

## World Space Congress 2002



Wright Flyer at WSC. See details on page 13.

# Horizons

October 2002

AIAA Houston Section ◆ ONLINE ◆ [www.jsc.nasa.gov/aiaa](http://www.jsc.nasa.gov/aiaa)

*News   Membership   Upcoming Events   Committees   Leadership   Horizons*

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Are you interested in becoming a member of the AIAA or renewing your membership? You can fill out a membership application online by going to the AIAA membership website at [www.aiaa.org/information](http://www.aiaa.org/information).

## November 15 Input Deadline for the Next Edition of *Horizons*

Contributions can be submitted by email to Nicole Smith at [chair@aiaa-houston.org](mailto:chair@aiaa-houston.org).

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## Chair's Corner

Welcome to the second Horizons issue for 2002-2003! The Houston Section is off to a great start and has a number of exciting events on the radar screen.

The World Space Congress 2002 was held 10-19 October 2002 and the Houston Section played an amazing part in it. Section members did a wonderful job and went above and beyond the call of duty by organizing and volunteering at a number of different functions. THANK YOU to all of you who worked so hard to make the WSC 2002 a success - great work!!! While I am on the subject of congratulating people - congratulations to the Houston Section's nine new Associate Fellows, and thank you for all of your hard work as well.

The Executive Council held a retreat on Saturday, September 14th. During this retreat the Council planned for this year's upcoming events, including some wonderful dinner programs, the celebration of the Evolution of Flight, and continued improvements to our membership communications. The section is also continuing to improve its relationship with local companies by continuing our "Executive Tour" - meetings with top executives from local companies - and offering career development workshops for young professionals and mid-level managers, at the request of those companies.

We have two events coming up in the near-term: the Mid-Level Professional's Workshop and the November 18th dinner meeting, featuring Dr. Alan Tribble. I encourage all of you to attend both programs - they are going to be great!

You may have noticed on the AIAA Houston Section Organization Chart that we still have a few vacancies. If you or someone you know is interested in one of these positions, please feel free to contact me for more information.

It is going to be a great year for our section! I hope that if you have any suggestions, questions, or concerns, please feel free to contact me or any of the executive council members.

Best regards,

L. Nicole Smith  
Chairperson, AIAA Houston Section

## Space Generation Summit

*Submitted by Elizabeth Bloomer*

Last week at the World Space Congress, there was an associated event called the Space Generation Summit. The Summit was an opportunity for over 150 young professionals from over 40 different countries to come together and discuss our vision in space, and more specifically, our vision for accelerating our pace in space. I was honored to be one of the U.S. delegates to the Summit. During the 3 days of the summit, we heard from heads of various space programs - General Howell (Director of JSC), Dr. Evans (former head of the Canadian Space Agency), and many others. They spoke of what we have accomplished so far in space, and some were candid enough to say what they thought the future would bring.

While the speakers were informative, the most important part of the summit was the coming together of the young professionals. We separated into small groups (of about 10) and discussed various topics. My group, comprised of people from the U.S., Sweden, the U.K., and Australia, discussed Space Policy. What policies did we think should be implemented to help accelerate our pace in space? There were many things that were discussed, including the creation of an International Space Authority, which would help reduce duplication of effort and assist organizations who are doing multi-party projects. We also discussed the weaponization of space - a very heated topic.

I can only hope that during my time at the Space Generation Summit and the World Space Congress will be beneficial in the future. I made a lot of great contacts, and hopefully represented myself, NASA, and the United States well.

# Invitation to Join the Professional Development Committee

## The New Face of Space: Exciting the Next Generation

### World Space Congress 2002 Education Activities

The World Space Congress • 2002 (WSC • 2002) brought together thousands of international space leaders and decision makers to share their knowledge and experiences, providing a guiding vision for an improved future. The very people who will populate that future and serve as its leaders are the world's brightest and best students and young space professionals. The WSC • 2002 was the first major technical conference to fully engage the young people in a wide range of educational activities, introduce them to their international counterparts and the idea of collaboration, and provide them with an experience to remember.

A truly "global" event was conducted for over 10,000 students, educators and young professionals from more than 30 countries. Activities and events targeted the spectrum of ages, from elementary students up to young professionals, as well as the educators whose touch continues to develop the minds and influence the lives of the world's students on a daily basis.

It was the utmost interest of WSC • 2002 sponsors, the International Astronautical Federation (IAF), International Academy of Astronautics (IAA), International Institute of Space Law (IISL), and Committee on Space Research (COSPAR), and organizers, the American Institute of Aeronautics and Astronautics (AIAA) and U.S. National Academy of Sciences (NAS), to nurture the interests of young people in the space field and provide educational support in order to maintain a strong and vibrant workforce, and a well-educated public. In addition, support for the educational mission and young people has been received by all sectors, including companies, universities and school systems, and government institutions.

