

## Chairman's Message

"Countdown to the Millennium" is a phrase that is bound to become a familiar one in the coming months, but perhaps nowhere is the dawn of a new age being felt more strongly than in the space industry. Which is why we chose this as our theme for the 36th annual Space Congress.

As we approach the millennium, space is opening up to us in myriad of ways we could not have imagined just a few years ago. We've successfully launched the first components of the International Space Station, the most ambitious program in the history of manned space flight. Ground has been broken at the Cape for facilities to accommodate the Air Force's Evolved Expendable Launch Vehicles. The next two years will see the debut of a host of commercially driven Reuseable Launch Vehicles. Space Congress will address many of the issues surrounding these monumental projects and their effects on the commercial, military, scientific, and educational arenas.

Among the topics that will be addressed through panel and paper sessions will be the push to Mars and beyond. The ambitious launches of Mars Polar Lander and Mars Climate Orbiter will demonstrate our ability to reach a new plateau of unmanned planetary exploration. International cooperation in human space flight will also be discussed in a number of sessions.

Commercial access to space is topic of sessions titled "Military Technology Transfer", "Future Planning for Commercial Space Activities", and "Space Access in a Global Market".

The military's changing role in space will also be addressed, along with the advances from military space activities and their applicability to nontraditional uses.

One of the primary focuses of Space Congress has always been education. Experts from the field of education will present their findings on the education of the space workforce beyond 2000, and take a look at education's contribution to international space efforts.

As we have in the realm of space exploration, the committee members of the 36th Space Congress have broken some new ground ourselves. For the first time, virtually all Space Congress activities are being held under one roof. Further, we have strengthened the focus of education by incorporating the science fair into the regular exhibit hall. We are also giving students of all ages more access to paper and panel sessions, exhibits and the popular "Meet the Astronauts" session.

On behalf of the entire Space Congress committee, I welcome you to the 36th annual Space Congress as we began our "Countdown to the Millennium".



**Rick Abramson**  
General Chairman  
36th Space Congress

### Registration

Headquarters for the **Thirty-Sixth Space Congress** is the Radisson Resort at the Port, Bonaire Room, located in the convention center. There you may pick up your registration packages and other Space Congress materials including copies of the Proceedings, tickets for Panel/Paper sessions, exhibit reception, luncheons and the banquet. Space Congress memorabilia will be available in the lobby of the Convention Center of the Radisson Resort at the Port. Registration will be open from 12:00 - 5:00 p.m. on Monday April 26; 7:00 a.m. - 5:00 p.m. from Tuesday through Thursday and 7:00 a.m. - 12:00 on Friday. Fill out the form on the reverse side of this brochure to pre-register by mail, FAX or E-Mail. Your registration will be confirmed by return mail. Register early to assure banquet tickets. Requests for refunds will not be honored after April 12, 1999. ALL EVENTS EXCEPT THE BANQUET WILL BE HELD AT THE RADISSON RESORT AT THE PORT. THE BANQUET WILL BE HELD AT THE NASA VISITOR COMPLEX SATURN V FACILITY.

### Transportation

Because this year's Congress is being held in just one location. The Radisson Resort, no transportation between the Congress and other local hotels is planned. If this affects your planning for a rental car, you should make arrangements accordingly. Limited courtesy van transportation may be provided by other hotels, but you should confirm the availability of such transportation with the hotel you plan to use. Bus transportation from the Radisson Resort to the KSC Saturn V Facility will be provided for the Thursday night banquet.

### Exhibits

The exhibit hall will feature displays and demonstrations from over 60 exhibitors. It will include an exhibit showcasing the International Space Station, computer graphics demonstration, and other aerospace related exhibits. The Exhibit Halls will be open to the public in the Radisson Resort at the Port on the following schedules: Tuesday - 10:00 a.m. to 5:00 p.m.; Wednesday - 10:00 a.m. to 7:00 p.m.; and Thursday - 10:00 a.m. to 3:00 p.m. Space Congress memorabilia is available for purchase in the Convention Center Lobby. Admission tickets are available at the Registration Desk for the Tuesday Exhibit Reception to be held from 6:00 - 8:00 p.m.

### Youth Science Fair

Regional Youth Science Fair displays and demonstrations will be open to the public Tuesday through Thursday, in the Radisson Convention Center Exhibit Hall. Exhibits will be judged and awards presented on Wednesday evening, April 28, at the beginning of the "Meet the Astronauts" panel session.

### Student Discount

Students may attend panel or paper sessions at no charge. Students must, however, check in at the Registration Desk to pick up free admission tickets with the presentation of any student ID.

