



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

NON-PROFIT
 U.S. POSTAGE
 PAID
 Mid Florida BMEU
 Zip Code 32799
 PERMIT NO.96455

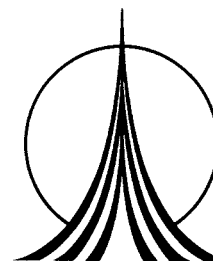
“The Astronauts Memorial Foundation honors and memorializes those astronauts who have sacrificed their lives for the nation and the space program by sponsoring the National Space Mirror Memorial and by implementing innovative educational technology programs.”

MISSION:

EXCELLENCE

SPRING 2011

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



The Astronauts Memorial Foundation

Phone: 321-452-2887

Fax: 321-452-6244

E-mail: amfreg@amfcse.org
www.amfcse.org

Officers

Michael J. McCulley
 (Captain, USN, Ret.)
 Chairman

Stephen Feldman, Ph.D.
 President & CEO

Nick Witek
 Vice Chairman

N. Jan Davis, Ph.D., P.E.
 Treasurer

Daniel R. Pearson
 Secretary

Board of Directors

Martha Chaffee
 Laura Shepard Churchley
 Alan J. Doshier

Kevin C. Hoshstrasser
 Adrian Laffitte

Jon A. McBride (Captain, USN, Ret.)
 Richard McNeight
 William W. Parsons

J. Gregory Pavlovich (Brig. Gen., USAF, Ret.)
 Sue Rauch

Jerry Senne, FACHE
 Scott J. Seymour
 M. J. Soileau

Robert C. Springer (Colonel, USMC, Ret.)
 Thomas E. Vice
 Dave Weldon, M.D., F.A.C.P.
 Jeremy C. Wensinger
 Michael H. Williams

Feldman Named to U.S. Space Walk of Fame Foundation

The U.S. Space Walk of Fame Foundation recently named seven new members to its board. Among those is **Stephen Feldman, Ph.D.**, AMF President & CEO, who will serve to help achieve the goal of building a \$500,000 shuttle monument in Space View Park, Titusville, Florida. The monument, intended to recognize the many workers who supported the Space Shuttle Program, will join existing monuments honoring workers in the Mercury, Gemini and Apollo Programs. The U.S. Space Walk of Fame Foundation is a nonprofit corporation.

Other AMF board members on the U.S. Space Walk of Fame Foundation board include **Jon McBride, Bob Sieck, Lee Solid** and **Bob Springer**.



SPACE SHUTTLE CHALLENGER



25th Anniversary Memorial Ceremony

President's Perspective

Stephen Feldman, Ph.D.




June Scobee Rodgers, the widow of Challenger Commander Dick Scobee, gave the keynote address at the AMF's event commemorating the 25th anniversary of the Challenger accident. As usual, June's speech was outstanding and set the tone for a very moving and meaningful ceremony. In addition to June, we had presentations by Bob Cabana, a former shuttle commander; Mike McCulley, a former shuttle pilot; Bill Gerstenmaier, NASA Associate Administrator for Space Operations; and, Rick Soria, a teacher who is a recipient of the Alan Shepard Technology in Education Award. The event was extremely well done and at least a portion of the ceremony was seen on television by millions of people. The ceremony is a continuing part of the AMF's mission to "honor and memorialize those astronauts who have sacrificed their lives for the nation and the space program." Almost 900,000 people per year will visit the Space Mirror Memorial at the Kennedy Space Center and thousands more will see the replicas that we have recently donated to museums throughout the country.

Ten weeks later, the AMF honored an educator from Maryland by presenting him with the Alan Shepard Technology in Education Award at the National Space Symposium in Colorado Springs as we continue to support the living memorial portion of our mission by rewarding educators who motivate students to study science, technology, engineering and mathematics.

Those two events taken together were a productive period for our foundation as we continue to train educators and reach out to impact more students. On May 16, we viewed the magnificent launch of the Space Shuttle Endeavour and concluded a three-month period that would typically leave us feeling pleased with our performance and proud to be part of the space industry.

Unfortunately, a cloud remains over our heads as layoffs mount at the Kennedy Space Center in particular and in the space program in general. We are watching our friends and colleagues lose their jobs as the United States plans to pay Russia \$63 million for every one of our astronauts that they take to the International Space Station.

The astronauts whom we honor at the AMF serve as role models for future generations to willingly accept necessary risks in the pursuit of exploration and knowledge so that they too can contribute to the continued success of our nation and its space program.

In order to honor these astronauts who have sacrificed their lives for the benefits of human exploration of space and to allow Americans continued pride in our space program, the AMF vigorously supports uninterrupted continuation of U.S. human space flight systems and the maintenance of NASA's leadership in space exploration. 

Message from the Chairman

Michael J. McCulley
(Captain, USN, Ret.)