The WSC • 2002 education events were chaired by:

- Dr. Lance Bush (NASA HQ), Executive Chair, World Space Congress Educational Activities
- Dr. Merri Sanchez (NASA JSC), General Chair, World Space Congress Educational Activities
- Linda Clarke (Houston Annenberg Challenge), Houston Education Chair
- Joy Conrad King (Titan Systems Corporation), AIAA Houston Section Precollege Chair
- Lisa Bacon (AIAA), Coordinator, World Space Congress Educational Activities

This group led an Educational Task Force with committees for each educational event. This task force was composed of 30 core members from several industries (including, but not limited to aerospace), government, educational foundations, and academia. Over 400 additional people volunteered throughout the Congress to make each event a success. We could not have been so successful in such a mammoth undertaking without these task force members and volunteers. Our University of Houston AIAA Student Branch did a significant amount of work, including supporting the task force and recruiting volunteers. And our Texas A&M University AIAA Student Branch sent 12 members very early on a Friday morning to help setup the festival and to support several of the demonstration booths.

These events also could not have been possible without the VERY generous support of our sponsors. We are still tallying the numbers, but there was a significant amount of resources donated, including dollars, in-kind support, and volunteer work time.

While the World Space Congress delegates were busy forming the future of space policy, the Education Task Force was busy engaging the leaders of tomorrow. Educational events conducted during the World Space Congress included the Houston Science Educator Enrichment Day, the Mars Rover Project Competition, a Student Poster Session, the Make Space for the Worlds' Kids Space Education Festival, the Space Rocks! Kids Festival and Robotics Invitational, and an AIAA Education Media Theater booth in the George R. Brown Convention Center. In addition, an education reception and formal dinner were held, along with several press conferences. I hope you saw all of our great press coverage in the local news the week of the Congress!

The Houston Section led the way in these educational outreach events and established many long-term partnerships with groups in the Houston area so that we will be able to continue as the pace-setting section in educational outreach.

Most especially, a heartfelt "THANK YOU" goes out to the University of Houston. UH was the principal educational partner for the World Space Congress and generously donated the facilities, staff, and money to support many of the educational events. And they put up with 6,000 energetic kids overrunning their athletics facility the day before their big home football game.

The education committee would like to thank the following individuals for their unending support:

Dr. Arthur Smith, President, University of Houston  
Brenda Boyko and the staff of the University of Houston  
Pat Bellamy and the Houston Area Technology Advancement Center  
Angelo Iasiello, AIAA  
Megan Scheidt, AIAA  
Ray Chattman, AIAA Foundation  
University of Houston Student Branch  
Texas A&M University Student Branch

We would like to thank all the members of the Houston Operating Committee Education Task Force:

Susan H. Anderson	Lisa Bacon
Dr. Edgar Bering	Brenda Boyko
Dr. Lance Bush	Cristina Cabral
Ronda Cole	Alicia Contreras
Dr. Russell Cummings	Mark Dunk
Dan Felske	Karen Hall
Karla Jones	Lucien Junkin
Joy Conrad King	Noemi Lopez
Gerald Mora	Marie Mungaray
Robert Musgrove	Albert Passey
Dr. John Ramsey	Dr. Patricia Reiff
Sue Ellen Ruggles	Jimmy Salinas
Dr. Merri Sanchez	Mary Schiflett
Lucia Sevcik	Holly Smith
Kelly Snook	Charla Stuart
Dr. Carolyn Sumners	Paula Thomas
Julia Tizard	Stephanie Wakata

The Education Task Force of the Houston Operating Committee would like to recognize the support of the following sponsors of our activities, without which we could not have had such a great success:

Aerospace Academy  
AIAA Foundation  
AIAA Houston Section  
Air Force Research Laboratory  
Center for Technology Literacy, University of Houston  
College of Technology  
FIRST  
Fiesta Mart, Inc  
Global Energy Avenues

Harris County Department of Education  
Houston Annenberg Challenge  
Houston Area Technology Advancement Center  
Houston Community College System  
Houston Independent School District  
Houston Intown Chamber of Commerce  
IMAX Corporation  
International Bank of Commerce  
LEGO® Company  
Lockheed Martin Company  
Lockheed Martin Space Operations  
NASA  
National Management Association – Boeing  
Aerospace Leadership Chapter  
Randalls Food Market  
Rice University  
San Jacinto College  
SBC Pioneers – San Jacinto South  
Southwest Educational Development Laboratory's Eisenhower Southwest Consortium for Improvement of Mathematics and Science Teaching  
Sylvan Rodriguez Foundation  
Texas Southern University  
The Boeing Company  
The SpaceStore  
Tietronix Software  
University of Houston  
Upper Kirby District Association  
Umesh and Preeti Verma, Blue Lance Computer Security Software Company  
X-Prize Foundation

