



**The Astronauts Memorial Foundation**  
**The Center for Space Education**  
 Mail Code AMF  
 Kennedy Space Center, FL 32899

The Astronauts Memorial Foundation  
 is a private 501 (c)(3)  
 non-profit organization.

**“As a living memorial to the astronauts we honor, The Astronauts Memorial Foundation will become a major influence on the future of education through the excitement of technology and space to ensure that future generations are prepared to face the challenges, both on and off our celestial home . . . The Spaceship Earth.”**

**MISSION:**

**EXCELLENCE**

SUMMER 2006

## Space Shuttle Discovery: Mission Success



*Space Shuttle Discovery and its crew lift off from Launch Pad 39B on America's Independence Day, July 4. The successful STS-121 mission was completed upon Discovery's landing at NASA's Shuttle Landing Facility at Kennedy Space Center on July 17.*

Completing a 13-day, five million-mile journey in space begun on America's Independence Day, the Space Shuttle Discovery succeeded in testing shuttle safety improvements, repairing a rail car on the International Space Station (ISS) and producing never-before-seen, high-resolution images of the shuttle during and after its July 4<sup>th</sup> launch. The STS-121 mission's seven-member crew included Commander Steve Lindsey, Pilot Mark Kelly and Mission Specialists Mike Fossum, Piers Sellers, Lisa Nowak and Stephanie Wilson, and European Space Agency astronaut Thomas Reiter.

Discovery delivered more than 28,000 pounds of equipment and supplies to the ISS, as well as a third crew member. Astronaut Thomas Reiter joined Russian Pavel Vinogradov and American Jeff Williams. This marks the first time since May 2003 that the station crew has three members.

The AMF congratulates NASA, the Discovery crew and all the support personnel for their dedication and commitment to safety while furthering our nation's pursuit of space exploration with its inherent risks and its innumerable benefits.



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Barber, director of ISSET.

representing NASA's Education Programs & University Research and Pre-College Programs, respectively, and, Chris Dr. Stephen Feldman and Walter Jaworski, representing the AMF; Dr. Gregg Buckingham and Dr. Steve Dutczak ISSET, has an excellent opportunity to make a real difference in this very critical area." In attendance were Jay Honeycutt, When asked why he believed this partnership would be beneficial, Honeycutt said, "I believe that the AMF, in concert with Operations and member of the Commission on the Future of Space and Aeronautics in Florida) initiated this first meeting.

The AMF's treasurer, Jay Honeycutt, (former KSC center director, retired president of Lockheed Martin Space

effectiveness of teaching and learning across the U.K.

ISSET's mission is to utilize space and space exploration to increase student and teacher motivation and to improve the

Space School Educational Trust (ISSET) to explore their possible affiliation with both the Foundation and NASA.

and technology throughout the United States. To this end, the AMF has met with the United Kingdom's International

If these prototype programs are successful at the CSE, then they can be used to increase the enrollment in math, science

and science as tools to study the space curriculum.

propose to train elementary school teachers to use "space" as a means to motivate the students to get excited about math

school teachers in the use of courses about "space" as a way to integrate math and science into the curriculum. Second, we

prototype educational programs to address these shortages in two ways. First, we propose to train high school and middle

At the Foundation's Center for Space Education (CSE) at the Kennedy Space Center (KSC), we hope to establish

graduate programs.

are producing fewer engineers and scientists and have become more dependent on non-Americans to enroll in our

here is a severe shortage of math and science teachers in Florida and throughout the United States. As a nation, we



**AMF Pursues Prototype Educational Programs  
in Math, Science and Technology**

## President's Perspective

Stephen Feldman, Ph.D.



**O**n behalf of the AMF, we salute NASA for the courage that it has shown with the successful launch of STS-121 on July 4 and its safe landing at Kennedy Space Center on July 17. Our Foundation's directors and trustees are committed to the success of the space program and are thankful for

the continuing bravery and commitment of the crew of Space Shuttle Discovery and all of our astronauts.

