Oct. 16, 2009 Vol. 49, No. 21

Spaceport News

John F. Kennedy Space Center - America's gateway to the universe

www.nasa.gov/centers/kennedy/news/snews/spnews_toc.html

Journey back to moon inspires students, teachers

By Linda Herridge
Spaceport News

NASA's Lunar Crater Observation and Sensing Satellite, or LCROSS, made an impact on more than just the moon when it plunged into the surface shortly after 7:31 a.m. EDT Oct. 9.

For several weeks leading up to the event, Kennedy Space Center's Education Division conducted workshops and special activities for hundreds of students and teachers from Brevard County, Fla., and across the country.

Dr. Lesley Garner, lead for Elementary/Secondary and Informal Education, said it's an exciting time to be part of NASA education.

"The students who are participating in Lunar Reconnaissance Orbiter/LCROSS education activities could very well play a role in sending mankind back to the moon and on to Mars," Garner said. "To help them achieve this goal it is vital that we take an active role to encourage students to pursue science, technology, engineering and mathematics, or STEM, careers at an early age."

NASA

Hundreds of Kennedy Space Center workers gathered early Oct. 9 to watch the LCROSS moon impact at the Operations and Support Building II 5th floor Conference Room and the Operations and Checkout Mission Briefing Room. The LCROSS mission seeks to test for water ice deposits on the moon, which will pave the way for future human lunar exploration.

Those wishing to catch a live glimpse of the impact gathered in Kennedy's Operations and Checkout Building and the Operations Support Building II. Although the cameras on the impactor went out right before it hit, the excitement of the mission's goal did not.

"It's the next step in exploration for the next generation," said Laila Rahmatian, NASA co-op.

While LCROSS investigators are busy scanning through data for signs of water ice deposits on the moon, the activities will continue at NASA's Educator Resource Center, or ERC, through at least December, and perhaps beyond.

In September and October, the ERC hosted Florida students from Andrew Jackson Middle School in Titusville; Clearlake Middle School in Cocoa; and Girl Scouts from Brevard and Orange counties, for its LCROSS-related activities "On Target" and "Touch Down."

The "On Target" activity challenged students to modify a paper cup so it could zip down a line and drop a marble onto a target. The "Touch Down" activity challenged students to protect two "astronauts" during landing by designing and building a shock-absorbing system, using cardboard, paper cups, straws and mini-marshmallows.

"The students had a great time and came back excited about being able to accomplish something special, even though they usually have difficulty doing normal classroom bookwork," said Dana McLaurin, a special education teacher at Stone Middle School in

See **MOON,** Page 2

What we said . . .

Kennedy Space Center workers gathered in the Operations and Checkout Building and the Operations Support Building II for a live viewing of the LCROSS lunar impact. Here's what they said.

"It's another day in history."
– Jennifer Abernathy, NASA Launch Services Program

"It took me back to the impact it had on me when I witnessed the first moon landing in 1969."
– Larry Tucci, ManTech

"Hopefully we'll learn from this lunar landing how to scale the blast of an Altair descent stage impact from an aborted landing near a lunar outpost."
– Phil Metzger, NASA Engineering Surface Systems

"Losing the video was not that big of a deal, as long as they get the data they need, everything should be OK. I'm anxiously awaiting the data and hoping there's water up there on the moon."
- Christopher Han, United Space Alliance

"I'm kind of disappointed we lost video, but it still was very exciting. Hopefully we'll see what the data has to show."
– Don Spratt, NASA

Inside this issue . . .

From **MOON,** Page 1

Melbourne, Fla.

Other events included a Brevard In-service Teacher Workshop on Sept. 14, followed by another workshop on Oct. 3. Facilitators took LCROSS activities on the road to Durbin Creek Elementary School in Jacksonville, Fla., Sept. 15, where students and their families gathered for Astronomy Night, and viewed the moon through telescopes provided by the ERC.

According to ERC Program Manager Birdette Brown, with the University of Central Florida, the ERC will host LCROSS briefings for Girl Scouts, Boy Scouts and Orange County educators Oct. 17.

Later this month, LCROSS activities will reach more Florida students from Willow Creek Middle School in Vero Beach, Lake Highland Preparatory School in Orlando, Trinity School in Tampa, and Mathis Elementary School in Jacksonville.

LCROSS briefings and activities already were given to the Indian River and Gifford libraries in Vero Beach, Fla., the Citrus Council Girl Scouts, students visiting from Ennis Junior High School in Montana, Lauer Middle School in Pennsylvania, New Covenant School in Orlando, and Living Science Home School in Georgia.

LRO/LCROSS press kits and special DVDs titled, "Let's Kick up Some Moon Dust," were sent to each Brevard County school. The ERC also hosted planetarium shows leading up to and after the impact.

"We are excited to share STEM LCROSS hands-on activities with students and educators," Brown said. "It is an amazing opportunity to be able to inspire the next generation of astronauts, scientists, engineers, geologists and geographers, as well as students interested in the many other career opportunities NASA has to offer."