#### **Houston Science Educator Enrichment Day**

Saturday, October 12, 2002, at the University of Houston

8:30 am - 4:00 pm

*Sponsored by the Boeing Company, Harris County Department of Education, University of Houston, Southwest Educational Development Laboratory's Eisenhower Southwest Consortium for Improvement of Mathematics and Science Teaching, NASA, American Institute of Aeronautics and Astronautics, The SpaceStore, and Tietronix Software*

75 K-8 teachers from around the city spent all day Saturday learning hands-on ways to integrate aerospace, math, and science concepts into the elementary and secondary classrooms. This workshop was modeled after one that Boeing puts on every year at Seal Beach, California. Participants received 6 hours of Texas' Continuing Professional Education Credit. They also received a hefty binder of information to take home, a CD-ROM with all of the workshop materials, several "goodies", and an application to become an AIAA Educator Associate. Astronaut Jim Voss was our lunch speaker and gave a

great presentation on his experiences during 5 ½ months onboard the International Space Station as an Expedition 2 crew member.

We also had several exhibitors with educational outreach materials, such as the Civil Air Patrol, University of Houston, etc. We also had a motorized Mars rover! Everyone agreed at the end of the day that this workshop should become a legacy event for Houston. Planning is already underway to repeat this event next year!



Astronaut Jim Voss, expedition 2 crew member



University of Houston Mars Rover



Teachers learning to build a planetarium model

### **Mars Rover Project Competition**

Saturday, October 12, 2002, University of Houston  
12:00 pm - 5:00 pm

*Sponsored by the University of Houston*

We also conducted the Mars Rover Competition the same day and location as the HSEED teacher work-

shop. 40 teams of elementary and middle school students from around Houston built inert rovers using inexpensive objects they “found” around the house, such as aluminum foil and parts from old toys. Before construction started, they researched Mars and wrote a report specifying the landing site for the rover, power sources, and its mission. Their projects were then judged as part of the competition at the University of Houston. Each team of 3-5 students was interviewed about their project, and a winner was selected from each grade category. All the teams also got to see a real prototype Mars Rover in action and had the opportunity to tour the campus. There were some real future scientists and engineers in this group! And some amazing innovation. Several winning rovers were displayed at the AIAA Education Media Theatre Booth later in the week at the convention center.

The winning elementary school teams, walking away with beautiful glass trophies were:

- Elementary Schools
  - First Place – the “NHLS Explorer 2002” from La Porte Elementary, with the team Stephanie Wilkerson, Herman Haggerty, and Nicholas Frobenius, under the guidance of teacher Nito Ceyanes.
  - Second Place – the “Rover Deluxe 2002” from La Porte Elementary with the team Amber Tempel, Abdul Islam, Katrina Joseph, and Courtney Brown, also under the guidance of teacher Nito Ceyanes.
- Middle Schools
  - First Place (tie) – the “Megabot” from Seabrook Intermediate, with the team David Olesch, Natalia Garza, and Genivier Peterson, under the guidance of teacher Sandy Peck.
  - First Place (tie) – the “Rover Detector” from Sartartia Middle School, with the team Andy Jan (other not present) under the guidance of teachers Barbara Brown and Jackie McMahan.
  - Second Place (tie) – the “TDNS” from Seabrook Intermediate, with team Kyle Whitted, Scott Longmore, Cameron Leal, and Will Cover, under the guidance of teacher Sandy Peck.
  - Second Place (tie) – the “Arrow” from Memorial Middle School, with team Sun Park and Kyle Lake, under the guidance of teacher Maurice Stadler.

- Third Place (tie) – the “Spartain” from Seabrook Middle School, with team Taylor Beemer and Jonathon Hua, under the guidance of teacher Sandy Peck.
- Third Place (tie) – the “Solar Flair” from Ft. Settlement Middle School, with team Chandler Coffey (only one present), under the guidance of teacher Karen Staley.



CCISD students pose with their Mars Rover at the Mars Rover Competition at the University of Houston



Seabrook Megabot 1<sup>st</sup> place



LaPorte NHLS Explorer 2002 1<sup>st</sup> place elem



**Space Rocks! Kids Festival – 2002 Robotics Invitational**

Friday, October 18, 2002, University of Houston  
8:30 am - 6:00 pm

*Sponsored by University of Houston, Center for Technology Literacy, LEGO® Company, U.S. Air Force Research Laboratory, Upper Kirby District Association, San Jacinto College/Aerospace Academy, Texas Southern University, X-Prize Foundation, AIAA Houston Section, Fiesta Mart, FIRST, SBC Pioneers-San Jacinto South, The SpaceStore*

This one-day festival was dedicated to space pioneers of the future. Approximately 6,000 K-12 students came to the festival as part of field trips from schools all over Houston. The indoor/outdoor festival featured age-specific hands-on science and math learning activities such as design your own space station, Wright brothers’ gliders made from graham crackers, the vacuum of space, prism optics, inclined planes, alka seltzer rockets, tornados, gyroscopes, wind tunnels, Bernoulli’s principle, Van de Graaff generator, bubbles, liquid nitrogen demonstrations, angular momentum, TIVY space based math learning games, and videos.