On behalf of the Foundation, I want to welcome J. Gregory Pavlovich "Pav" to our board of directors. He brings a wealth of knowledge and experience from both his public and private careers.

Once again, the Alan Shepard Technology in Education Award drew outstanding applicants. The competition this year was awesome. The winner, James Richmond of Charles County Public Schools in Maryland, was somewhat unusual in that he is not a classroom teacher but an administrator who is leading the charge to create a new and innovative school that will set new standards for educating our children. The dinner event was well attended by directors and trustees and included Barbara Morgan, the first teacher in space.

Recently there was an announcement about the eventual location of the three retired shuttle orbiters – Discovery, Endeavour and Atlantis – and Enterprise, which flew the approach and landing flights prior to STS-1. Frankly, I was surprised there will be three on the east coast and one orbiter on the west coast. I would have expected one to be placed somewhere in the middle of the country. I know the Houston folks agree.

Of immediate concern is the wave of space-related job losses here at Kennedy Space Center and the effect of those layoffs on local and state economies. A highly-skilled, specialized workforce is being lost. Please take a few minutes to read an excellent missive in this newsletter. In his published article, one of our board of directors, Kevin Hoshstrasser, addresses some of the problems our space industry is facing. Kevin has been very active and vocal in his efforts to gain the support of and commitment from both our state legislature and the current administration to maintain America's distinction as a global space leader.

After the shuttle Atlantis' final mission this summer, the U.S. will be without a human space flight program for the first time in more than 30 years. In time, I believe the commercial folks will have some success with their endeavors, but I worry about the International Space Station's crew and the viability of this magnificent laboratory. Without America's capability to get large payloads up and down to the Station, we will be relying on Russia's space agency, Roscosmos, which has been a really fine partner in the past. Roscosmos has agreed to transport American astronauts to the ISS on its Soyuz space capsule at a cost of about \$63 million per seat. As I have said before, I am very concerned about the future of human space flight for the United States. I hope my pessimism is misplaced. 

CCPS programs initiated under Richmond include:


- *Project Lead the Way*, an aerospace engineering-themed course, in CCPS high schools;
- *Gateway to Technology*, which includes a new flight and space curriculum, in CCPS middle schools;
- STEM curriculum written by the NASA Dryden Flight Research Center;
- Space Foundation *Space Across the Curriculum* professional development courses for CCPS teachers of all grade levels;
- Telepresence distance learning technology for live exchanges among students and aerospace scientists and engineers around the world;
- “Magic Planet,” a device that allows teachers to use real-time NASA data to create three-dimensional videos that depict scientific phenomenon; and,
- The Team American Rocket Challenge, an international program to involve students in aerospace engineering.

Richmond’s significant accomplishments include:

- Securing federal grants to add digital technology to classrooms;
- Involving all of the district’s 35 schools in the MESA (Mathematics, Engineering and Science Achievement) program since 2007;

- Developing productive partnerships with a wide range of space industry, military, government and educational institutions and individual scientists to support and supplement CCPS school programs; and,
- Including a digital classroom/planetarium with aerospace programming and “Science on a Sphere” for use by students throughout the district in the new St. Charles High School that opens in 2013.

“Jim Richmond is a vocal champion for STEM and for using space themes to engage students in technology subjects,” said Space Foundation CEO Elliot Pulham. “He is also a good friend of the Space Foundation and an extraordinary educator.”

The award is named after Alan Shepard, who was one of the nation’s original seven Mercury astronauts, was the first American to fly in space, one of only 12 humans who have walked on the moon, and a former AMF board member. The award recognizes excellence, quality and innovation in the development and application of technology in the classroom or to the professional development of teachers. More information about the award is available at www.amfcse.org. 



Presentation of the Alan Shepard Technology in Education Award, left to right; Dr. Stephen Feldman, President & CEO, the Astronauts Memorial Foundation; James E. Richmond, Superintendent, Charles County Public Schools, Maryland and 2011 award winner; and Elliot H. Pulham, CEO, the Space Foundation.

Florida’s \$8 Billion Space Industry at Critical Turning Point

On March 16, the Associated Press published the following article, which was written by **Kevin Hoshstrasser**, an AMF director, site director for Boeing Space Exploration Florida Operations at Kennedy Space Center, Florida and was this year’s Honorary Chairman of Florida Space Day.

With the space shuttle program coming to a close later this year and no clear direction on its replacement, the State of Florida is facing an economic crisis with a ripple effect that will last for years to come. More than ever, the state needs to maintain its position as the nation’s No. 1 place to do space business.

The state’s aerospace industry employs 84,000 workers from 1,900 statewide companies. The space industry alone represents an \$8 billion business in Florida. As the space shuttle completes its final flight this year, the job losses could reach 21,000 direct and indirect employment losses that represent a highly skilled workforce across Florida.