The education outreach doesn't end there. About 30 college undergraduate and graduate students from around the country participated in an online chat with LCROSS Co-Investigator Peter Schultz on Oct. 15. Schultz also is the director of the Rhode Island Space Grant through NASA's Exploration Systems Mission Directorate.

"Our content is literally 'out of this world,' " Garner said.

October is Energy Awareness Month

Despite the recent and unexpected heat wave, October is the time of year when we welcome cooler temperatures and observe Energy Awareness Month.

This year's energy theme, "A Sustainable Energy Future: We're Putting All the Pieces Together," encourages everyone to help acheive and maintain an energy-efficient future.

When we put all the pieces together, all of us -- NASA, private industry and the public -- we have the means to shape our energy future and move our nation toward energy independence.

The 2009 Energy Awareness Month campaign reminds federal employees to switch off unnecessary lights and equipment, use efficient Energy Star products and compact fluorescent light bulbs, and drive fuel-efficient and alternative-fuel vehicles.

The National Energy Conservation Policy Act requires all federal agencies to reduce energy consumption per gross square foot by 3 percent annually or 30 percent by 2015.

In addition to the energy conservation measures above, the Kennedy Space Center Energy Working Group calls on all employees to reduce energy consumption by unplugging equipment that drains energy even when not in use and placing trouble calls to report energy waste in the work area.

Follow Kennedy's slogan, "Get a Grip on the Power, Save Energy at KSC."

Ways to conserve

For more ways to conserve energy in the workplace, click on the "Bring your Green to Work" link at: **www.energystar.gov.**

Water recycling competition

NASA also is calling on fifth- through eighth-grade students to participate in a waste limitation management and recycling design challenge.

Participants in the competition will design and test water recycling systems that could be used for future exploration of the moon. The top three teams will receive awards, and the first place team will receive a trip to Kennedy.

Teams of up to six students and one teacher or mentor should submit their proposals and results to NASA for evaluation by Feb. 1, 2010.

Schools in the United States and its territories, science museums, science centers and home school groups may host teams.

The winning teams will be announced in May 2010. During the winning team's visit to Kennedy, students will gain firsthand knowledge about NASA's missions, receive behind-the-scenes tours of launch facilities, and learn about future aerospace and engineering careers.

The competition is designed to engage and retain students in the science, technology, engineering and math disciplines critical to NASA's missions.

For information about the challenge and how to apply, visit: **www.nasa.gov/offices/education/centers/kennedy/home**.

Musgrave to speak

NASA astronaut Story Musgrave will talk about "The Beauty of Nature, The Art of Technology" during a presentation at 6:15 p.m. Oct. 17.

Brevard Community College is hosting the event at the Cocoa campus' Florida Solar Energy Center at 1679 Clearlake Road in Cocoa, Fla.

For tickets, call 321-727-2311.

Former Kennedy worker, astronaut remembered

Fernando "Frank" Caldeiro, a NASA astronaut and former Kennedy Space Center employee, died Oct. 3 after a battle with brain cancer. He was 51.

Caldeiro was born June 12, 1958, in Buenos Aires, Argentina, but considered New York City and Merritt Island, Fla., to be his hometowns. Caldeiro was the first person of Argentinean descent to train for a spaceflight.

Caldeiro joined Kennedy Space Center in 1991 as a cryogenics and propulsion systems expert for the Safety and Mission Assurance Office. He took part in 52 space shuttle launches before being chosen as an astronaut candidate in 1996.

He received his master of science in engineering management from the University of Central Florida.

He is survived by his wife, the former Donna Marie Emero of Huntington Beach, Calif., and two daughters, Annie and Michelle.

NASA file/1998

Astronaut Fernando "Frank" Caldeiro in front of space shuttle Discovery as it moves out of Orbiter Processing Facility-2 en route to the Vehicle Assembly Building in 1998.

Disney celebrates Buzz Lightyear's return from ISS

By Steven Siceloff
Spaceport News

Buzz Lightyear didn't quite make it to infinity, but he went well beyond the realm of other action figures.

The icon of Disney's "Toy Story" films spent 15 months on the International Space Station and got a ticker-tape parade alongside real-life moonwalker Buzz Aldrin and Expedition 18 Commander and NASA astronaut Mike Finke to welcome him home to Disney World in Orlando, Fla., on Oct. 2.

"Buzz was the perfect crewmate," Finke said. "He lifted our spirits, he didn't talk much and he didn't eat much, so he left us his extra portions."

While Buzz Lightyear is a space ranger, Finke said the character's best work has been in serving as a bridge between the fun, fanciful side of spaceflight and the technical and scientific skills NASA uses to make spaceflight happen in real life.

"Buzz is internationally known, and Buzz is a space ranger, so by sharing some of Buzz's adventures with what we do at NASA, it really highlights a lot of good things for NASA and shows what we really do, what astronauts do," Finke said.

The toy's popularity gives NASA a head start in getting children's attention in a world in which focus is short-lived, said Joyce Winterton, associate administrator for NASA Education.

"It's something that students and children can relate to," Winterton said. "So when they see him going up in space on the shuttle or the station it becomes a touch point for them."