Sartartia Rover Detector 1<sup>st</sup> I think

NASA was highlighted at the festival with 3 NASA trailers, astronauts Dr. Linda Godwin and Clayton Anderson signing autographs, the “Who Wants to be an Astronaut” movie, booths with ‘goodies’ to hand-out and of course....meatball tattoos!. For the teachers we had multiple education outreach booths including, an Aerospace Education Services booth, and booths from multiple education partners including Space Center Houston, the Aerospace Academy, Civil Air Patrol, American Institute of Aeronautics and Astronautics, Challenger Center, Space Day, Air Force Research Laboratory Space Weather, and the University of Houston College of Technology.

Our festival was also the first ever competition for the TIVY space based math game. This game of strategy was a playoff of over 100 sixth graders from 3 Houston area schools: Mayde Creek Junior High (teachers Debbie Bertrand, Misty Haynes, Sallyanne Dipalma), Saint Cecilia (teacher Mary Millik), and Seabrook Intermediate (teacher Sandy Peck). The kids had participated in elimination rounds in their schools to determine which 10 students from each school would compete at the festival. Then we had elimination rounds at the festival. Points were awarded for the highest scores with trophies going to the top 3 individual students, and to the team with the highest combined score. The winners got to try on a flight suit, and had their trophies presented by astronaut Clayton Anderson. The winners were:

- First Place - Aniruddha Sen from Mayde Creek
- Second Place - Andrea Gannon from St. Cecilia
- Third Place – Alan Nguyen from Mayde Creek
- Team Trophy – Mayde Creek (with 20,000 more points than the other two teams!)

As part of the educational activities, the arts and music were featured throughout the day for those brave groups wanting to perform an original ballad concerning space or to perform space-based music or recite space poetry. When the day was over, the kids went home with a renewed excitement for science. It was quite an event!

The 2002 Robotics Invitational was also a major part of the Kids Festival. Teams from all over the United States came to participate. This was the first time ever that the four major robotics programs have ever been hosted together at the same event. We featured FIRST (For Inspiration and Recognition of Science and Technology), the FIRST LEGO® League, through a partnership with the LEGO® Company, the BEST Robotics Inc./Texas BEST (Boosting Engineering, Science, and Technology), and Botball

robotic teams. These robots demonstrate the ingenuity of students, and captivate their interest in science, math, and technology. Not only did the participating teams have fun, but the thousands of other kids, and their teachers, attending the festival were introduced to a variety of robotic programs that they could become involved in. We are still compiling the complete listing of all of the team names and schools participating in the robotics invitational, but it was over 40 teams!



Tivy trophy



Kids everywhere



Alka seltzer rockets





Joy Nitrogen (NASA photograph)



FIRST



Where's my pillow, Picture me on the moon! (NASA photograph)



FLL



I hope my math was right



BEST



Students make planes and spacecraft out of graham crackers at the Space Rocks! Kids Festival

### **Distance Learning**

October 14-18, 2002, various sites  
 Sponsored by NASA, University of Houston, and Rice University

Throughout WSC • 2002, NASA provided distance learning programs to interested schools, including an interactive remote audience chat room and pre-recorded educational programs. The distance learning broadcasts originating from the convention center included:

- Space Kids Update: Wright Flyer
- Space Kids Update: FIRST LEGO League
- Space Kids Update: GLOBE
- Space Kids Update: X-perimental Aircraft
- Space Kids Update: Live at the WSC
- Space Day Design Challenge: Fly to the Future
- Space Day Design Challenge: Planetary Exploration
- Space Day Design Challenge: Watt Power

### **Make Space for the World's Kids – A Space Science Education Festival**

Thursday, October 17, 2002, Houston Museum of Natural Science  
 6:30 pm – 10:30 pm  
 Sponsored by the Houston Annenberg Challenge, Houston Museum of Natural Science, Houston Independent School District, Rice University, the Boeing Company, IMAX Corporation, Phi Beta Kappa,

*Texas Southern University, Lockheed Martin, Umesh & Preeti Verma, The SpaceStore*

It was an evening of excitement, entertainment, and education for the World Space Congress with approximately 1,200 teachers, business leaders, and those interested in the science education process participating. Each attendee was given a “space” snack and allowed to choose which activities they wanted to participate in. Entertainment was provided by the Pearl Hall Elementary School choir. These kids sang a variety of space-themed and international songs. Teachers received 3 hours of Continuing Professional Education credit.