The purpose of the AMF's Center for Space Education (CSE) is to support educational technology, particularly as it relates to the space program. I was



at a meeting last month and Steve Dutczak, Ph.D., Pre-College Programs Lead, NASA, said that in many respects the CSE offers programs that serve people from the "womb to the tomb." On any given occasion we may have preschool students learning about space in NASA's Exploration Station, while the University of Central Florida is doing research with doctoral students in aerospace engineering and the AMF faculty is training teachers about the use of technology in the classroom, all in the same building at the same time.

We have recently entered into discussions with the International Space School Educational Trust (ISSET) housed in London, England, as well as NASA Education, the Universities of Miami and Central Florida, and the Florida Institute of Technology in order to identify new partnerships and additional educational programs in science, technology, engineering and math (STEM). We recognize the tremendous shortage of scientists, engineers and mathematicians in the United States, and we are committed to doing whatever we can to help address this problem. It is not in the best interest of America or of our space program to have most STEM students in American graduate schools to be foreign born and to have a shortage of math and science teachers in our classrooms. While the AMF can not solve these problems, we do hope to play a role in developing the solutions.

The newly created Space Florida has a mission to support economic development and to create jobs in the space industry in Florida. At the AMF we will work with Space Florida in every way possible to support their economic development initiatives and to fulfill Governor Bush's vision of making Florida "The Place for Space." At the same time, we recognize the educational and research void that is being created by the loss of the Florida Space Research Institute and the Florida Space Authority. We shall do everything possible at the AMF and in the CSE to fill this void and to develop new programs that will meet the technology needs of the space program and of our society.

Stephen Feldman 

## Message from the Chairman

**T**he spectacularly successful launch of Discovery on July 4 reminded us that the public continues to have an intense interest in space exploration and to express great admiration for those men and women who participate in the challenges of space exploration. The public fascination with these endeavors reminds all of us affiliated with the Astronauts Memorial Foundation of the opportunity that the AMF has to play a significant role in shaping the goals and futures of many young Americans. The interest in space exploration exhibited by vast numbers of Americans needs to be used to engage young people in science and engineering and to help the United States retain its position among the leaders in technological innovation in the world. The AMF is uniquely positioned to play an important role in inspiring such curiosity through the excitement of space exploration and the scientific inquiries that support such exploration.

Obviously, the challenge of producing engineers and scientists in sufficient quantities and of sufficient quality to maintain our leading role in technological innovation is huge and requires a strategic commitment of national scope. This challenge calls for not only changes in our educational system but also cultural changes that will cause young students to be willing



to make the investment necessary to undertake an educational track that demands dedication, commitment and tremendously hard work and diligence. The AMF certainly has no delusion that it can meet this challenge by itself. Such an effort requires societal changes and investment of resources from parents, educational institutions, business and government at all levels.

However, the AMF can, by forming alliances with businesses, educational institutions and governmental agencies, play a vital role in meeting this challenge. As you review this newsletter, you will see reports of various efforts of the AMF during the past several months to form just such alliances as will allow it to work with educational institutions, government at all levels and a variety of businesses in order to create the synergy that will result from this pooling of resources and efforts. This search for strategic alliances is not new for the AMF, but it is fair to say that it has a new intensity as a result of the discussion of this subject that is taking place nationally.

The AMF's Board of Directors includes leaders in education, space and business, all of whom are acutely aware of the need to redouble our efforts to produce sufficient numbers of talented engineers and scientists. Our Directors are determined to have the AMF fulfill its role in that effort. Our President, Dr. Steve Feldman, has a remarkable record as a leader in business and education that enables him to approach this effort with creativity and insight. Thus, as you review this newsletter, please pay particular attention to the manner in which the AMF is attempting to leverage the resources which you have provided to it by forming these alliances that are designed to address this strategic challenge facing our country.

Bill Potter 

Bill Potter



## Governor Bush Signs Legislation Establishing *Space Florida*

Last year, Florida's Governor Jeb Bush established a *Commission on the Future of Space and Aeronautics in Florida*, which was chaired by Lt. Governor Toni Jennings. Two members of the AMF's Board of Directors, **Jay Honeycutt** and **Bob Sieck**, were both on the Commission. Based partially on the Commission's recommendations, the Florida Legislature passed and Governor Bush signed legislation creating *Space Florida*.

*Space Florida* will foster the growth and development of a sustainable and world-leading aerospace industry in the State of Florida. *Space Florida* will promote aerospace business development by facilitating business financing, spaceport operations, research and development, workforce development, and innovative educational programs.

