

Spaceport News



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New Horizons going where no craft has gone before

First spacecraft to visit Pluto scheduled for Jan. 11 launch from CCAFS

NASA's New Horizons spacecraft will be the first spacecraft to visit Pluto and its moon, Charon. Not even the Hubble Space Telescope can spot details on its rocky, icy surface.

Yet with the New Horizons mission, set for liftoff on Jan. 11 from Launch Complex 41, NASA looks to unlock one of the solar system's last, great planetary secrets. After launch aboard an Atlas V, New Horizons will cross the entire span of the solar system - in record time - and conduct flyby studies of Pluto and its moon in 2015.

The spacecraft will then venture deeper into the Kuiper Belt, an ice dwarf planet and relic of solar system formation, to explore how it has evolved over time.

The Launch Services Program at KSC is responsible for government engineering oversight of processing and space craft integration, and launch day



IN KENNEDY Space Center's Payload Hazardous Servicing Facility, workers secure the New Horizons spacecraft onto a spin table. The spacecraft will undergo a spin test as part of prelaunch processing.

countdown management.

The compact New Horizons spacecraft carries a payload of seven science instruments for examining the geology, composi-

tion, surface, temperature and atmospheric structure of the planet and its moon. Southwest Research Institute led the development of the science

payload.

The New Horizons payload is incredibly power efficient, with

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Employees, retirees enjoy annual Holiday Coffee

Employees enjoyed the annual KSC Holiday Coffee on Dec. 6 at the Headquarters Building, where refreshments, including pastries and punch, were provided in the lobby of each floor. Deputy Director Dr. Woodrow Whitlow also greeted the retirees back to the center.

Employees on the third shift were treated to holiday treats on Dec. 5 in the lobby of the Launch Control Center.



EMPLOYEES AND retirees enjoy the Dec. 6 Holiday Coffee in the lobby of the Headquarters Building. See pages 4 and 5 for more photographs of the event.



Dr. Woodrow Whitlow
Deputy Director

The Kennedy Update

Happy Holidays! I appreciate Jim giving me a final opportunity to speak with the KSC team before I leave for the Glenn Research Center in January. First, since Jim's next column won't be published until Dec. 23 and many people will be on leave, both of us want to wish everyone a joyous holiday season.

Hopefully, you will spend it with family, friends and loved ones. Despite all the super work we do for our nation, please don't forget that family is #1. Please take advantage of the quiet time during the holidays and enjoy family and friends.

I was glad to see so many

people come out for our "KSC family get-togethers" Monday night and Tuesday at the annual holiday coffees. I enjoyed the opportunity to speak with so many of you; it was an honor to do so and a pleasure to boot!

I'm inspired by everyone here who dedicate their lives to making our nation's space program the envy of the world. We have some of America's best people working here, and I feel lucky to have served with you for the past two years. Jim and I are eager to show our appreciation for the excellent work that you do at the holiday picnic at KARS Park Dec. 16, so we'll see you there.

The holidays, however, won't be all play and no work. I fully recognize that our Launch Services Program (LSP) people and their contractor partners will be hard at work accomplishing the final tasks for the Pluto New Horizons mission set to launch Jan. 11. Many years of hard work and preparation are culminating on what has been billed for years as "our first mission to the last planet."

Unlocking the secrets of the universe and rewriting textbooks students of the future will study

"We have some of America's best people working here, and I feel lucky to have served with you for the past two years."

are among the many things we do that make our business great. It really doesn't get much better than that.

On a safety note concerning the mission, I'm sure you've seen stories in the media or seen information on our Web site concerning the plutonium being carried on board this mission. While no mission is absolutely risk free, many experts from

inside NASA and independent bodies have reviewed the flight-risk analysis data and have determined this mission is safe to launch.

Keep in mind, this is the 25th mission, including the Apollo missions, NASA has launched with radioactive materials.