The parade coincided with a NASA education initiative that includes an opportunity for students to propose an experiment which will be flown on the International Space Station. There also is a contest to design a mission patch that will go into orbit on the station.

"We've got the attention of thousands of students because of Buzz Lightyear," Winterton said. "And hopefully we'll have a large number of students say let's plan an experiment. Of those we'll pick 12 that will fly on the International Space Station, and that's pretty great."

NASA/Dimitri Gerondidakis

Buzz Lightyear received a space hero's welcome during a ticker-tape parade through Walt Disney World's Magic Kingdom on Oct. 2. The 12-inch-tall action figure spent more than 15 months aboard the International Space Station and returned to Earth on Sept. 11.

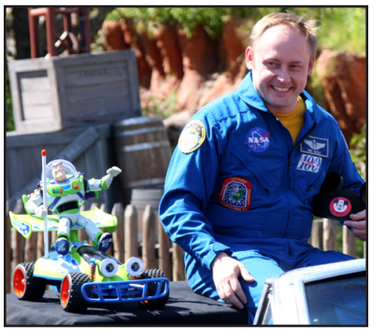
Disney also developed and posted several Web-based educational games for Buzz's launch and landing based on NASA's missions and goals.

Finke and Buzz's mission at Disney's Magic Kingdom also included teaching school children about space travel, science and technology.

Veronica Franco, an education specialist at Kennedy Space Center, led a number of space-related demonstrations, including freezing and crumbling plants using liquid nitrogen. With help from "Spaceman" from the Kennedy Space Center Visitor Complex, she showed how astronauts get dressed for a spacewalk.

Then it was Finke's turn to wow the students with firsthand accounts from his two, six-month stays in the weightlessness of space. He looked at stars, conducted research on changes to the body and basically adjusted his body to cope with the unpredictable nature of things in zero gravity.

So what did students want to hear about first? The technologically advanced toilet.



NASA/Dimitri Gerondidakis

Buzz Lightyear and his former International Space Station crewmate, Mike Finke, share the limelight in a welcome home parade at Disney World in Orlando, Fla., on Oct. 2.

Buzz didn't have to learn that lesson during his time in orbit.

Disney was aware of the somewhat mixed goals for NASA and the entertainment company, and backed down its normal commercial considerations for the chance to send Buzz into space.

"You've got to strike a balance," said Disney's Duncan Wardle, the company's global vice president for Public Relations Integration. "And it's a hard role for a government organization sponsored by the taxpayer, but you've got to excite the next generation of space travelers."

Buzz has proven an attraction in ways Wardle said he didn't expect. For instance, a U.S. Air Force officer at Edwards Air Force Base in California asked for a photo with Buzz after space shuttle Discovery touched down there in September ending the STS-128 mission.

But the idea was hardly a certainty when Wardle pitched it to a roomful of NASA officials.

"My sense was 50 percent loved the idea but probably didn't want to say it, and 50 percent of the room wanted to pick me up and throw me out the window," Wardle recalled.

Once the plan was approved, there was still a significant hurdle for the project: 12-inch Buzz Lightyear action figures had gone out of production months before and Wardle's team of employees could not find them in any store, warehouse or anywhere else.

"I was driving back to the office, and I got a call and all I heard was a voice, 'To Infinity and Beyond,'" Wardle said. "Then my wife said, 'Found it, it's been underneath (my son's) bed. It's been there six months collecting dust. And I was like, 'Right, that's it then, that's the Buzz Lightyear that's going into space. Wasn't quite in the plan, but . . . "

That Buzz went from bedroom floor to Houston in days, and into orbit a couple months later. At that point, there was not any talk of bringing the action figure back. Instead, he would stay on the station as a permanent resident, including during the station's fiery entry when it eventually is de-orbited.

Wardle provided the winning argument for bringing Buzz back on the shuttle: "I said, guys, if you incinerate Buzz Lightyear, I'll have to tell the world's children."