Florida stands to reap tremendous benefits as a global powerhouse through investments in the aerospace industry. New business and employment opportunities are created by a robust launch, ground operations and supply-chain business constellations. A world-class workforce that remains in Florida and grows bolsters our economy and inspires future scientists and engineers. Additionally, cutting-edge research and development supports target business groups and sciences of global significance.


On March 1, NASA announced that Kennedy Space Center (KSC) would “lead the way in enabling commercial human space flight capabilities and host a program office dedicated to that work.” It said KSC “will continue to provide launch services to both science missions and commercial crew providers.”

Today, I will join my colleagues in the space industry to speak with state leaders in Tallahassee. It is essential that Florida’s legislators, local elected officials and the business community work in a unified fashion to push for a commitment in Washington to maintain America’s prominence in space exploration; attract new business by offering incentives to mitigate job loss, creating a 21st century aerospace community; and position Florida to capture innovative national and international space-related business to stimulate the economy.

What Florida gets from space is more than science. Failure for us to act now will risk the loss of a highly skilled workforce that grows economies and inspires future engineers and scientists. Florida’s world-class aerospace business location is at stake.

We are at a turning point. We need your support now to prevent an economic downfall to the state and compromise one of our nation’s greatest assets.

In response to Hoshstrasser’s commentary, **Commissioner Mary Bolin**, Brevard County Board of County Commissioners, said, “The Space Coast is proud of our human space flight heritage and continues to have very high expectations for both future commercial and exploration space programs. A firm, sustainable direction out of Washington is critical if the Space Coast is to remain competitive.”

Further remarks came from **Mark J. Nappi**, Vice President, Launch and Recovery Systems, United Space Alliance, who stated, “The end of the Space Shuttle Program is adversely affecting our local economy and is impacting our human space flight capability. The men and women who built this incredible national capability deserve our efforts to preserve human space flight and carry on the position of world leadership in space.” 

NASA Announces New Homes for Shuttle Orbiters after Retirement

After 30 years of spaceflight, more than 130 missions, and numerous science and technology firsts, NASA's space shuttle fleet will retire and be on display at institutions across the country to inspire the next generation of explorers and engineers.


According to a NASA press release in April, NASA Administrator Charles Bolden announced the facilities where four shuttle orbiters will be displayed permanently at the conclusion of the Space Shuttle Program. Shuttle Enterprise will move from the Smithsonian's National Air and Space Museum Steven F. Udvar-Hazy Center in Virginia to the Intrepid Sea, Air & Space Museum in New York. The Udvar-Hazy Center will become the new home for shuttle Discovery. Shuttle Endeavour will go to the California Science Center in Los Angeles. Atlantis, which will fly the last planned shuttle mission this summer, will be displayed at the Kennedy Space Center Visitor Complex in Florida.

"We want to thank all of the locations that expressed an interest in one of these national treasures," Bolden said. "This was a very difficult decision, but one that was made with the American public in mind. In the



Initial design concept for the Space Shuttle Orbiter Atlantis exhibit showcases Atlantis as it appears in flight.

end, these choices provide the greatest number of people with the best opportunity to share in the history and accomplishments of NASA's remarkable Space Shuttle Program. These facilities we've chosen have a noteworthy legacy of preserving space artifacts and providing outstanding access to U.S. and international visitors."

When asked what the placement of the orbiter Atlantis means to the Kennedy Space Center Visitor Complex, **Bill Moore**, chief operating officer for the complex, stated, "We are honored to be entrusted with space shuttle Atlantis, to preserve this remarkable national treasure and share the space shuttle story with millions of visitors from around the world. Plans are underway to create a home for Atlantis that is as much about the thousands of people who have worked on the Space Shuttle Program as the space shuttle itself. Guests will be close enough to almost touch this real space-flown orbiter." 

Left: Concept rendering shows visitors the underside of the Space Shuttle Orbiter Atlantis.



James Richmond Receives the 2011 Alan Shepard Technology in Education Award



James E. Richmond
Superintendent, Charles County Public Schools, Maryland – the 2011 the Alan Shepard Technology in Education Award winner.

James E. Richmond, superintendent of the Charles County Public Schools (CCPS) in Maryland has been selected by the Astronauts Memorial Foundation (AMF), the National Aeronautics and Space Administration (NASA) and the Space Foundation as the winner of the 2011 Alan Shepard Technology in Education Award, which was presented during the opening ceremony of the *27th National Space Symposium* on April 11 at The Broadmoor Hotel in Colorado Springs, Colorado.

The Alan Shepard Technology in Education Award is given annually in recognition of outstanding contributions to technology education by K-12 educators or district-level education personnel. The superintendent of a district with nearly 27,000 K-12 students, Richmond has launched multiple programs to help his students excel in science, technology, engineering and mathematics (STEM).