I encourage you to check the NASA Pluto New Horizons Web site or contact the LSP or Public Affairs Offices if you have any questions. The science expected from this mission is incredible and visiting Pluto is at the top of the "to-do" list for the science community.

It's impressive how we make the

impossible happen right here on the Space Coast.

So again, happy holidays to you, your friends and loved ones! Be safe and if I don't get to see you prior to my departure, I wish everyone here the best life has to offer for your future. Let me also be the first to wish you a Happy New Year! Take care and if you are ever at Glenn, please drop in and say hello!

Space Shuttle Atlantis undergoes upgrades, processing for STS-115



In Orbiter Processing Facility Bay 1, technicians work on the Forward Reaction Control System of space shuttle Atlantis as it sits in the transfer aisle prior to installation. The system provides the thrust for attitude

(rotational) maneuvers (pitch, yaw and roll) and for small velocity changes along the orbiter axis. Processing of Atlantis is under way for mission STS-115, the 19th flight to the International Space Station.

December NASA Employees of the Month



THE DECEMBER NASA Employees of the Month, standing from left, include: David Sollberger, Launch Services Program; Matt Jolley, Chief Financial Office; Joseph Roeder, Information Technology and Communications Services; and Michael Moore, Engineering Development. Sitting, from left, are: Ed Markowski, Shuttle Processing; and Harry Plaza, Center Operations. Not pictured is Heidi Schultz, Safety and Mission Assurance.

Miller reflects NASA values of integrity and excellence

By Jennifer Wolfinger
Staff Writer

For Margaret Miller's dedication and tireless efforts to ensure the smooth transition and integration of NASA's new electronic payroll system, she was selected as the 2005 Employee of the Year for the Chief Financial Office.

"I was overwhelmed and appreciated the recognition of my accomplishments through my peers," said Miller, who pursued accounting because of her love for crunching and balancing numbers.

She serves as a core member of the Agency Labor Distribution System (ALDS), an extension of NASA's official financial system that manages labor distribution, business processes and more.

She is the center's lead for the system's reporting requirements and testing. Miller participated in the design, development and transitional phases of the project, and helped to ensure the

vital system was successfully implemented. This involved contributing to meetings and taking on travel assignments to ensure the requirements and schedules were met.

"Mrs. Miller is an outstanding employee who believes in personal accountability," said KSC Chief Financial Officer Napoleon Carroll. "She reflects excellence in her work and is a team player. Her recent efforts in representing KSC on the agencywide implementation of the new Agency Labor Distribution System reflects this great work ethic and the kind of person she is.

"It is easy to recognize someone that lives the agency values of integrity and excellence as Mrs. Miller does," Carroll said.

On a regular basis, she specializes in distributing job labor, payroll issues and various accounting systems. She recently performed the seemingly endless tasks associated with the end of the fiscal year.

The fiscal year's end "calls for an aggressive schedule for both the financial and resource side of the Chief Financial Office," she said. "This year, in particular, with ALDS coming on board, NASA is standardizing all labor distribution policies and systems for all 10 centers."

Miller plans to keep up the hard work in the future. "I will continue to focus on the implementation of ALDS, provide team support, deliver results and build a strong network of team players," she said.

Payroll lead Kathy Bryant worked with Miller on several projects and noticed her spirit, stamina and dedication. She said Miller produced exceptional volumes of work in a short period and was always willing to take on any given challenge.

Miller and her husband, Richard, a retired civil servant, have two adult daughters, Diane Nance-Ona and Patti Anne



MARGARET MILLER is the Chief Financial Office employee of the year.

Thomas. They have four grandchildren: twins Trevor and Kyle, 16, Connor, 6, and Cameron, 4.

In her free time, she enjoys golfing, skiing, shopping and gardening.