We also treated 200 guests including the State Education Commissioner, industry leaders, academia, superintendents and other key city officials to a champagne reception and beautiful space themed dinner hosted by the Houston Annenberg Challenge. The dinner was a celebration of new educational partnerships in the city. The guests were entertained by special dinner speakers teacher-in-space astronaut Barbara Morgan, Texas Education Commissioner Felipe Alanis, and former astronaut Alan Bean who related his adventures on the way to the moon. In addition, Dr. Lance Bush presented a time capsule representative of the education activities all week to IAF representative Arnie Aldridge and COSPAR representative Lou Lanzarotti. This time capsule will be opened in 10 years at the next World Space Congress. All of the dinner guests then joined the attendees in the museum for the rest of the evening's events.

Activities in the museum included:

- Full dome film festival in the Planetarium with showings of:
  - Night of Titanic
  - Wonders of the Universe
  - Alien Oceans
  - Force Five
  - New Horizons
- International Space Station IMAX film, introduced by former astronaut Brian Duffy
- Two 5-meter domes with full-color, full-motion presentations (Evans & Sutherland's D3-Junio and Minolta's Media Globe)
- Multiple lectures including:
  - Dr. Virginia Trimble on “Mankind's Place in the Cosmos”
  - Ramon Lopez on “Storms in the Sun”
  - Jan Osburg on “Human Exploration in 21st Century Science Education”
  - Bill Carswell on “ISS: What are we doing up there?”
  - Doug Duncan on “Back to the Big Bang”

- Seth Shostak on “Life in the Universe”
- The renovated Challenger Center where attendees could visit Mission Control and the SS Legacy, then land on the Moon or on Mars
- See the new Earth Forum, where attendees could explore the planet, challenge a computer, experiment with the forces of nature, and take home Earth Update software (developed by Rice University)
- Displays of the robotics winners from the week’s robotics activities
- Astronaut autographs with astronauts Stephen Bowen, Gregory Johnson, and Terry Virts
- Demonstrations and classroom presentations including:
  - Astro-chemistry demonstration
  - ISS EarthKAM Student Photos from space
  - How Fast Does the Wind Blow on Jupiter?
  - Aerospace Education Services Program
  - Space Center Houston Education Resource Center
  - NASA Distance Learning Outpost
  - Virtual Astronaut
  - Middle School Aerospace Scholars program
  - High School Aerospace Scholars program
  - Search for Life/Space Rocks (K-6 focus)
  - Search for Life/Space Rocks (7-12 focus)
  - Cooking up a Storm with the Storm Center
  - Space Updated: A Month of Moons
  - Earth Science and Natural Resource Data to Make Connections
- Multiple exhibits:
  - NASA JSC Education and Student Programs
  - Aerospace Academy for Engineering and Teacher Education
  - Civil Air Patrol
  - Space Day
  - Lunar and Planetary Institute
  - Space Island Group
  - Tietronix – Virtual Fly-Throughs
  - Planetarium Vendor Exhibition (Astro-Tech, Loch Ness, Goto, Sky-Skan, Bowen Productions, JHE, Zeiss/Seiler, Bishop Planetarium)
  - NASA JSC Astromaterials Research and Exploration Science

- Space Center Houston Educator Resource Center
- Astrobiology
- Mars Rock



Former Astronaut Alan Bean



Teacher-in-space astronaut Barbara Morgan



Texas Education Commissioner Felipe Alanis



Education Time Capsule presentation to IAF and COSPAR



TIVY trophy

**Education Media Theatre/Education Booth**

October 14-19, 2002, George R. Brown Convention Center Exhibit Hall

Open same times as Exhibit Hall

*Sponsored by Lockheed Martin Space Operations, Houston Community College System, and Sylvan Rodriguez Foundation*

The multimedia theatre showcased existing programs available for aerospace-related educational activities and included a variety of presentations and handouts on how to access each of the products. The booth featured a large screen TV where several videos of educational programs and robotics activities were shown throughout the day. Demonstrations of student projects, science fair winners, Future City models, robots, the TIVY space based math game and special guests were featured at the booth. Each day was highlighted by students bringing working FIRST and BEST robots that they demonstrated in the aisles of the exhibit hall. Two very special guests to our booth included actress Valeria Harper, owner of the TIVY company, and Norbert, from the NASA Connect series.



Booth



Ready for business



Valerie and Norbert

**Astronomy Day**

Saturday, October 12, 2002, George Observatory

The public was invited to tour the George Observatory of the Houston Museum of Natural Science and to see how telescopes work.

**Public Days in Exhibit Hall**

October 18-19, 2002, George R. Brown Convention Center Exhibit Hall

10:00 am – 6:00 pm

The public was invited to attend the exhibits the last two days of WSC • 2002 for FREE and view the AIAA Education Media Theatre/Education Booth as well as many other education and aerospace related booths. The historically accurate full-scale model of the Wright brothers' first flyer was also on display. In addition, on Saturday the 19th, NASA hosted "Discover NASA Day" in the convention center.