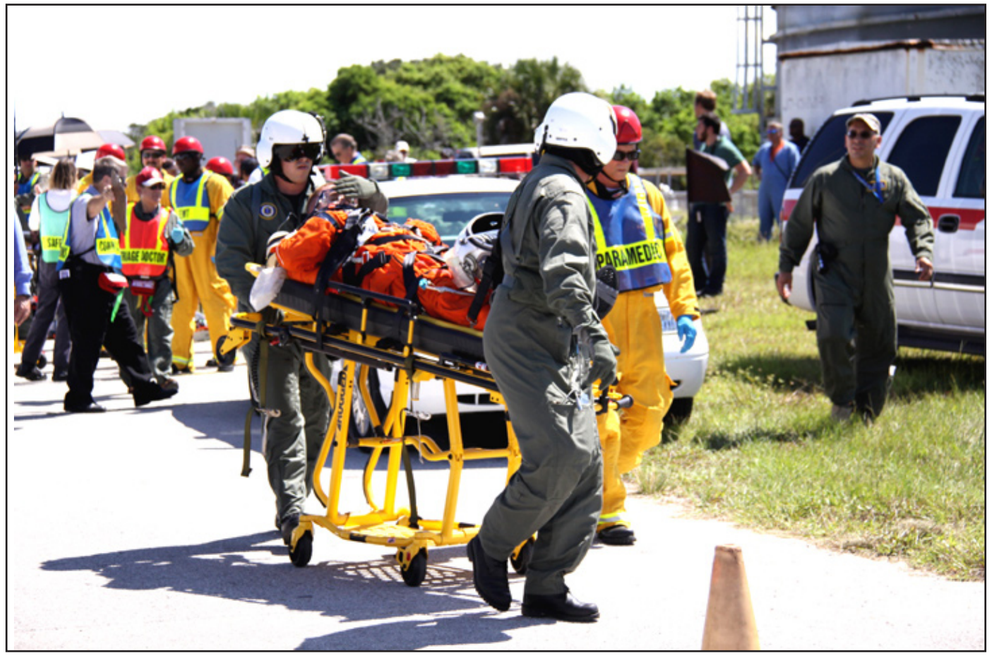
So with his flight home approved, Buzz moved into Discovery during STS-128 and returned to Earth. His education mission is not over though. Plans call for him to be displayed in the Smithsonian's National Air and Space Museum in Washington, Wardle said.

"This one is going to be hard to top," Finke said.

Scenes Around Kennedy Space Center

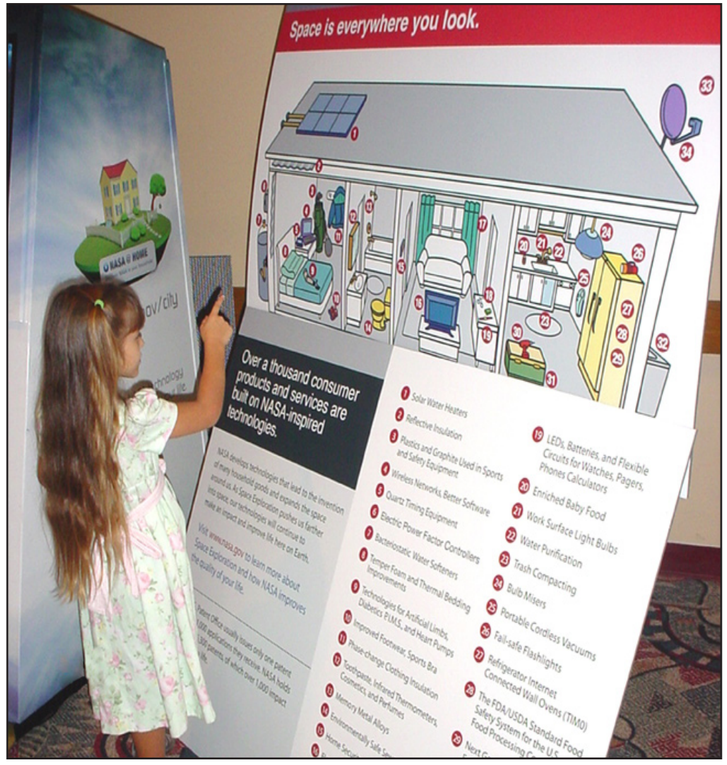
NASA

Maria Tellado, left, and Cindy Gooden attend the brown bag lunch and learn Oct. 2 hosted by the Hispanic Outreach and Leadership Alliance team, or HOLA, and the Office of Diversity and Equal Opportunity. Miguel Rodriguez, the office's deputy director, shared his personal journey and perspectives on leadership. Hispanic heritage month is observed Sept. 15 to Oct. 15.



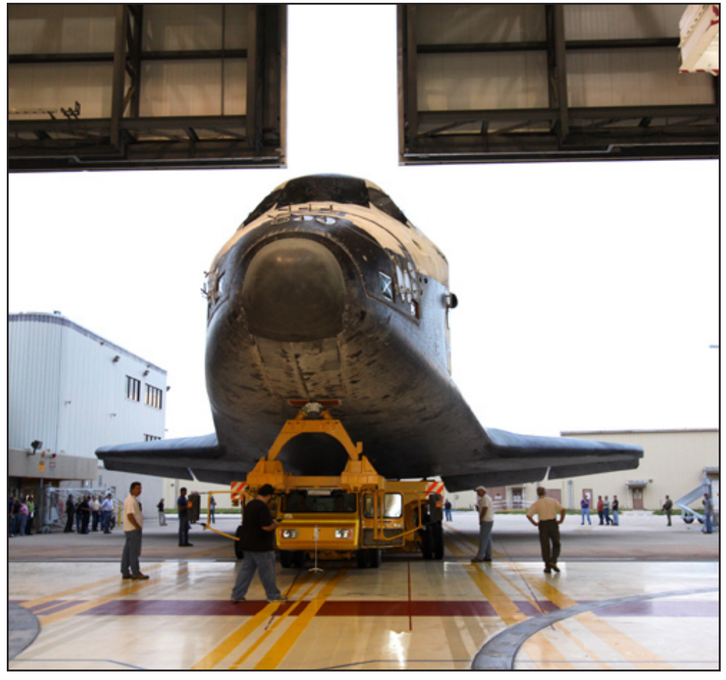
NASA/ Troy Cryder

Volunteers portraying astronauts are transported to helicopters as part of a Mode II-IV exercise Oct. 1 that allows teams to practice an emergency response at Launch Pad 39A, including helicopter evacuation to local hospitals. The exercise involves NASA fire rescue personnel, volunteers portraying astronauts with simulated injuries, helicopters and personnel from the U.S. Air Force's 920th Rescue Wing and medical trauma teams at three Central Florida hospitals.