My Story

By Kimmarie Barrett
Information Technology
and Communications
director



This column provides Kennedy Space Center employees and retirees a chance to tell their life's story. Readers are encouraged to submit a first-person article between 400 and 500 words. Talk about your family, career and most memorable experiences. A little bit about your career at KSC will be most interesting, as well. E-mail "My Story" submissions to Bruce.Buckingham-1@ksc.nasa.gov.

In March 2000, my husband registered our nine-year-old daughter for taekwondo classes. While sitting on the sidelines watching, I decided to join classes with her. In August of 2000, I began my journey.

I started taekwondo classes with kids ages 5 to 13. I felt so out of place, but I went into this for three reasons: exercise, learn self defense, and spend time with

my daughter. Over time, those ideas and goals changed.

At first, I could barely run for a minute, let alone the required three minutes during class. The lessons were made up of rigorous running and kicking drills. I thought, "What have I gotten myself into?" I was always winded and struggled through every exercise. So as not to be shown up by the much younger

students, I pressed on.

While I was exercising quite thoroughly, my eating habits didn't change. My doctor always warned that my blood pressure was high. But every time, I convinced myself I could bring it down. It didn't happen, and I knew my weight was a problem.

So I made drastic changes. I set a goal to lose 50 pounds in six months, which I felt could only be obtained with hard work and determination.

I immediately eliminated fatty foods from my diet. No fried foods or creamy sauces. My biggest addiction was cheesy foods. So I replaced those foods with healthy alternatives. I came up with a math equation: in looking at a food label, if the fat calories were more than 25 percent of the total calories, I would not eat the food.

I immediately started to see changes in how I felt. By May 2004, I had successfully lost 54 pounds and have since remained at my goal weight for 18 months. At my heaviest, I was 198

pounds and a size 14. I am now 136 pounds and a size 4. I've never been healthier.

To give an illustration, one day my husband handed me two 20-pound dumbbells and said, "Just think, you've lost more than two of these." I knew then how my body struggled with the added weight.

With my newfound health, I realized that a black belt could be within my reach. So I started training harder. But I didn't go this road alone – my husband and now 14-year-old daughter were right there with me.

In November 2004, my husband and I assumed ownership of Martial Arts Unlimited in Titusville. In March 2005, my daughter and I passed a very strenuous five-day test for our black belt rank in taekwondo – a goal I never imagined I could achieve.

In addition, my daughter and I are now instructors at the school we own. My story has also been published in the December 2005 issue of *Fitness* magazine.

Holiday Coffee rings in the season for hope, joy



PAM LOHNING serves holiday treats with a smile in the lobby of the Headquarters Building during the Dec. 6 Holiday Coffee. Refreshments were served on every floor.



KAREN DUBOIS serves delicious refreshments to an employee at the Holiday Coffee.



JIM HATTAWAY (second from right), associate director of KSC, enjoys the company of employees and retirees at the Holiday Coffee.



CHIEF FINANCIAL Officer Nap Carroll (right) listens to fellow employees during this year's event at the Headquarters Building.



RETIREES DON Phipps (right) and Donn Bruse, both former NASA employees, talk about their careers in the payload and expendable vehicle directorates at the Holiday Coffee.



DEPUTY DIRECTOR D. Launch Services Program meeting employees on the event.

Peace, joy and a new year for employees, retirees



... refreshments to an



GEORGE ENGLISH, Barbara McCoy and Barbara Weber returned to the center to enjoy the annual event.



ABOVE, BERNADETTE Kennedy spreads holiday cheer in the absence of her husband, Jim, who was unable to attend this year's gathering.



SPACE GATEWAY Support President Bill Sample (right) talks to an employee about the upcoming year at the event.



DEPUTY DIRECTOR Dr. Woodrow Whitlow (left) and Lunch Services Program Manager Steve Francois enjoyed meeting employees on the fourth floor during the event.



WAYNE KEE, KSC's emergency preparedness officer, shakes the Spaceman's hand at the festive event. Russ Romanella (left), director of International Space Station and Payload Processing, also enjoys the Holiday Coffee.