### Sponsor

The **Thirty-Sixth Space Congress** is sponsored by the Canaveral Council of Technical Societies (CCTS). The council is composed of the Cape Canaveral area affiliates of 31 national, technical, and professional societies and an advisory group. Included in the advisory group are Brevard Community College, Embry-Riddle Aeronautical University, Florida Tech, the Florida Solar Energy Center, and The University of Central Florida. A CCTS Information Desk will be located in the registration area in the Bonaire Room just off of the Convention Center Lobby at the Radisson. Additional information about CCTS is available at <http://www.spacecoast.net/spacecongress/ccts>.

### CCTS Member Societies:

AACE International  
Air Force Association (Cape Canaveral Chapter)  
American Institute of Aeronautics & Astronautics  
American Institute of Chemical Engineers  
American Meteorological Society  
American Society of Civil Engineers  
American Society of Heating, Refrig. & A/C Engineers  
American Society for Industrial Security  
American Society of Mechanical Engineers  
American Society for Quality  
American Society of Safety Engineers  
American Society for Training and Development  
Armed Forces Communications and Electronics Association  
Florida Engineering Society  
Human Factors and Ergonomics Society  
Institute of Electrical & Electronic Engineers (Melbourne and Canaveral Sections)

International Council On Systems Engineering  
Missile, Space & Range Pioneers, Inc.  
NASA Alumni League  
National Contract Management Association  
National Space Club-Florida Committee  
Society for Technical Communication  
Society of American Military Engineers  
Society of Logistics Engineers  
Society of Manufacturing Engineers  
Society of Women Engineers  
Associate Members:  
Association for Quality and Participation  
Brevard Council of Teachers of Mathematics  
National Management Association-Florida Space Coast Council  
USAF Space & Missile Museum Foundation

### Pioneers' Banquet

The Missile, Space and Range Pioneers' cocktail party and banquet at the Patrick Air Force Base Officers' Club will commence at 6:30 p.m. on Friday evening, April 30, following the **Thirty-Sixth Space Congress**. The Pioneers is a non-profit organization founded for the purpose of furthering interest in our nation's space programs and providing an opportunity for people associated with missile, space and range activities to meet socially and renew acquaintances. A Pioneers Information and Memorabilia Desk will be located in the Radisson Convention Center Lobby. For information write: Pioneers, P.O. Box 5227, Patrick Air Force Base, FL 32925-1227.

### Parking

Adequate parking is available at the Radisson Resort at the Port, where the opening ceremony, Paper and Panel Sessions, Luncheons, Exhibits, and Science Fair will be held.

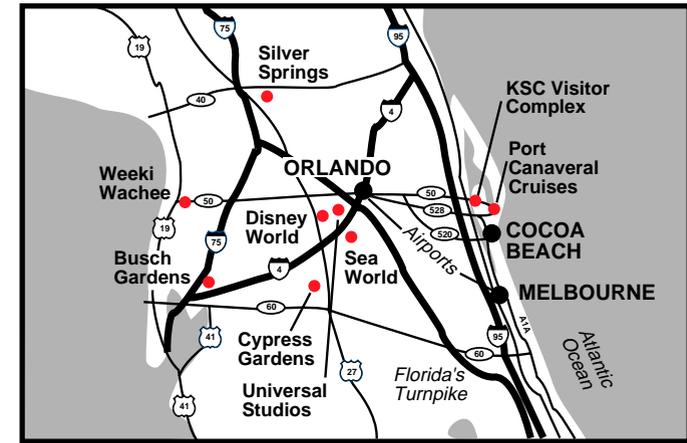
### Airlines

Major airlines serving the Cape Canaveral, Cocoa Beach area through the **Melbourne International Airport** include Delta and ComAir. Major airlines serving the Cocoa Beach area through the **Orlando International Airport** include: American, British Airways, ComAir, Continental, Delta, Martin Air, Northwest, TWA, United, USAir, Air Jamaica, America West, American Trans Air, Iceland Air, Kiwi, LTU, Paradise Island, Spirit, and Virgin Atlantic. Limousine and van services are available from both airports to Cape Canaveral and Cocoa Beach.

### Auto Rentals

Reservations and rentals can be made at Cape Canaveral or at the Melbourne and Orlando airports. Agencies include:

|        |        |          |            |
|--------|--------|----------|------------|
| Hertz  | Avis   | National |            |
| Budget | Dollar | General  | Enterprise |



### Attraction Centers

The Space Coast is among the most popular tourist destinations in the world, featuring a unique blend of high tech and natural attractions.