NASA

This girl was among thousands of visitors to tour the Kennedy Space Center display during the Home and Patio Show at the Prime Osborn Convention Center in Jacksonville, Fla., Oct. 1-4. Kennedy's Display Outreach Team supported the event with interactive and informational displays. This one identifies general household goods that have ties to space exploration.



NASA/Jack Pfaller

Workers monitor the progress of space shuttle Atlantis as it backs out of Orbiter Processing Facility-1 for its move to the Vehicle Assembly Building. The rollover began at about 7 a.m. EDT and was completed at 8:25 a.m. Liftoff of Atlantis on its STS-129 mission to the International Space Station is targeted for Nov. 12.

Spaceport News wants photos, story ideas

Send photos of yourself and/or your co-workers in action for possible publication. Photos should include a short caption describing what's going on, with names and job titles, from left to right. Also, if you have a good story idea chime in. Send your story ideas or photos to:

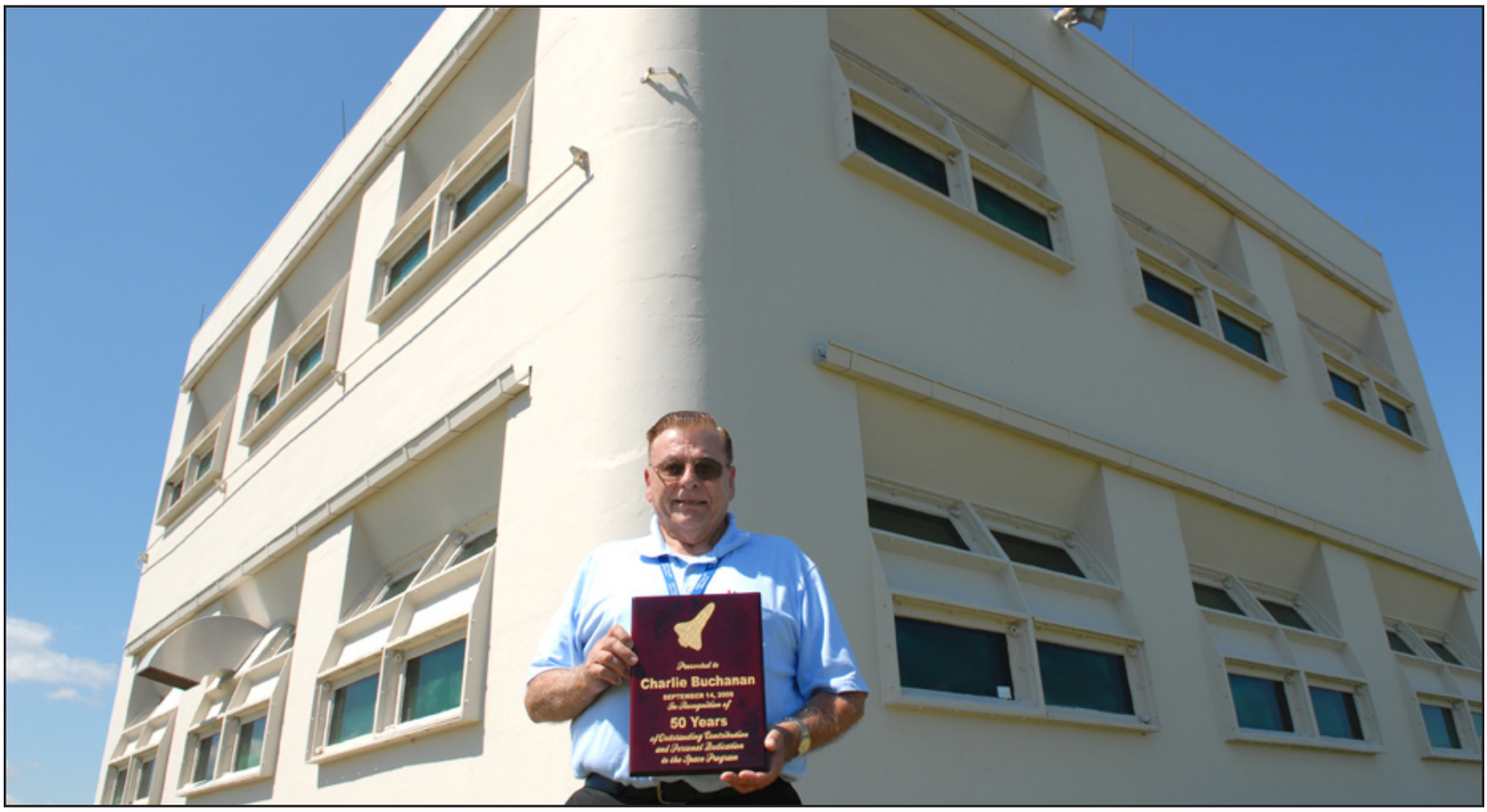
KSC-Spaceport-News@mail.nasa.gov

NASA

Connie Phillips reads a firefighter book to a group of youngsters during Fire Safety Week at the Child Development Center at Kennedy Space Center. The children are Lisa Morgan, Lucas Sims, Everett Cox, Sydney Freeland and Kane Paglialonga.