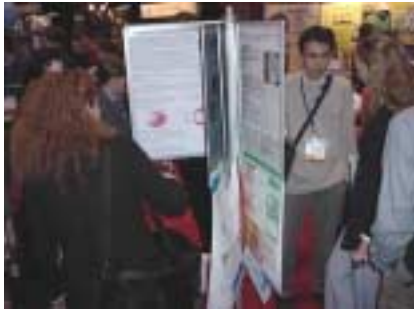
**Student Poster Session**

Tuesday, October 15, 2002, George R. Brown Convention Center Exhibit Hall

*Sponsored San Jacinto College/Aerospace Academy*

A poster session with 130 international and 41 U.S. undergraduate and graduate students was conducted at the Education booth. The students displayed and discussed their current research projects during a lunch reception, jointly hosted by AIAA and the Student Outreach Programme of the European Space Agency (ESA). This was the first ever AIAA student poster session conducted at a major techni-

cal conference. The session was well attended by the Congress delegates and other professionals, who were interested in the students' work. In fact, I overheard one student being asked to come for a job interview!



### **Student Party**

Thursday, October 17, 2002, University of Houston  
*Sponsored by University of Houston*

AIAA and the Student Outreach Programme of the European Space Agency (ESA) hosted a student party that gave the ESA-sponsored students an opportunity to network with other students from around the world. The party included live music and dynamic speakers from the WSC and of course, from the University of Houston. Over 500 college students attended the event.

### **Education Reception**

Friday, October 11, 2002, International Bank of Commerce

*Sponsored by International Bank of Commerce, Houston Intown Chamber of Commerce, Randalls Food Market*

Approximately 200 invited guests attended a cocktail reception at the International Bank of Commerce. Guests included area superintendents, industry leaders, government leaders, education foundations, academia, educational activity sponsors and key people throughout the city of Houston. These guests were all interested in developing partnerships and alliances that cross industry and community lines to help better the science and math education process in the area.

### **Other Student Activities and Press Conferences**

October 14-19, 2002, George R. Brown Convention Center

The LEGO®/Planetary Society press conference announced the LEGO® Man Goes to Mars contest with over 150 student journalists and teachers in attendance to ask questions of the distinguished panel of experts.

The GLOBE program scientists' press conference included 15-20 students' interviewers.

NASA Langley Research Center hosted an education panel to discuss the state of education with panelists Dr. Bill Williams (NASA LaRC), Valeria Harper (TIVY games), Lisa Bacon (AIAA), Steve Sculley (TIVY games), Dr. George Lavert (Rutgers University), and Karen Hall (La Porte High School).

And lunch entertainment on October 15 for the WSC was provided by 100 students from the Pearl Hall Elementary School choir. This group of kids performed songs in every language represented by the delegates to the World Space Congress!

## **Wright Flyer Comes to Houston**

*By Joy Conrad King and AIAA Evolution of Flight Committee*

The AIAA Los Angeles section replica of the Wright brother's first airplane came to Houston and was displayed at George R. Brown October 14-19 as part of the World Space Congress.

The AIAA 1903 Wright Flyer is the result of a 20-year effort to faithfully reproduce Orville and Wilbur Wright's historic biplane. This AIAA full-scale replica of the 1903 Wright Flyer, and the only one to be wind tunnel-tested, is a virtual museum of the Wrights' groundbreaking work. Among other distinctions, the 650-pound plane was built using drawings from the Smithsonian's National Air and Space Museum, where the original is on display. 60 volunteers, nearly all of them active or retired aerospace professionals, met on weekends in a donated space to build the plane. The team studied the Wrights' drawings and read their writings, built and tested sub-scale models of the 1903 Flyer, plugged data into flight simulators and methodically assembled the full-size replica.

The true test of the AIAA Flyer's authenticity came in March of 1999. Over two weeks, the replica, mounted on a pivoting strut called a sting, "flew" at speeds up to 35 miles per hour (same as the Wrights experienced in Kitty Hawk) in a 40-by-80-foot wind tunnel at NASA's Ames Research Center in Moffett Field, California.

To ensure that the wind tunnel wouldn't damage the fragile plane – or vice-versa – the AIAA team reinforced their plane with aluminum spars in key places and used a motor powered by electricity instead of gasoline. Despite these and other changes, the two planes are virtually identical in appearance, power and aerodynamic characteristics.

Among other findings, the wind tunnel tests revealed that the Wrights' four flights that day were exceedingly difficult. The AIAA replica proved nearly impossible to fly, marked by violent pitching up and

down, just as the original Flyer was. In fact, when the Air Force plugged the data from the wind tunnel tests into a flight simulator, every test pilot – young Air Force pilots along with members of the AIAA team – “crashed” immediately. Likewise, every replica before the AIAA Flyer has also crashed.

