&M University. He earned a master's degree from the University of Iowa and completed postgraduate doctoral course work before entering active duty in 1970. A command pilot, he has logged 3,000-plus flying hours in more than 40 aircraft types. He was the Air Staff requirements officer for the Low Altitude Navigation and Targeting Infrared for Night system, and the program element monitor for the F-15E and F-22. He later served as the commandant of the USAF Test Pilot School. A certified acquisition professional, he has served as deputy director of the F-16 Systems Program Office and as program director for the Short-Range Attack Missile II, the Short-Range Attack Missile-Tactical, and the Aircraft Systems Program Office. He also served as vice-commander of the Warner-Robins Air Logistics Center, and later, of Air Force Material Command.

Panelists:
1.) William W. Parsons, Manager, Space Shuttle Program, NASA
2.) Kathy Laurini, Manager, International Space Station Payloads Office, NASA
3.) James W. Kennedy, Director, Kennedy Space Center, NASA
4.) Stephen S. Oswald, Vice President and Program Manager, Space Shuttle Program, The Boeing Company
5.) Michael J. McCulley, President and CEO, United Space Alliance

3:15 p.m. - 3:30 p.m. Sponsored by Northrop Grumman
Refreshment Break 3
East Foyer • Main Foyer

3:30 p.m. - 5:00 p.m. Sponsored by ATK
Panel Session III
Space Science and the Vision for Space Exploration
Salon II & III
Panel Chair: Dr. Harley Thronson, Director of Technology, Office of Space Science, NASA

Dr. Harley Thronson is Director of Technology in the Office of Space Science (OSS) at NASA Headquarters. His responsibilities include selection and development of advanced technologies, which will significantly enhance future space science missions such as future large astronomical observatories and robotic missions to Mars, other planets, and the Moon. He also coordinates technology investment with other NASA enterprises and agencies.

His previous duties at NASA have included serving as the Acting Science Program Director for the Astronomical Search for Origins and Planetary Systems. He has also served as the senior scientist for the Hubble Space Telescope (HST), the Spitzer Space Telescope (SIRTF), and the James Webb Space Telescope (JWST). Over the past few years, he has served as senior scientist for the Decade Planning Team, the NASA Exploration Team, and a number of other long-range planning activities.

Dr. Thronson received his Ph.D. in astrophysics in 1978 from the University of Chicago and has been a faculty member or on the senior staff of the Universities of Arizona and Wyoming, and the Royal Observatory, Edinburgh.

Panelists:
1.) Dr. Madhulika Guhathakurta, Living with a Star Program Scientist, NASA
2.) Dr. Don Kniffen, Beyond Einstein Program Scientist, NASA
3.) Dr. Eric Smith, James Webb Space Telescope Program Scientist, NASA
4.) Dr. James Garvin, Mars Program Scientist, NASA
5:30 p.m. - 8:00 p.m.
Reception - The Search for Extraterrestrial Intelligence (SETI)
Salon I, II, III
Dr. Seth Shostak, Senior Astronomer, SETI Institute

Seth Shostak, Ph.D., received his doctorate from the California Institute of Technology. Dr. Shostak has spent more than a quarter-century studying the dynamics of galaxies and the possibility of extraterrestrial life. A distinguished lecturer for the American Institute of Aeronautics and Astronautics, Dr. Shostak speaks to popular and academic audiences about fifty times a year. He appears frequently on radio and television, has written a popular book on the subject of extraterrestrial life “Sharing the Universe” and is currently co-authoring an undergraduate textbook on the same subject. For the past eight years, he has been on the staff of the highly respected SETI Institute in Mountain View, California, where he continues to participate in landmark research on the Search for Extraterrestrial Intelligence.