NASA/Amanda Diller

Workers position the Solar Dynamics Observatory, or SDO spacecraft, onto a work stand during preparations for propulsion system testing and leak checks at the Astrotech Space Operations Facility in Titusville, Fla. SDO is the first space weather research network mission in NASA's Living With a Star Program. The spacecraft's long-term measurements will give solar scientists in-depth information about changes in the sun's magnetic field and insight into how they affect Earth. Liftoff on an Atlas V rocket is planned for Feb. 3, 2010.



NASA/Jim Grossmann

Charlie Buchanan, a design engineer with EG&G Technical Services, recently was recognized for 50 years of service at the spaceport. Buchanan's journey began in 1959 at Cape Canaveral Air Force Station's Complex 30 blockhouse where he was a draftsman.

Engineer celebrates 50-year milestone at spaceport

By Linda Herridge
Spaceport News

Working at Kennedy Space Center for half a century can offer someone many memories. For Charlie Buchanan, a design engineer with EG&G Technical Services on the Institutional Services Contract, his 50 years of Kennedy recollections brought him back to the Complex 30 blockhouse at Cape Canaveral Air Force Station, where his journey as a draftsman began.

"I recall when a safety flight officer had to detonate a Pershing missile a few seconds into flight," Buchanan said while remembering some of his first experiences at the Cape. "It was the biggest nighttime fireworks display I've ever seen."

Buchanan has witnessed nearly every test flight and launch from Kennedy and the Cape, and was recognized for his many years of service on Sept. 14. Richard Hatcher, acting branch manager and lead architect for ISC Engineering Services, presented Buchanan with a special plaque to mark the milestone.

"I think what works for Charlie is that he is always coming into work with a smile and a positive attitude, even when things aren't going as well as they could," Hatcher said.

Buchanan worked on Project Vanguard for the Martin Company, now Lockheed Martin, in Baltimore. When the launch vehicle he worked on was sent to the Cape in 1959, he transferred there shortly afterward and lived in the small community of Sunrise Beach, Fla. He moved to Melbourne, Fla., in May 1962.

Throughout the years and as contracts changed, he worked for Boeing Services International, Space Gateway Support, and twice for EG&G. When his job within the Apollo Program ended in 1970, he was laid off for one year, but returned on the Base Support Contract in June 1971.

Since that time, he's created design packages for facility remodels, and acquired the materials and equipment to complete the modifications.

"I'm one of the people who workers out here don't like to see," Buchanan joked. "If they see me, it usually means they're going to have to move."

In fact, Buchanan said he's created the design packages for nearly every worker's move from one room to another, or from one facility to another.

Buchanan said one of the challenges of his job was transitioning from drafting the designs by hand to learning the computer-aided design program Micro Station.

In all his years, Buchanan said he's only had three bad days. The first was the Apollo 1 fire, the second was the Challenger accident and the third was President John F. Kennedy's assassination.

"It's hard when you get to know the astronauts and then a tragedy occurs," Buchanan said. "We've seen a lot . . . and been through a lot here."

The most enjoyable part of his job is meeting and getting to know so many people, including most of the early astronauts.

One of his most memorable experiences was standing next to Alan Shepard at the Cape's Skid Strip as President Kennedy gave John Glenn an award for his suborbital flight.

Another time, he attended a semi-formal dance at the Merritt Island Skating Rink where astronauts Tom Stafford and Pete Conrad wore roller skates and glided around the dance floor.

While Buchanan cherishes his early years on the Space Coast, he also is looking ahead to the launch center's future.

"I hope NASA will continue to move forward with the Constellation Program and Ares vehicle," Buchanan said.

He and wife, June, live in Rockledge, Fla., and will celebrate their 54th wedding anniversary in February. They have three children, daughters Yvonne and Janet, and son, Charles E., and six grandchildren.

June worked for NASA in the Education Division. She coordinated several education and science fair programs for students, and retired from Kennedy in 1995.

Remembering Our Heritage

NASA file/1964

NASA file/2000

The first stretch of the crawlerway between Kennedy Space Center's Vehicle Assembly Building and Launch Pad 39A began in November 1963. By the end of 1964, it was 83 percent complete. For the first test in June 1965, the crawlerway was paved with asphalt. The maximum crawlerway loading reported to date from any Apollo or space shuttle configuration is 18.6 million pounds. The Ares V loads are projected to be up to 35 percent larger. The crawlerway is expected to undergo a major "re-rocking" in the coming months.