Heavy Equipment Proof Load Shop verifies safety of devices

By Jeff Stuckey
Editor

Most lifting fixtures used on Kennedy Space Center's hardware and facilities handle extreme amounts of pressure, raising enormous equipment on the launch pads or suspending space shuttles in the Orbiter Processing Facilities.

But before this equipment can be used on critical flight hardware, it must pass a load test to verify it has the Herculean strength for the job.

Since some tests are vital to ensure a processing schedule stays on track, employees in the Heavy Equipment Proof Load Shop give top priority to jobs that need immediate attention, according to David Parker, a heavy equipment operator for United Space Alliance.

"Every day we come up with a way to load test any type of equipment used at the center. This includes using our equipment at the shop or testing and designing equipment at a facility."

Recently the team worked together to load test orbiter jacks and equipment in Orbiter Processing Facility bays 1 and 3. The group also helped test equipment used on Launch Pad 39B for Space Shuttle



EMPLOYEES IN the Heavy Equipment Proof Load Shop inspect solid rocket booster lifting fixtures. On the left, from top, are Mike Evans, David Parker, Bob Pine (on forklift), Larry Strenth, Mike Coffell and Bob Bennett, while James Guppenberger and Rick Boyle look on from the right side.

Discovery's return-to-flight mission.

They can haul weights and equipment to test the massive cranes used in the Vehicle Assembly Building. The group also inspects every inch of the wire on which the emergency egress baskets at the launch pads

zip along from the 195-foot level to the ground.

The team's tools are also unique. A 300-ton crane with a 120-foot boom is used to test loads using weights up to 100,000 pounds each. The shop also contains a 300,000-pound computerized test bed for testing

equipment.

"We are a diverse group that has worked together a long time, including Bob Pine who helped build the VAB," said Mike Evans, supervisor for the Proof Load Shop. "We pull together as a team and ensure the processing schedule stays on time."

HORIZONS . . .

(Continued from Page 1)

the instruments collectively drawing only about 28 watts. The payload consists of three optical instruments, two plasma instruments, a dust sensor and a radio science receiver/radiometer.

The individual instruments and their principal investigators include "Alice," an ultraviolet imaging spectrometer that will probe the atmospheric composition and structure of Pluto.

"Ralph" is a visible and infrared camera that will obtain high-resolution color maps and surface composition maps of the surfaces of Pluto and

Charon.

"LORRI," short for Long Range Reconnaissance Imager, will image Pluto's surface at football-field sized resolution, resolving features as small as approximately 50 yards across.

"SWAP," or Solar Wind Around Pluto, will measure charged particles from the solar wind near Pluto to determine whether it has a magnetosphere and how fast its atmosphere is escaping.

"PEPSSI," or Pluto Energetic Particle Spectrometer Science Investigation, will search for neutral atoms that escape the planet's atmosphere and subsequently become charged by their interaction with the solar wind.

"SDC," or Student Dust Counter, will count and measure the masses of dust particles along the spacecraft's entire trajectory, covering regions of interplanetary space never before sampled.

"REX," or Radio Science

after launch, the various instruments will be turned on to begin testing and to ensure they are operating properly.

Instrument calibrations are planned throughout the early and middle portions of 2006, in anticipation of the mission's

early-2007 Jupiter flyby on the way to Pluto.

During the nearly

10-year voyage to Pluto, the instruments will be checked out every year. Also during the cruise, observations taken by the various instruments will be sent back to Earth. Perhaps most notably, the Student Dust Counter will operate continuously during the cruise to Pluto.

New Horizons could reach Pluto and Charon as early as July 2015.

EXperiment, a circuit board containing sophisticated electronics integrated with the spacecraft's radio telecommunications system, will study Pluto's atmospheric structure, surface thermal properties, and measure the mass of Pluto and Charon.