**The Kennedy Space Center Visitor Complex** offers visitors an unprecedented insiders view of the exciting past, present and future of our nation's space program. **The Astronaut Hall of Fame** showcases the personal side of spaceflight with astronaut artifacts and memorabilia. **Brevard Community College** is home to one of the world's premier planetariums with a variety of public shows and presentation.

The Space Coast is home to one of the nations busiest cruise terminals featuring 3 and 4 day cruises to the Bahamas aboard Disney, Carnival, Cape Canaveral and Premier cruise lines. Additionally, there are daily casino cruises aboard the Sterling and Suncruz lines.

The area is also a natural paradise with over 72 miles of beaches and some of the best fresh and saltwater fishing in the nation. Not to mention that the Space Coast is only an hour away from some of the world's most popular tourist attractions, including Walt Disney World, Universal Studios and Sea World.

### Space Congress Golf Tournament

Golfers will be able to enjoy a tournament at the Patrick AFB Course on Friday, April 30. The tournament will be a "scramble" format, as in the past. You may sign up with one partner or by yourself. The tournament committee will assign teams based on playing ability. Foursomes may sign up if they provide a combined total certifiable handicap of 55 or higher. Fill in your name and average score or handicap for 18 holes on the registration form, along with the same from your partner, and enclose \$40.00 for each person. A maximum of 144 players will be registered on a first come, first in basis. Lunch, refreshments on the course, green fees, carts, and trophies are included in the fee. Buffet lunch from 11:30 a.m., and shotgun start at 1:00 p.m. Maps are available at the Golf Registration Desk in the Bonaire Room of the Radisson Resort at the Port. Registration name change will be permitted with notification up to April 28.

### Information

Further questions regarding participation in the **Thirty-Sixth Space Congress** should be directed to: Thirty-Sixth Space Congress, P.O. Box 321333, Cocoa Beach, FL 32932. Telephone answering service for faster response: 407-868-1623, (Fax 407-783-5579), or via e-mail to [CCTS@spacecoast.net](mailto:CCTS@spacecoast.net). The Space Congress website is located at: <http://www.Spacecoast.net/spacecongress/>

# PROGRAM

## TUESDAY, APRIL 27

### **KEYNOTE ADDRESS (8:00 a.m. to 9:00 a.m.)**

#### **Radisson Resort at the Port**

Speaker: TBD

### **PANEL SESSION I (9:00 a.m. to 11:30 a.m.)**

#### **Radisson Resort at the Port**

##### **THE FUTURE IS HERE—GLOBAL PERSONAL COMMUNICATIONS**

Panel Chairman: TBD

### **LUNCHEON (12:00 noon to 1:30 p.m.)**

#### **Radisson Resort at the Port**

Speaker: Dr. Wesley T. Huntress

NASA Associate Administrator for Space Science

Topic: Discovery Program

### **PAPER SESSION I (2:00 p.m. to 5:00 p.m.)**

#### **THE FUTURE IS HERE - UNITY FOR SUCCESS**

A look at international cooperation and opportunities in the space industry.

#### **A. GLOBAL COMPETITION AND COOPERATION**

##### **Radisson Resort at the Port**

International competition and cooperation in space and its influence on progress and mission success.

Session Chairman: Jean-Michel Desobeau, Director of Engineering, Arianespace, Inc.

#### **B. GLOBAL BENEFITS FROM SPACE**

##### **Radisson Resort at the Port**

Spin-off achievements and knowledge gained and anticipated from international space ventures.

Session Chairman: Dr. Robert Norwood, Office of the Chief Technologist, NASA/Headquarters

#### **C. UNITY FOR PEACE**

##### **Radisson Resort at the Port**

The changing role of the DOD in the international space environment.

Session Chairman: Lt. Col. William Burwell, Deputy Chief of Plans and Programs, 45th Space Wing, Patrick AFB, FL

#### **D. EDUCATING THE WORLD**

##### **Radisson Resort at the Port**

Education around the world and its contribution to international space efforts.

Session Chairman: Rolando Brandy, Broward Community College

### **EXHIBITS & SCIENCE FAIR (10:00 a.m. - 5:00 p.m.)**

#### **Radisson Convention Center Exhibit Hall**

### **EXHIBIT RECEPTION (6:00 p.m. to 8:00 p.m.)**

#### **Radisson Resort at The Port**

Exhibit Hall (*Ticket Required*)

## WEDNESDAY, APRIL 28

### **PAPER SESSION II (8:00 a.m. to 11:00 a.m.)**

#### **MILITARY SPACE FOR A NEW CENTURY**

A look at the future plans to advance our ability to gain access to space.