4:00 p.m. - 6:00 p.m.
Youth Science Fair Registration
Kennedy Space Center Visitor Complex, IMAX Exhibition Hall

WEDNESDAY, APRIL 28

8:30 a.m. - 10:00 a.m.
Panel Session IV
Launch Vehicle Options for Exploration
Salon II & III
Panel Chair: Lt. Gen. Forrest McCartney, Former Director, Kennedy Space Center, Former Vice President, Launch Operation, Lockheed-Martin

Lt. General Forrest McCartney was Vice President of Launch Operations for Lockheed-Martin with responsibility for consolidated operations at Cape Canaveral Air Station in Florida, and Vandenberg Air Force Base in California. A retired U. S. Air Force Lt. General, and former aerospace consultant with several aerospace companies, he was also director of NASA's Kennedy Space Center (KSC) in Florida from 1986 through 1991. Before his appointment at KSC, McCartney was the commander of Air Force Space Division in Los Angeles, California. McCartney is a member of the board of trustees for the Florida Institute of Technology, Melbourne. He received NASA's Distinguished Service Medal, and is one of five recipients of the National Space Club's Goddard Memorial Trophy presented in March, 1989. In 1991, he received the AIAA von Braun Award for Excellence in Space Program Management and NASA's Presidential Rank Award. In 1992, he received the Debus award from the Space Club in Florida, and in 1993, he was the sole recipient of the Goddard Trophy.

Panelists:
1.) Stephen M. Francois, Manager, Launch Services Program, NASA
2.) Michael Gass, Vice President, Space Transportation, Lockheed Martin
3.) Daniel J. Collins, Vice President and Delta Program Manager, The Boeing Company
4.) Lt. Col. Sterling Dugger, Operations Officer, 5th Space Launch Squadron
5.) Mike Kahn, Vice President of Reusable Solid Rocket Motor Program, ATK Thiokol
10:00 a.m. - 10:15 a.m.
Refreshment Break 4
East Foyer • Main Foyer

10:15 a.m. - 11:30 a.m.
Panel Session V
Commercial Use of Spaceport
Salon II & III

Panel Chair: Captain Winston Scott (USN, Ret.), Shuttle Astronaut, Executive Director, Florida Space Authority

Dr. Scott has been involved in aerospace, aviation and education for over 30 years. He entered the Naval Aviation Officer Candidate School in 1972, and was designated a Naval Aviator in 1974. Scott accumulated more than 4,000 hours of flight time in 20 different military and civilian aircraft and more than 200 shipboard landings in his career.

In 1992, Scott was selected to be a NASA Astronaut at the Lyndon B. Johnson Space Center in Houston, TX. He was a mission specialist on STS-72 Endeavor (1996) and STS-87 Columbia (1997). After his service as an Astronaut, Scott was a Professor with the Florida Agriculture and Mechanical University (FAMU); Florida State University (FSU) College of Engineering; Associate Instructor, Electrical Engineering at Florida Community College; and Florida A & M University.

Now serving as Executive Director of the Florida Space Authority, Scott is responsible for the statewide development of space-related industrial, economic and educational initiatives for Florida Space Authority. He represents the State's interests in the development of space policies and programs and advises the Governor and Lt. Governor on all civil, commercial and military space matters.

Panelists:
1.) Dr. Peter Diamandis, Chairman, X-Prize Foundation
2.) Peter Taddie, Chief Safety Engineer, 45th Space Wing, United States Air Force
3.) Don Fagan, Vice President of Launch Operations Australia, Kistler Corporation
4.) Jim Toole, Fundamental Technologies Systems, X-Prize participant
5.) Pablo DeLeon, DeLeon and Associates, X-Prize participant

12:00 noon - 1:00 p.m.
Luncheon
Military Space Policy
Salon II & III

Mr. Robert S. Dickman, (Maj. General, USAF, Retired), Deputy for Military Space, Office of the Undersecretary of the Air Force

Major General Robert S. Dickman was born in Brooklyn, N.Y., and grew up in New Jersey. He entered the Air Force in 1966 as a distinguished graduate of the Reserve Officer Training Corps program at Union College. He has had a varied career in space operations, and in acquisition and planning, including headquarters assignments at the Pentagon, North American Aerospace Defense Command, U.S. Space Command and Air Force Space Command.

He served in the Air Force Office of Scientific Research and in the Air Force Satellite Communications System Program Office. The general also has held the positions of first vice commander of the 2nd (now 50th) Space Wing, commander of the 45th Space Wing, director of the Eastern Range at Patrick Air Force Base, Fla., and as the Department of Defense space architect.