Richmond started his education career with CCPS in 1966 as a classroom teacher. Since then he has served as social studies teacher, vice principal, high school principal, director of supervision and curriculum, director of school administration and regional administrator. He is currently in his fourth term as superintendent of CCPS.

"A long-time advocate for STEM education, James Richmond has made a lasting impact on tens of thousands of students," said Dr. Stephen Feldman, president and CEO of the Astronauts Memorial Foundation, which administers the award. "And, through the programs he has created, he is helping to develop a future workforce of scientists and engineers."

Located 25 miles south of Washington, D.C., CCPS has been able, under Richmond's guidance, to take advantage of its proximity to the Naval Surface Warfare Center, Andrews Air Force Base and the Patuxent River Naval Base to develop compelling and real-life-based technology programs for students. In addition, CCPS has worked closely with the Space Foundation to bring space-related STEM programs to teachers and students.

James Richmond Receives the 2011 Alan Shepard Technology in Education Award continued on Page 6



25 YEARS

*Remembering
Challenger*



25th Anniversary Memorial Ceremony

Challenger Crew Is Remembered on 25th Anniversary

On Friday, January 28, 2011, the Astronauts Memorial Foundation (AMF) conducted a ceremony to honor the crew of space shuttle Challenger STS-51L in remembrance of the 25th anniversary of the Challenger accident. The ceremony was held at the Space Mirror Memorial at the Kennedy Space Center (KSC) Visitor Complex.

The space shuttle Challenger's crew of seven astronauts died in the explosion of their spacecraft during the launch of STS-51L on January 28, 1986. The crew included Commander **Francis R. (Dick) Scobee**, Pilot **Michael J. Smith**, Mission Specialists **Judith A. Resnik**, **Ronald E. McNair** and **Ellison S. Onizuka**, Payload Specialist **Gregory B. Jarvis** and **Sharon Christa McAuliffe**, the first teacher to fly in space.

The ceremony took place in front of the Space Mirror Memorial, upon which the names of 24 astronauts are etched and emblazoned 24 hours a day. The memorial honors the astronauts of the Challenger, Columbia and Apollo missions as well as the astronauts who died while in training for space flight. Attending the service, which was televised nationally, were some of the fallen astronauts' family members, other astronauts, many NASA employees, aerospace executives and hundreds of visitors. The public was invited to attend the service and the KSC Visitor Complex provided flowers for all ceremony guests and visitors, which were placed at the memorial.

The keynote speaker was **June Scobee Rodgers, Ph.D.**, widow of space shuttle Challenger Commander Francis R. (Dick) Scobee. Other speakers included **Michael J.**

McCulley, Captain, USN, Ret., Chairman of the Board of Directors of the AMF and former space shuttle pilot; **Robert D. Cabana**, Colonel, USMC, Ret., Director, NASA KSC and former space shuttle commander; **Rick Soria**, 2009 Alan Shepard Technology in Education Award winner; **William H. Gerstenmaier**, NASA Associate Administrator for Space Operations; and **Mick Ukleja, Ph.D.**, member of the Board of Trustees of the AMF. The Foundation's President & CEO, **Dr. Stephen Feldman**, moderated the ceremony. Rodgers and Gerstenmaier placed a wreath at the base of the Space Mirror Memorial, which signified the closing of the ceremony.

In a very moving and touching speech, Rodgers reminded us, "The Challenger mission – a mission

to teach – was incomplete. Lessons were left untaught. Scientific and engineering problems were left unsolved. If we didn't continue Challenger's mission of education, then our loved ones would have died in vain. We couldn't let that happen, so we turned this unimaginable tragedy into a monumental triumph." Rodgers is referring to the Challenger Centers, which were founded by the seven families of the Challenger crew.



Above: William Gerstenmaier, Associate Administrator for Space Operations, NASA addresses visitors during the ceremony.



Left: June Scobee Rodgers, Ph.D., wife of space shuttle Challenger Commander Dick Scobee, and William Gerstenmaier place a wreath at the base of the Space Mirror Memorial.



Above: June Scobee Rodgers was the keynote speaker at the 25th anniversary memorial for the Challenger crew.



Visiting students take a moment to reflect on the meaning of the ceremony.



Above: Flowers, placed around the Space Mirror Memorial by guests and visitors, frame the names of the Challenger crew emblazoned on the mirror.



Above: Attending the ceremony were Robert Crippen, who served as pilot of the first space shuttle mission, Nick Witek, Chuck Clemente and Rick McNeight.

Left: Robert Cabana, Director, NASA Kennedy Space Center, speaks to the guests. Seated to his left are Dr. Stephen Feldman, President & CEO, the AMF, June Scobee Rodgers, Ph.D. and Michael J. McCulley, Chairman, Board of Directors, the AMF, and former space shuttle pilot.