Crawlerway provides 'firm foundation' for Saturn V

By Kay Grinter
Reference Librarian

The lumbering "rollouts" to the launch pads, the cause of much excitement in NASA's launch campaigns at Kennedy Space Center today, are a direct result of decisions made 45 years ago during the Apollo era.

NASA's Chester "Chet" Wasileski, then chief of Kennedy's Projects Engineering Office, was one of the decision-makers in Design Engineering.

"The real debate was how to move the Saturn V to the launch pad," Wasileski said. "Our main options were by rail, wheel or water. I voted for using a railway."

The Marion Power Shovel Company was awarded the contract to build a vehicle capable of transporting the load over a roadway, based on their success with similar transporters for the mining industry.

This space-age transporter would not have wheels, but metal treads. The combined weight of the transporter, the mobile launcher and the Saturn V rocket was projected to be 17 million pounds. Its roadway would need a sturdy foundation.

The U.S. Army Corps of Engineers, the road's builder, also had to consider the wind loads and static loads, the pressures per square inch and the duration of those pressures, the size of the vehicle treads and the footprint of each. Therefore, the crawlerway was built to withstand loads in excess of 12,000 pounds per square foot.

Preparations to construct the first stretch of the crawlerway between the Vehicle Assembly Building, or VAB, and Launch Pad 39A, began in November 1963.

The approach was similar to that of building a highway causeway. After excavating any soft material, more than 3 million cubic yards of hydraulic fill from the turn basin were pumped along the route, compacted with vibratory rollers, and then proof-rolled with a 100-ton roller.

Its lower 3-foot layer of sand and shell fill was followed by three-and-a-half feet of a blended mixture of fine and course lime rock. The lime rock was then topped with an asphalt seal coat. The depth of the roadway was 7 to 8 feet, depending on location along the route.

By the end of 1964, the crawlerway was 83 percent complete.

During the first test of the crawler in June 1965, high hydraulic pressures were noted when its trucks scuffed on the crawlerway during turns.

"The vibrations that resulted were unexpected and unacceptable," Wasileski said.

The treads also chewed up large portions of the asphalt surface.

"The asphalt was sticking to the treads," said NASA's Harrell Cunningham, chief of Kennedy's Roads and Grounds/Heavy Equipment. "It had to be removed or it could have broken the treads."

Harry Shockey was mechanical shop manager for Kennedy's Technical Shop.

"My supervisors, Albert Zeiler and Bob Gorman, suggested that covering the surface with hay might be an inexpensive alternative," Shockey said. "The hay was spread on the crawlerway north of the VAB and on the crawler park site. The crawler moved over the hay, turning to the right or left, to grind it down to see what happened.

"It did a fair job, believe it or not," Shockey recalled, "but made the worst mess. We decided real fast that was not the way to go."

River rock was determined to be most resistant to being crushed by the crawler, particularly that from an area in central Alabama which was covered by the Gulf of Mexico about a million years ago. It was placed along the roadbed to a depth of 4 inches on the straightaway sections and 8 inches on the curves.

"The crawler's treads ran in the same place on the crawlerway every time," Cunningham explained, "and did not break the rock all the way down."

He suggested that a spring-tooth harrow drawn by a tractor, such as the ones used on the farm where he grew up, rather than a heavy road scrapper, be used to bring the unbroken rocks to the surface, allowing the smaller, finer pieces to settle on the bottom. The suggestion produced the best results at less cost to NASA.

The maximum crawlerway loading reported to date from any Apollo or space shuttle configuration is 18.6 million pounds. The Ares V loads are projected to be up to 35 percent greater.

A study of the crawlerway's foundation is under way to predict, with a high level of confidence, the ability of the crawlerway to support the weight of the combined crawler-transporter, new mobile launcher and Ares V vehicle. The results will be available by May 2010. The crawlerway also will undergo a major "re-rocking" in the coming months.

2009 NASA Employees of the Year

NASA/Sandy Joseph

The 2009 Kennedy Space Center Employees of the Year, from left: Courtney Flugstad, Launch Vehicle Processing Directorate; Lisa Huddleston, Engineering Directorate; Jennifer Lindsey, Constellation Project Office; Linda Foster, Launch Services Program; Joy Batterson, Information Technology and Communications Services; Jacqueline Quinn, Applied Technology Directorate; Dale Breidenbach, Human Resource Office; and Laura Thayer, Information Technology and Communications Services. Not pictured are: Sariah Adams, Chief Counsel; Kevin Decker, Engineering Directorate; Gladys Escobar, Procurement Office; Kent Beringer, ISS and Spacecraft Processing Directorate; Helen Kane, External Relations; Suzanne Dininny, Safety and Mission Assurance Directorate; and Daniel Hull, Center Operations.