1:30 p.m. - 5:00 p.m.
Paper Session I
Spaceport and Range Technologies

A. Technologies for Future Spaceports and Ranges
Salon I

Co-Chair: Cris Guidi, NASA-KSC
Co-Chair: Major Jennifer Draper, USAF
Session Organizer: Lt. Col. Rembert N. Schofield, USAF

1. Space-Based Telemetry And Range Safety Flight Demonstration 1. Erik Densen, NASA-KSC.
3. Use of Neural Networks as a Range Safety Decision Support System. Gerald Williams, ENSCO, Inc.


B. Technology Solutions Delivered to Operational Space Programs.
Jamaica Room

Co-Chair: Dr. Robert Youngquist, NASA-KSC
Co-Chair: Dr. Pedro Medelius, ASRC Aerospace

1. A Decade of Weather Technology Delivered to America's Space Program by the Applied Meteorology Unit. Francis J. Merceret, Ph.D., NASA-KSC and William Bauman, Ph.D., ENSCO, Inc.


3. An Operational System for Launch Area Hazard Prediction and Mitigation. Allan V. Dianic, ENSCO, Inc.


C. Commercial Use of Spaceport Technologies
Martinique Room

Co-Chair: David Makufka, NASA-KSC
Co-Chair: Dan Winfield, Research Triangle Institute
Session Organizer: Joe Robles, ASRC Aerospace

1. PolyOne's Corrosion Control and Anti-Static Coatings. Chris Greer, PolyOne.


8. Gossypium hirsutum: Cottonseed's Cancer Fighter. Elisa McQueen and Joe Scott, Satellite High School

2:00 p.m. - 4:00 p.m. Refreshment Break 5 Main Foyer

Sponsored by NORTHROP GRUMMAN Information Technology

4:30 p.m. - 5:00 p.m. Space Congress Awards Presentation
Brigadier General Charles E. (Chuck) Yeager was the director of Aerospace Safety for the Air Force Inspection and Safety Center, a separate operating agency located at Norton Air Force Base, San Bernardino, CA. He enlisted in the Army Air Corps in 1941, was accepted for pilot training under the flying sergeant program in 1942, and received his pilot wings and appointment as a flight officer in 1943 at Luke Field, AZ. During World War II, General Yeager distinguished himself in aerial combat over France and Germany during the years 1943-1945 by shooting down 13 enemy aircraft, five on one mission, including one of Germany's first jet fighters. On March 5, 1944, he was shot down over German-occupied France but escaped capture when elements of the French Maquis helped him to reach the safety of the Spanish border. General Yeager made world history on Oct. 14, 1947, when he became the first man to fly faster than the speed of sound, during his nine-year assignment as the nation's leading test pilot. He also became the first man to fly more than twice the speed of sound. In July 1966, he assumed command of the 405th Fighter Wing at Clark Air Base, Republic of the Philippines. While commander of the 405th Fighter Wing he flew 127 missions in South Vietnam. General Yeager assumed command of the 4th Tactical Fighter Wing at Seymour Johnson Air Force Base, N.C., in 1968 and went with the wing to Korea during the Pueblo crisis. In 1969, he became vice commander, Seventeenth Air Force, with headquarters at Ramstein Air Base, Germany. In 1971, General Yeager assumed duties as United States defense representative to Pakistan.

Elliot G. Pulham was named President & CEO of the Space Foundation in 2001. Previously, Pulham had been Executive Vice President, leading the Space Foundation's public affairs, customer relations, corporate development, communications and marketing teams. Prior to joining the Foundation, Elliot was senior manager of public relations, employee communication and advertising for The Boeing Company. His leadership...
of the national public affairs team supporting the International Space Station program earned him the coveted Silver Anvil Award from the Public Relations Society of America - the profession's highest honor. In May 2003, the Rotary National Awards for Space Achievement Foundation presented Elliot with the Space Communicator Award, an honor he now shares with legendary CBS News reporter Walter Cronkite and CNN News Anchor Miles O'Brien. From 1995-97, he was deputy chairman, then chairman, of the Space Awareness Alliance - a coalition of 30 corporations and non-profit organizations conducting national public affairs activities on behalf of America's space programs.

Panelists:
1.) Dr. George T. Whitesides, Executive Director, National Space Society
2.) Dr. Andrew Chaikin, Author and Lecturer
3.) Al Worden, Apollo Astronaut
4.) Dennis Wingo, President of SkyCorp.