Beginning about one month

Thermal Protection System Facility is back in business

More than a year after Hurricane Frances struck Kennedy Space Center, the space shuttle Thermal Protection System Facility has reopened for operations.

By Anna Heiney
Staff Writer

The steady hum of oversized sewing machines is finally returning to the building where a team of dedicated employees pieces together the space shuttle's protective skin.

On Sept. 4, 2004, Hurricane Frances struck Kennedy Space Center. As the wind whipped around and rain fell in drenching sheets, several facilities sustained varying degrees of damage. But the storm dealt an especially heavy blow to the Thermal Protection System Facility.

The shuttle's thermal protection system comprises heat-resistant tiles, gap fillers and insulating blankets. This complex network protects each orbiter from the intense heat of launch and reentry, as well as the extreme cold of space.

These delicate, life-saving components are manufactured and repaired inside the two-story, 44,000-square-foot building.

Tiles and related raw materi-



EMPLOYEES MOVE a blanket sewing machine (above) into the Thermal Protection System facility that has recently been repaired. The upper floor of the facility, where soft material was processed, was damaged during the 2004 hurricanes (left).

als are made on the facility's ground level, which experienced water intrusion during the storm. Although some of the offices flooded, tile machining, coating and firing equipment weren't harmed and manufacturing operations continued.

But on the second floor, where the exterior and interior

thermal blankets and gap fillers are manufactured, damage was extensive. The rain poured in after 65 percent of the roof was blown away by high winds, rendering the entire level uninhabitable.

With the first return-to-flight mission approaching, there was no time to lose. Vital equipment,

including the specialized sewing machines, was quickly relocated to the Reusable Launch Vehicle hangar at the nearby Shuttle Landing Facility. Inside, normal work continued, with no impact to the launch date.

On Nov. 19 of this year, more than a year after the storm struck, employees worked together to return all the equipment — along with personnel necessities such as furniture, computers and telephones — back to the Thermal Protection System Facility's second floor, as well as the Materials Service Center on the first floor.

Moving back was a huge, carefully choreographed undertaking, according to United Space Alliance employee Martin Wilson, the facility's manager. Huge rooms that sat empty less than a week ago had to be filled and organized.

"It went remarkably smoothly," Wilson says. "We knew moving back would be a lot simpler than moving out. Still, it was about 40 to 50 tons of equipment, furniture and racks. But everyone had an independent role; everyone showed up and we just had a great day."

He's quick to point out that with everything back in place, work has already resumed in the refurbished facility. "In fact, we're shipping parts this afternoon."

Remembering Our Heritage

40 years ago: Pioneer 6 begins its bright future

NASA's Pioneer 6 spacecraft, shown here in Hangar AM being mated to its Delta third stage, lifted off from Cape Canaveral on Dec. 16, 1965, for a glorious adventure around the sun. Pioneer 6 is the Methuselah of NASA spacecraft - the oldest operating spacecraft ever. NASA made last contact with the probe on Dec. 8, 2000,

to commemorate its 35th launch anniversary. Dr. Larry Lasher, Outreach Program and Pioneer project manager at NASA Ames Research Center, was on hand to read the transmission "loud and clear." Lasher laments, "Unfortunately, the ground capability to contact Pioneer 6 no longer exists, but I'll bet we'd find this space craft still working."