#### **A. SPACE ACCESS IN A GLOBAL MARKET**

##### **Radisson Resort at the Port**

World economic influences on future planning of commercial space ventures.

Session Chairman: Edward A. O'Connor, Jr., Executive Director, Spaceport Florida Authority

#### **B. UNITY IN SPACE**

##### **Radisson Resort at the Port**

Continuing to build an experience base by living and working in earth orbit.

Session Chairman: TBD

#### **C. BEYOND 2000**

##### **Radisson Resort at the Port**

Future programs and their developmental gains in the access to space.

Session Chairman: Lt. Col. Wayne Eleazer, Chief of Advanced Planning, 45 Space Wing, Patrick AFB, FL

#### **D. THE NEXT 100 YEARS**

##### **Radisson Resort at the Port**

New approaches and techniques to educate the space workforce beyond 2000.

Session Chairman: Gregg Buckingham, University Programs Manager, NASA/Kennedy Space Center

### **LUNCHEON (11:30 a.m. to 1:00 p.m.)**

#### **Radisson Resort at the Port**

Speaker: Dr. Firouz Nader I

JPL

Topic: Origins Program

### **PANEL SESSION II (1:30 p.m. to 4:30 p.m.)**

#### **Radisson Resort at the Port**

##### **MILITARY SPACE FOR A NEW CENTURY**

Panel Chairman: TBD

### **EXHIBITS & SCIENCE FAIR (10:00 a.m. - 7:00 p.m.)**

#### **Radisson Convention Center Exhibit Hall**

### **SPACE CONGRESS RECEPTION (7:00 p.m. to 9:00 p.m.)**

#### **Radisson Resort at the Port (Pool Side)**

### **PANEL SESSION III (7:00 p.m. to 9:00 p.m.)**

#### **Radisson Resort at the Port**

##### **MEET THE ASTRONAUTS**

Panel Chairman: Roy D. Bridges, Jr.

Center Director,

NASA/Kennedy Space Center, FL

## THURSDAY, April 29

### **PANEL SESSION IV (8:00 a.m. to 11:00 a.m.)**

#### **Radisson Resort at the Port**

##### **BEYOND SHUTTLE—CONTINUED HUMAN ACCESS TO SPACE**

Panel Chairman: Rick Stephens

Vice President/General Manager,

Boeing Resuable Space Systems

### **PAPER SESSION III (1:00 p.m. to 4:00 p.m.)**

#### **MARS AND BEYOND**

The spacecraft systems, technology and business practices that will establish the world's future in space.

#### **A. SPACE SYSTEMS—MARS & BEYOND**

##### **Radisson Resort at the Port**

A look at future planning for commercial space activities.

Session Chairman: Sy Baker, Lockheed Martin, Director, Atlas Programs, Cape Canaveral, FL

#### **B. SCIENTIFIC ENLIGHTENMENT**

##### **Radisson Resort at the Port**

Knowledge gained from space and a look at recent discoveries and where they are taking us.

Session Chairman: Frank Cepollina, Project Manager for Hubble Space Telescope Flights Systems and Servicing, NASA/Goddard Space Flight Center

#### **C. TECHNOLOGY TRANSFER**

##### **Radisson Resort at the Port**

Advances from military space activities and their applicability to non-traditional uses.

Session Chairman: Lt. Col. Scott Swanson, Space and Missile Systems Center, Patrick AFB, FL

#### **D. REACHING FOR THE STARS**

##### **Radisson Resort at the Port**

What should we do in the field of education to enhance support to space and prepare students for the future.

Session Chairman: Tim Kotnour, University of Central Florida

### **EXHIBITS & SCIENCE FAIR (10:00 a.m. - 3:00 p.m.)**

#### **Radisson Convention Center Exhibit Hall**

### **SPACE CONGRESS BANQUET**

#### **KSC Visitor Complex Saturn V Facility**

Social Hour 6:30 p.m.

Dinner/Program 7:30 p.m.