NASA Employees of the Month: October

NASA/Sandy Joseph

Employees of the month for October are, from left: Jonathan Partridge, Center Operations; Staci Leach, Chief Financial Office; Vu Le, Information Technology and Communications Services; Ember Smith, Constellation Space Transportation Planning Office; and Robert Summers, Engineering Directorate. Not pictured are: Thomas Howard Smith, Constellation Project Office; Madhukar Jalota, Engineering Directorate; Batholomew Pannullo, Procurement Office; Phillip Swihart, Safety and Mission Assurance Directorate; Jennifer Wahlberg, ISS and Spacecraft Processing Directorate; and Charles Walker, Launch Services Program.

Looking up and ahead . . .

Targeted for Oct. 27	Launch/KSC: Ares I-X flight test; Window: 8 a.m. to noon EDT
Targeted for Nov. 12	Launch/KSC: Atlantis, STS-129; 4:04 p.m. EST
Planned for Nov. 23	Landing/KSC Shuttle Landing Facility: 11:31 a.m. EST
Targeted for Nov. 14	Launch/CCAFS: Atlas V, Intelsat 14; 12:48 to 2:18 a.m. EST
Targeted for Nov. 18	Launch/CCAFS: Delta IV, WGS SV-3; Window: 7:45 to 8:30 p.m. EST
No earlier than Nov. 29	Launch/CCAFS: Falcon 9, TBD; Window: 11 a.m. to 3 p.m. EST
Dec. 7	Launch/VAFS: WISE; Window: 9:10 to 9:23 a.m. EST
No earlier than Feb. 3	Launch/CCAFS: Atlas V, SDO; 10:53 to 11:53 a.m. EST
Targeted for Feb. 4	Launch/KSC: Endeavour, STS-130; 6:20 a.m. EST
Targeted for February	Launch/CCAFS: Delta IV, GPS IIF-1; TBD
No earlier than March 4	Launch/CCAFS: Delta IV, GOES-P; TBD
Targeted for March 18	Launch/KSC: Discovery, STS-131; 1:08 p.m. EDT
Targeted for May 14	Launch/KSC: Atlantis, STS-132; 3:05 p.m. EDT
Targeted for May 23	Launch/VAFB: Delta II, Aquarius / SAC-D Satellite; TBD
Targeted for July 29	Launch/KSC: Endeavour, STS-134; 8:45 a.m. EDT
Targeted for Sept. 16	Launch/KSC: Discovery, STS-133; 1 p.m. EDT
No earlier than Oct. 1	Launch/VAFB: Taurus, Glory; TBD
Targeted for Fall 2011	Launch/CCAFS: Atlas V, Mars Science Laboratory; TBD

DAAWG hosts event Oct. 30

The Disability Awareness and Action Working Group, or DAAWG, is hosting an event for National Disability Employment Awareness Month on Oct. 30 in the Kennedy Space Center Training Auditorium.

This year's theme is "Expectation + Opportunity = Full Participation." Aaron Scheidies, who is a blind world champion triathlete, will be a speaking at the event at 9 a.m.

An information fair, including representatives from various organizations, will follow at 10 a.m.

For more information about Scheidies and his triumphs, go to: **www.cdifferent.org/athletes/aaronscheidies.html.**

For more information about the DAAWG event, call Annie Williams at 321-867-8720.

Elementary schools to participate in 'Butterflies in Space' program

Space Florida announced an opportunity for 15 Florida elementary schools to participate in the "Butterflies in Space" program. Each classroom will host a butterfly larvae habitat and compare development of their habitat to that of another test group of larvae flying aboard STS-129, bound for the International Space Station in November. This program, made possible in collaboration with BioServe of Colorado, received an overwhelming reply from Florida schools in response to the initial posting of the opportunity.

Schools selected to participate in the program and receive free butterfly habitats for their classrooms include:

Freedom 7 Elementary, Cocoa Beach – Fifth grade
Golfview Elementary, Rockledge – K-sixth grade
Lewis Carroll Elementary, Merritt Island – Fifth grade
Robert Louis Stevenson School of the Arts, Merritt Island – Fifth grade
Union Park Elementary, Orlando – K-fifth-grade science labs
Eagle's View Academy, Jacksonville – Seventh- and eighth-grade sciences
Aventura City of Excellence School, Aventura – Second- and fifth-grade science
Argyle Elementary, Orange Park – Fourth-grade math/science/social studies
Hammock Pointe Elementary, Boca Raton – Fifth-grade science and writing
Dale Mabry Elementary, Tampa – Fifth-grade science and math
Spirit Elementary, Deltona – Fifth grade
Riversink Elementary, Crawfordville – First grade
Glenallen Elementary, North Point – K-fifth-grade science
Holm Elementary, Pensacola – Fifth-grade math and science
Poinciana Elementary, Naples – First-grade science

More than 2,400 students from these schools will directly benefit from the program.

John F. Kennedy Space Center

Spaceport News

Spaceport News is an official publication of the Kennedy Space Center and is published on alternate Fridays by External Relations in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted **three weeks** before publication to the Media Services Branch, IMCS-440. E-mail submissions can be sent to **KSC-Spaceport-News@mail.nasa.gov**

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Editorial support provided by Abacus Technology Corp. Writers Group.
NASA at KSC is on the Internet at www.nasa.gov/kennedy
USGPO: 733-049/600142