12 noon - 1:30 p.m. Luncheon
The Case for Mars
Salon II & III
Dr. Robert Zubrin, President, The Mars Society

Robert Zubrin holds masters degrees in Aeronautics and Astronautics and a doctorate degree in Nuclear Engineering. He is the inventor of several unique concepts for space propulsion and exploration, the author of over 100 published technical and non-technical papers in the field, as well the books "The Case for Mars: The Plan to Settle the Red Planet and Why We Must" (Simon and Schuster, 1996), "Entering Space: Creating a Spacefaring Civilization"

(Tarcher-Putnam, 1999) and "First Landing" (Ace Putnam, 2001). As an engineer at Martin Marietta (now Lockheed-Martin), he co-developed the "Mars Direct" plan for affordable manned Mars Missions. He is now president of his own space R&D company, Pioneer Astronautics, and he is a Fellow of the British Interplanetary Society. Most recently, he founded the Mars Society; an international organization dedicated to furthering the exploration and settlement of Mars by both public and private means. Prior to his work in astronautics, Dr. Zubrin was employed in areas of thermonuclear fusion research, nuclear engineering, radiation protection, and as a high school science teacher.
B. Strategies, Concepts and Technical Challenges of Human Exploration Beyond Low Earth Orbit

Jamaica Room

Co-Chair: Maria D. Littlefield, NASA-KSC
Co-Chair: William E. Larson, NASA-KSC
Session Organizer: Cynthia Kelley, All Points Logistics

1. The Moon: A New Destination for America. Paul D. Spudis, Ph.D., JHU/APL.
2. Progress Toward Electrostatic Radiation Shielding of Interplanetary Spacecraft. Phil Metzger, NASA-KSC.
8. Preventing conformational changes of glycoprotein 41 in HIV-1 which mitigate CD4+T cell binding. Frank Selb, Astronaut High School.

C. University Research for Future Spaceport Applications

Martinique Room

Co-Chair: Dr. Sam Durrance, Florida Space Research Institute
Co-Chair: Mike O'Neal, NASA-KSC
Session Organizer: Carol M. Moore, NASA-KSC


2:00 p.m. - 4:00 p.m.  Sponsored by
Refreshment Break 7  NORTHROP GRUMMAN
Main Foyer

4:00 p.m. - 8:00 p.m.
ASRC Reception
Poolside, Radisson Resort at the Port

7:00 p.m. - 8:30 p.m.  Sponsored by
An Evening with the Astronauts and Science Fair Awards Ceremony
Free to the Public
Kurt H. Debus Conference Facility – Kennedy Space Center Visitor Complex

Gemini and Apollo Astronaut James A. Lovell, (Capt., USN, Ret.); Mercury, Gemini and Apollo Astronaut Wally Schirra, (Capt., USN, Ret.); Apollo Astronaut Al Worden and others.
9:00 a.m. - Noon.
Youth Science Fair - Projects open to the public.
Kennedy Space Center Visitor Complex, IMAX Exhibition Hall

FRIDAY, APRIL 30

8:30 a.m.
Tee-Off for Space Congress Golf Tournament
Cocoa Beach Country Club

10:00 a.m. - 12:30 p.m.
Educational Program for Invited Students
Kennedy Space Center Visitor Complex
Universe Theater
Students will participate in an egg-drop Mars rover activity.

6:30 p.m. - 8:30 p.m.
Missile, Space and Range Pioneers Annual Banquet

9:00 a.m. - 5:30 p.m.
Science Fair - Projects open to public viewing
Kennedy Space Center Visitor Complex, IMAX Exhibition Hall

Acknowledgements

The 41st Space Congress gratefully acknowledges the special support of the following organizations:

Air Force 45th Space Wing
Artie Slope Research Company
ATK Thiokol
The Boeing Company
Best Western Cocoa Beach
Brevard Business News
Brevard County School Board
Brevard Technical Journal
Brevard Community College
Canaveral Council of Technical Societies
Canaveral Port Authority
Cocoa Beach Golf Course
Computer Sciences Raytheon
Days Inn/Best Western
Delaware North Companies
Dynamac Corporation
Florida Space Authority
Florida Today
Jacobs Sverdrup
L-3 Communications
Lockheed Martin
NASA Goddard Space Flight Center
NASA Headquarters
NASA Johnson Space Center
NASA Kennedy Space Center
NASA Langley Research Center
Northrop Grumman
Patrick AFB Honor Guard
Radisson Resort at the Port
Space Gateway Support
Space Port News
Space News
TRDA
United Space Alliance
Webster University
### 41st SPACE CONGRESS COMMITTEE