## FRIDAY, April 30

### **PANEL SESSION V (8:00 a.m. to 11:00 a.m.)**

#### **Radisson Resort at the Port**

##### **TARGET MILLENNIUM —TECHNOLOGY FOR A NEW ERA**

Panel Chairman: S.K. Li

New Millenium Program Manger,

Jet Propulsion Laboratory

### **SPACE CONGRESS GOLF TOURNAMENT**

**11:30 a.m. to 5:30 p.m. (Approx.)**

#### **Patrick AFB Golf Course**

(*Buffet lunch from 11:30 a.m. Shotgun start at 1:00 p.m.*)

### **MISSILE, SPACE & RANGE PIONEERS'**

#### **ANNUAL BANQUET**

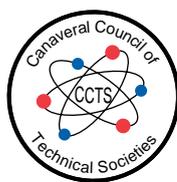
**6:30 p.m. to 10:00 p.m.**

**Officers' Club, Patrick AFB**

# COUNTDOWN TO THE MILLENNIUM

Cape Canaveral, Florida April 27-30, 1999

## PRELIMINARY PROGRAM



**Thirty-Sixth Space Congress**  
 Post Office Box 245  
 Cape Canaveral, FL 32920-0245

NONPROFIT ORGANIZATION  
 U.S. POSTAGE PAID  
 COCOA, FL 32922  
 PERMIT NO. 138

### \*\*\*Hotel Reservations for the 36th Space Congress

Please Print or Type \_\_\_\_\_  
 Attn. Reservation Manager, Special Request:

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone \_\_\_\_\_  
 Please Indicate Desired Accommodations \_\_\_\_\_  
 Arrival Date \_\_\_\_\_ Departure Date \_\_\_\_\_  
 Number rooms 1 double bed \_\_\_\_\_  
 Number rooms 2 double beds \_\_\_\_\_

Reservations must be guaranteed by a major credit card or advance deposit of one night's room rental. CREDIT CARD NAME (Circle One): MC, VISA, AMEX, DINERS, CARTE BLANCHE  
 Credit Card Number \_\_\_\_\_ Exp. Date \_\_\_\_\_

**\*\*Clip and Mail to Either**

**RADISSON RESORT AT THE PORT**  
 8701 Astronaut Blvd.  
 Cape Canaveral, FL 32920  
 (407) 784-0000  
 (407) 783-7718 (Fax)

**COCOA BEACH HILTON**  
 1550 N. Atlantic Ave.  
 Cocoa Beach, FL 32931  
 (407) 799-0003  
 (407) 799-0344 (Fax)

**DOUBLE TREE OCEANFRONT HOTEL OF COCOA BEACH**  
 2080 N. Atlantic Ave.  
 Cocoa Beach, FL 32931  
 (407) 783-9222  
 (407) 799-3234 (Fax)

**HOLIDAY INN**  
 1300 N. Atlantic Ave.  
 Cocoa Beach, FL 32931  
 (407) 783-2271  
 (407) 784-8878 (Fax)

**COMFORT INN & SUITE**  
 3901 N. Atlantic Ave.  
 Cocoa Beach, FL 32931  
 (407) 783-2221  
 (407) 783-2224  
 1-800-327-2224  
 (407) 783-0461 (Fax)

**\*Headquarters Hotel-RADISSON RESORT AT THE PORT**  
**\*\*All Reservations Should Be Made by April 9, 1999**  
**\*\*\*Please Specify "Space Congress Rate"**  
 When Calling Hotel Directly

Registration confirmation will be mailed.

### REGISTRATION FEES REFUNDED FOR CANCELLATIONS RECEIVED PRIOR TO APRIL 12, 1999.

U.S. Government Purchase Orders or Checks in U.S. Dollars Only  
 Make all checks payable to: 36th Space Congress

Name \_\_\_\_\_  
 Address (Home) \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone \_\_\_\_\_  
 Company \_\_\_\_\_  
 Position \_\_\_\_\_

Registration Package (Includes First 5 Items Listed Below) \$125.00  
 Registration 50.00  
 Tuesday Luncheon 20.00  
 Tuesday Exhibitors Reception 15.00  
 Wednesday Luncheon 20.00  
 Thursday Banquet 40.00  
 Proceedings Hard Copy (Not in Package) 75.00  
 Proceedings CD-Rom (Not in Package) 35.00  
 Golf (Not in Package) 40.00

Registration Chairman  
 36th Space Congress  
 P.O. Box 321333  
 Cocoa Beach, Florida 32932  
 FAX: 407-783-5579  
 E-Mail: CCTS@spacecoast.net

Include my name in the list of attendees: Yes  No

Clip and Mail to: \_\_\_\_\_  
 Cost

**Golf Registration**

Sign up as individual, 2 member team or 4 member team. You **must** specify your handicap or average score.

Names \_\_\_\_\_  
 HCP \_\_\_\_\_

4 member team registered total combined HCP \_\_\_\_\_  
 must be certified at 55 or higher.

Certified \_\_\_\_\_

### Registration Form

Control No. \_\_\_\_\_