Why were the Wrights alone able to fly their plane? Jack Cherne, chairman of the AIAA team, notes that “the Wrights had been practicing for about three years,” lying on the wings of gliders as they soared thousands of times over the sands of Kitty Hawk. And even they had problems. “Wilbur’s first attempt on December 14 was a crash,” adds Cherne.

To prevent a similar fate from reoccurring, the AIAA team used the wind tunnel test results to further adjust the design of a second replica they are building to fly.

The wind tunnel version of the plan is currently on a nation-wide tour as part of the Centennial of Flight celebration culminating in December 2003. The World Space Congress was the third stop on that tour. For more information visit [www.wrightflyer.org](http://www.wrightflyer.org).



## Honors & Awards Committee

*By Dr. Rakesh K. Bhargav*

On behalf of the Honors & Awards Committee of the AIAA Houston Section, I would like to congratulate the following Houston area members for being elevated to the AIAA Associate Fellow.

Jose M. Caram  
Gregory E. Chamitoff  
Dennis C. Chao  
Glenn M. Jenkinson  
William A. Langdoc  
Rodney L. Lofton  
Andrew J. Meade  
William C. Schneider  
Brewster H. Shaw, Jr.

It may be noted that a total of 19 members from Region 4 and 192 worldwide have been elevated to the Associate Fellow in the year 2002. I am hopeful that you will be able to help us in identifying other deserving members for the Associate Fellow upgrade. I know, we have many deserving members in Houston Area. Please note that the next due date for submitting the nomination is April 15, 2003.

## HATAC Partnership with AIAA

*By Dr. Merri Sanchez*

The Houston Area Technology Advancement Center, located at the University of Houston has announced that AIAA has joined HATAC as an Industrial Partner. The Houston Section will be the primary interface with HATAC for AIAA. HATAC has worked extensively with AIAA regarding the World Space Congress (October, 2002). For more information on HATAC, please go to [www.hatac.org](http://www.hatac.org). Members of AIAA will participate as volunteers and speakers within HATAC events.

HATAC is very happy to include AIAA as a partner and we look forward to a mutually rewarding relationship.

HATAC is an economic development-oriented effort that is focused on making the Houston region the skill and knowledge capital of the world. As a result, the intent of the HATAC effort is to improve the lot of all stakeholders by attracting new/retaining existing businesses within the Houston region. I've included a few of HATAC's efforts below (that are oriented along those lines):

- Dow Engineering and HATAC met with Prairie View A&M's College of Engineering (which includes Computer Science) in August, 2002. The interaction allowed PVAMU and Dow to share perspectives about the job/career market, education and inter-related needs. The outcome was very positive and more of these sessions are being scheduled.
- Alief ISD has created a prototype pre-engineering curriculum. This prototype has been covered with a number of area businesses (Shell, Dow, Halliburton, Diverse Networks, the City of Houston and others. It appears to be an excellent career-oriented sequence of courses. As the prototype evolves, we will keep you informed.
- HATAC has been working within the region to create a "living lab" (the lab) that will be used to provide real-life examples of research and development/advanced math and science applications. This is a huge effort and is one that has taken huge steps within the last month and a half.

While it is still too early to provide detailed information about the lab, we should be able to provide a briefing soon.

- HATAC provided speakers for the COSMOS project within the Clear Creek and Pasadena ISD project, which included AIAA representatives as speakers. COSMOS is focused on the development of math/science skills by leveraging industry experts in the fields of aeronautics, astronautics, medicine, business, etc.
- The HATAC soft skills program has been expanded to the Humble ISD CATE environment. Representatives from SBC, Joe Marsh (retired Shell Oil), Andy Buckalo (retired Exxon) and others will be participants in this expansion.



American Institute of Aeronautics and Astronautics

HOUSTON SECTION • P.O. Box 57524 • Webster, Texas 77598

Web site: <http://www.jsc.nasa.gov/aiaa>

***Working for at least 8-years & wondering:***

*Stay Technical or go into Management?*

*Need More Training?*

*Is my Career Stalled?*

*401K Balanced?*

*Spending Too Much Time at Work?*

***Then this workshop is for YOU!***

## **Mid-Level Professional's Workshop**

### **Career Planning and Development**

- Date: November 16, 2002 (Saturday)  
Time: 8:00 am to 2:00 pm  
Place: NASA-JSC's Gilruth Center  
(enter using public access gate # 5 from Space Center Blvd.)  
Cost: \$20.00 early registration ending October 25, 2002.  
\$30.00 regular registration ending November 8, 2002.

***This half-day workshop will include career development sessions for mid-level career professionals in the NASA-JSC community, a panel discussion on managing your career development, and a keynote motivational speech by Dr. Jack Bacon (NASA-JSC and AIAA Distinguished Lecturer).***

Sign-in, continental breakfast, and quick welcome will be 8:00 - 8:30 am. Sessions will be held from 8:30 am – 12:30 pm. A lunch will be provided followed by a keynote motivational speech. Various professional organizations will also be present to talk about what they have to offer. The AIAA Houston Section and United Space Alliance sponsor this workshop.