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chair</td>
<td>Dan LeBlanc</td>
<td>Delaware North Companies</td>
</tr>
<tr>
<td>Vice Chair</td>
<td>Lisa Malone</td>
<td>NASA</td>
</tr>
<tr>
<td>Assistant to General Chair</td>
<td>Debbie Land</td>
<td>Delaware North Companies</td>
</tr>
<tr>
<td>Special Assistant to General Chair</td>
<td>Jim Banke</td>
<td>Space Foundation</td>
</tr>
<tr>
<td>Assistant to Vice Chair</td>
<td>Bruce Hevey</td>
<td>NASA</td>
</tr>
<tr>
<td>DoD Chair</td>
<td>Michael Bauer</td>
<td>Cape Canaveral Air Force Station</td>
</tr>
<tr>
<td>CCTS Chair</td>
<td>Mary Sharpe</td>
<td>All Points Logistics</td>
</tr>
<tr>
<td>CCTS Advisor</td>
<td>Walter Koenig</td>
<td>Prospective Computer Analysts</td>
</tr>
<tr>
<td>CCTS Financial Chair</td>
<td>Jim Johnson</td>
<td>Aeros Corporation</td>
</tr>
<tr>
<td>Program Chair</td>
<td>Jack Fox</td>
<td>NASA</td>
</tr>
<tr>
<td>Publicity Chair</td>
<td>Amelia Woodbridge</td>
<td>Space Coast Marketing</td>
</tr>
<tr>
<td>Technical Papers Chair</td>
<td>Felix A. Soto Toro</td>
<td>NASA</td>
</tr>
<tr>
<td>Local Support Co-Chair</td>
<td>Cheryl Ford</td>
<td>NASA</td>
</tr>
<tr>
<td>Local Support Co-Chair</td>
<td>Scott Lueders</td>
<td>Delaware North Companies</td>
</tr>
<tr>
<td>Local Hospitality Chair</td>
<td>David Stanley</td>
<td>Command Technologies</td>
</tr>
<tr>
<td>Registration Chair</td>
<td>Bill Hoskins</td>
<td>Retired</td>
</tr>
<tr>
<td>Registration Co-Chair</td>
<td>Jackie Hoskins</td>
<td>Retired</td>
</tr>
<tr>
<td>Science Fair Chair</td>
<td>Ginger Davis</td>
<td>Brevard School Board</td>
</tr>
<tr>
<td>Youth Education Program Chair</td>
<td>Bill Specht</td>
<td>Delaware North Companies</td>
</tr>
<tr>
<td>Publications Chair</td>
<td>Bennett Wight, Richard Beard</td>
<td>InDyne</td>
</tr>
<tr>
<td>Golf Tournament Chair</td>
<td>Lisa Ulbricht</td>
<td>United Space Alliance</td>
</tr>
<tr>
<td>WebSite Chair</td>
<td>Dianne Wood</td>
<td>Florida Solar Energy Center</td>
</tr>
</tbody>
</table>
CCTS is a nonprofit organization founded in 1960 whose mission is to bring together representatives of the Brevard County area technical societies to discuss and coordinate activities of the technical, scientific, engineering and professional organizations on Florida’s East Coast. CCTS uses Space Congress proceeds to present annual achievement and technical awards, conduct an annual Career Night to expose local students to scientific, engineering and related careers, and sponsor or support many local educational programs conducted by schools and groups in the Space Coast area. CCTS also hosts Space Flight Awareness receptions and joins with the Florida Engineering Society to host the annual Engineers Week Banquet.

Sponsored by the following companies:

[Image of sponsors logos]

Dynamac Corporation • Northrop Grumman
Webster University • L-3 Communications
Canaveral Port Authority • The Best Western Cocoa Beach
Arctic Slope Research Company