Playing a significant role as a co-sponsor of the House Bill 1489 was **State Rep. Thad Altman**, who serves as vice chair of the Spaceport & Technology Committee. "The changing environment in the space-related industry, with new directions towards commercialization and the President's new vision for an initiative to return to the Moon and on to Mars, led our Governor's office to spearhead the re-tooling of Florida's space initiatives," said Altman. "The consolidation of several agencies into *Space Florida* will allow for a streamlined approach to the marketing and presentation of a user-friendly, single point of contact for state aerospace-related activities with federal agencies, the military, state agencies, businesses, and the private sector."

It is the intent of the Legislature that *Space Florida* will encourage the public and private sectors to work together to implement an aggressive strategy that enhances the state's workforce, education, and research capabilities, with emphasis on mathematics, science, engineering, and related fields. *Space Florida* will focus on the state's economic development efforts in order to capture a larger share of activity in aerospace research, technology, production, and commercial operations, while maintaining the state's historical leadership in space launch activities. Also, *Space Florida* will preserve the unique national role served by the Cape Canaveral Air Force Station and the John F. Kennedy Space Center

Through the establishment of *Space Florida*, the new legislation eliminated the Florida Space Authority (FSA), the Florida Space Research Institute (FSRI), and the Florida Aerospace Finance Corporation (FAFC). The AMF worked closely with the FSRI as a partner in the Center for Space Education, as well as with the FSA. The Foundation intends to partner with *Space Florida* in an effort to create new jobs in the space industry.

When asked about the AMF, Rep. Altman stated, "The AMF is and has been a great success story from its beginning. This is due to the clarity of their mission and their continuing support of the legacy of our fallen astronauts and their families as well as their educational initiatives. They are a role model for other organizations."



House Photo by Mark Foley

*Rep. Thad Altman, R-Melbourne, debates on the House floor in favor of a measure during the 2006 Legislature, in Tallahassee, Florida.*

## AMF Greets German Space Students

The visit to the Center for Space Education (CSE) of 12 German students from the Space Education Institute (SEI) in Germany coincided with a twofold celebration for them. They attended the launch of Space Shuttle Discovery on Independence Day and took great pride in the fact that German astronaut Thomas Reiter, a member of the European Space Agency, was on board. Reiter, a mission specialist, will spend six months on the International Space Station (ISS). Also, the ISS module, Columbus, was built in Germany and was transported by Discovery to the ISS carrying needed supplies and equipment.



*The Team Germany Mission 2 students from the Space Education Institute in Germany, with Yvonne Blaese, right, in front of the AMF's National Space Mirror Memorial.*

While at the CSE, the students met with Foundation president, **Stephen Feldman, Ph.D.**, and received a tour throughout the educational facility. While presenting Dr. Feldman with their Team Germany Mission 2 patch, it was revealed that each of the students had researched and selected one of the fallen astronauts the AMF memorializes. During several touching moments, the students told why they had picked a particular astronaut and why that astronaut was special to them.

Accompanying the students were **Ralf Heckel**, founder and president of the SEI located in Leipzig, Germany, **Yvonne Blaese**, Space Ambassador of the Moscow Aviation Institute, **Uwe Greif**, the student group's mission manager, and **Dr. Jesco von Puttakamer**, who worked with von Braun and the rocket team beginning in the early 1960s. Von Puttakamer now works at NASA headquarters in Washington, D.C. Heckel's mission is to interest students in space exploration and to help connect students in Germany, Russia and the United States through the vision of space flight. The guiding principles Heckel has taught the students are the same as NASA's core principles – safety, integrity, team spirit and mission success.

For Heckel, this trip to the United States is the beginning of a journey for these young German students. "This is the same as Columbus. It's about looking into the future," Heckel said. "We want to be part of space exploration, in this generation, to travel to the Moon and Mars and beyond."

The mostly East German high school students are participating in an intensive program that has included visits to Star City, Russia; Kennedy Space Center, Florida; Johnson Space Center, Texas; Lockheed Martin's Michoud Assembly Facility, Louisiana; and the U. S. Space and Rocket Center in Huntsville, Alabama.