#### **Workshop sessions will include the following topics:**

- Career Path Options
- Financial Planning
- Managing Your Personal Life
- Performance Appraisals
- Promotion Training & Personal Development
- Working with International Customers

**You do not have to be an AIAA member to attend.**

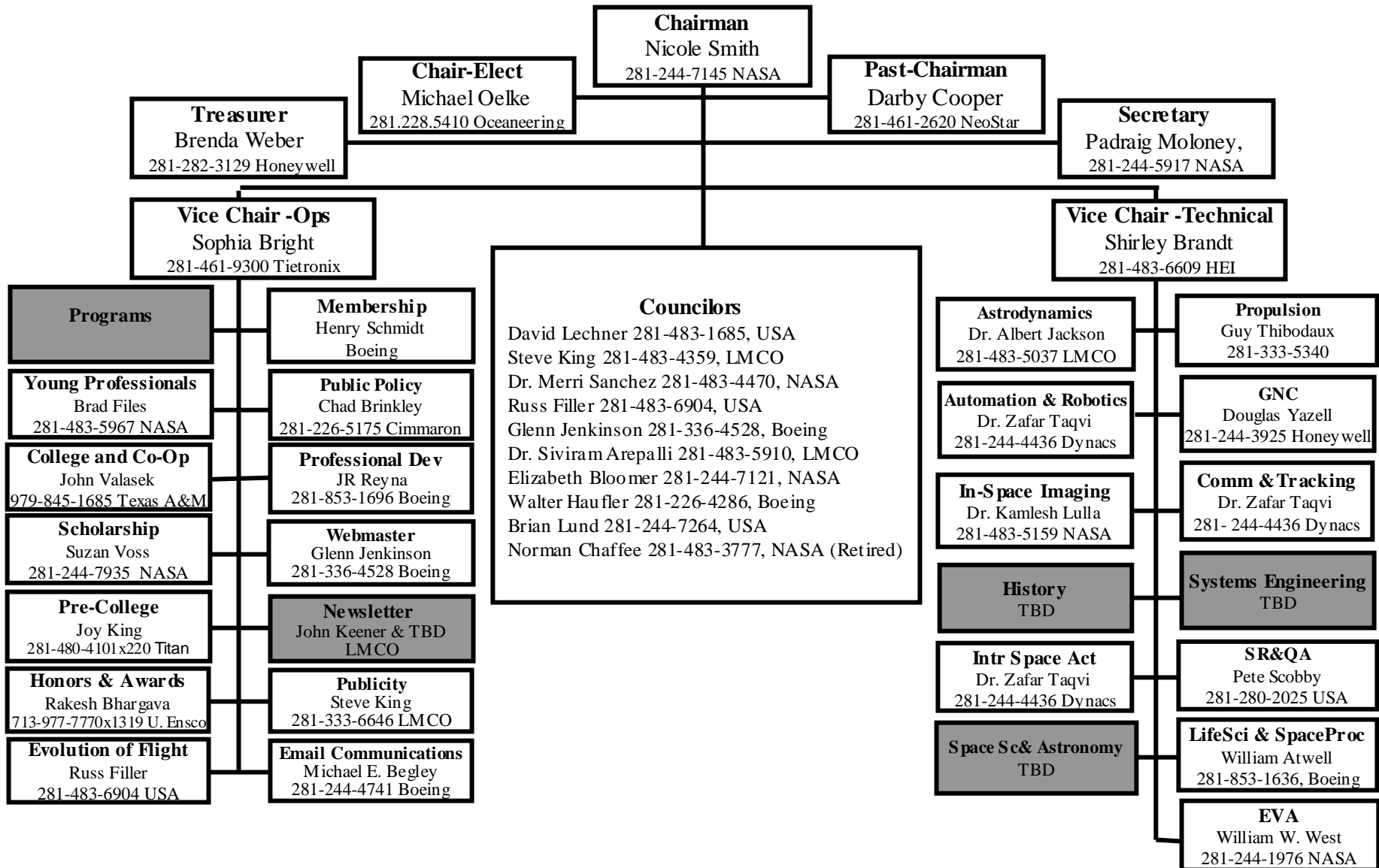
Registration information can be found at [www.jsc.nasa.gov/aiaa/mlpw2002](http://www.jsc.nasa.gov/aiaa/mlpw2002).  
Contact Jesus (JR) Reyna at 281-226-5850 or < [jr.reynajr@boeing.com](mailto:jr.reynajr@boeing.com) > with any questions.



# Houston Section Executive Council for 2002-2003

## Org Chart

as of 06 August 2002





**Houston Section**

P.O. Box 57524  
Webster, TX 77598

Non-Profit Organization  
U.S. POSTAGE PAID  
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Webster, Texas



**October 2002**

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