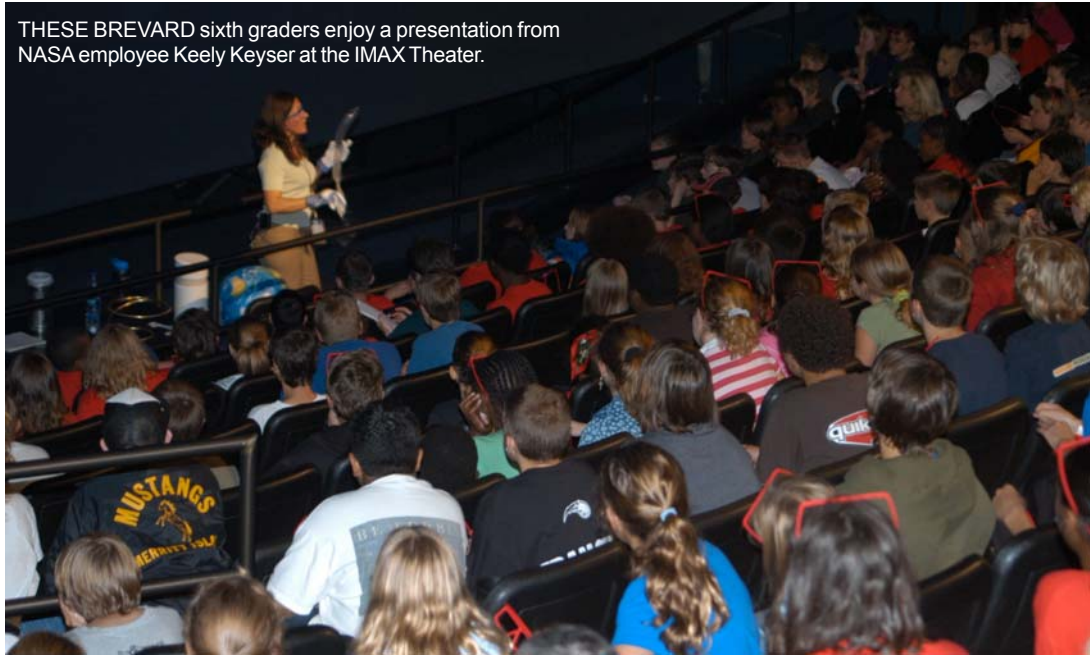
Brevard sixth graders visit center for third Space Week

Thanks to NASA, Brevard Public Schools, the National Space Club Florida Committee and the Visitor Complex, more than 6,000 sixth graders and their teachers enjoyed learning about the U.S. space program and the vision for its future at the third annual Brevard Space Week.

From Nov. 29 to Dec. 8, the students discovered the importance of math and science as they enjoyed activities at the Apollo/Saturn V Center and at the Visitor Complex.

The tour began at the Apollo/Saturn V Center when students took part in the "Great Moon Rocket Scavenger Hunt," followed by a presentation at the Lunar Theater. Afterward, astronauts Jon McBride and John Fabian talked about the new vehicles being designed to return to the moon, then travel to Mars.

THESE BREVARD sixth graders enjoy a presentation from NASA employee Keely Keyser at the IMAX Theater.



The tour then proceeded to the Visitor Complex's IMAX Theater for a presentation of the movie

"Magnificent Desolation: Walking on the Moon in 3-D." Some of the students were particularly proud

to see their art displayed among the 79 posters near the exhibit area.

Holiday dinner and celebration tickets available for civil service employees



Last year's holiday dinner and celebration at KARS I. This year's event takes place Dec. 16.

The NASA Kennedy Space Center civil service traditional holiday dinner and celebration will be held from 11:30 a.m. to 3 p.m. Dec. 16 at KARS I. Tickets are will be available online until Dec. 14 at <http://www.holidaydinner.ksc.nasa.gov>.

This event, funded by the NASA Exchange Council, is free to all NASA KSC civil service personnel.

Poster art contest winners chosen for safety calendar

Winners of the International Space Station and Payload Processing directorate's poster art contest will have their entries published in a 2006 safety calendar.

Some of the winners include: Abby Kuczajda, age 4, "Don't Feed Alligators"; Haley Higginbotham, 7, "Bike Safety - Always Wear Your



Helmet and Pads"; Jessie Dodich, 9, "Smokers are Unhealthy"; and Staci Thurman, 11, "Don't Do Drugs" (pictured).



John F. Kennedy Space Center

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