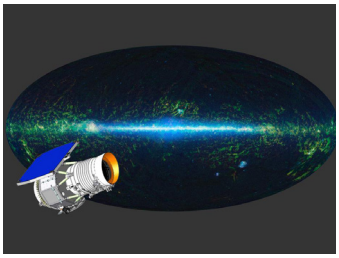
The Marshall Star

Serving the Marshall Space Flight Center Community www.nasa.gov/centers/marshall/about/star/index.html June 5, 2013

Inside This Issue:



Check us out online! Scan the QR code

Marshall Space Flight Center, Alabama 35812
256–544–0030
http://www.nasa.gov/centers/marshall

The Marshall Star is published every Wednesday by the Public and Employee Communications Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. The Star does not publish commercial advertising of any kind.

Manager of Public and Employee Communications: Dom Amatore
Editor: Jenalane Rowe

Marshall Payload Operations Team Members Spread Space Station Science to More Than a Thousand Students

By Jessica Eagan

"Did you know there's a science laboratory called the International Space Station flying above our heads right now?" asked Katie Presson, a payload operations director at NASA's Marshall Space Flight Center.

That is a typical question she and the team from the Payload Operations Integration Center at Marshall ask children during their visits to schools

*See **Space Station Students** on page 2*

Using a fun hands-on activity last month, Carol Jacobs, a payload operations director at Marshall, teaches students at Blossomwood Elementary School in Huntsville about science aboard in the International Space Station. (NASA/MSFC/Emmett Given)

Marshall Picnic Set for June 8

By Rick Smith

The annual Marshall Space Flight Center Employee Family Picnic is set for June 8 from 10 a.m. to 3 p.m. in the vicinity of buildings 4315 and 4316. All civil service employees, retirees, badged contractors and their families are invited to participate.

There will be a variety of activities for adults and children, including bingo, carnival midway games, a video gaming truck, miniature train ride and inflatable slides and moon bounces. Kids can cool off on an inflatable water slide, and are encouraged to bring bathing suits and towels. The MARS Music Club will provide live music throughout the day, including performances by local artists Just Like Grady, Wayne Gamwell, Brown Noise Brigade and Back Road Sinners. The Marshall Exchange sports leagues and clubs will host a variety of games and activities, including a bike rodeo, softball tournament, basketball shooting contest,

*See **Marshall Picnic** on page 5*

Space Station Students *Continued from page 1*

across the Tennessee Valley.

Since this science command post for research operations celebrated its 12th anniversary in March via a webcast with hundreds of students from Alabama, Tennessee, North Carolina, Iowa, Colorado, New Mexico, California and even Australia, the team has been busy going out to area schools with the goal of spreading the word on how space station studies can enhance our lives here on Earth. And how these students can be a researcher -- or even an astronaut -- when they "grow up."

"We would not have the unique opportunity to work for NASA and in the Payload Operations Integration Center if someone along the way -- teacher, parent,

*See **Space Station Students** on page 6*

A Blossomwood Elementary School student eagerly raises her hand to ask a question during a presentation by Payload Operations Manager Pat Patterson about how science conducted aboard the International Space Station is leading to benefits for people on Earth. (NASA/MSFC/Emmett Given)

Turn It Off, Marshall Simple Power Conservation Could Save $1.5M Annually

By Rick Smith

Electrical power is cheap when well managed. Any electrician will confirm your home can run on just a few cents a day if you properly control consumption.

The same is true at NASA's Marshall Space Flight Center -- but the challenge to conserve energy at a sprawling government facility which employs thousands of high-tech workers is a slightly larger one, says Cedreck Davis, energy and water program manager in the Facilities Engineering Office of Marshall's Office of Center Operations.

In light of federal mandates calling for reduced energy consumption and increased energy efficiency among government facilities and organizations, Davis and his team crunched some numbers -- and revealed some fascinating statistics.

Electricity at the Marshall Center costs approximately one-half-cent per day per square foot of space, averaged across a seven-day week. Half a penny per square foot doesn't sound like much… until you factor in Marshall's roughly 4.6 million square feet of office and laboratory space, Davis said. The center spends, on average, $27,000 each day for its electricity needs alone.

Industry conservation standards -- proven methods of cutting costs in the workplace -- suggest easy ways for the center to reduce its overall electricity consumption each day by 15 percent -- a savings of more than $4,000 a day, or $1.5 million each year.

"That's a real savings," Davis said, "and a worthy goal for the Marshall team to shoot for."

What does this goal require of the workforce? A few extra seconds per person per day, Davis said -- just flipping a few extra switches to reduce unnecessary consumption.

"Simply turn off all lights and office equipment when leaving at the end of each workday," he said. "That includes overhead lights, lamps, task or desk lights, computers, monitors, radios, fans and other electrical appliances. Unplug your cellphone charger when the phone is fully charged. Leave computer speakers, printers and scanners turned off until you need them, and turn them off again when you're finished with the task at hand."

*See **Power Conservation** on page 7*

NASA's Dr. Ruth Jones Awarded 'Wings of Excellence'

By Bill Hubscher

A former NASA Marshall Space Flight Center team member recently won a prestigious award for federal employees for work performed both at the Marshall Center and while on assignment at the Glenn Research Center.

The Cleveland Federal Executive Board honored Dr. Ruth Jones with the Wings of Excellence award at a May 10 ceremony. The board assists federal agencies and their employees in the Cleveland area by providing information, leadership, community outreach and emergency response when needed. The award recognizes federal employees, nominated by their agency, for their demonstration of excellence and commitment to public service and as an example of leadership.

Jones is a mishap investigation specialist with the NASA Safety Center Mishap Investigation Support Office based out of Glenn Research Center, but she resides at Marshall Space Flight Center as a remote employee.

Dr. Ruth Jones, right, recently received the Wings of Excellence award from the Federal Executive Board of Cleveland. Alan Phillips, director of the NASA Safety Center, left, nominated her for the award and was on hand for the award's presentation. (GRC/Steve Lilley)

The NASA Safety Office focuses on improving the development of personnel, processes and tools needed for the safe and successful achievement of NASA's strategic goals and missions. In 2012, she assisted in three investigations requiring rapid intervention and assistance, including an asbestos exposure mishap at Glenn. Her participation in the Glenn investigation required her to serve extended temporary duty there to

See ***Ruth Jones*** *on page 5*

Teams Prepare for NASA $1.5 Million Robot Challenge

By Janet Sudnik

Eleven teams from across the country and around the globe are preparing to compete for $1.5 million during NASA's 2013 Sample Return Robot Challenge, June 5-7 at the Worcester Polytechnic Institute (WPI) in Worcester, Mass.

Teams will demonstrate a robot that can locate and collect geologic samples from a wide and varied terrain, operating without human control. The objective of this NASA-WPI Centennial Challenge is to encourage innovations in autonomous navigation and robotics technologies. Innovations stemming from the challenge could improve NASA's capability to explore a variety of destinations in space, as well as enhance the nation's robotic technology for use in industries and applications on Earth.

"Anticipation is high for a successful sample collection this year," said Sam Ortega, program manager of Centennial Challenges, which is managed at NASA's Marshall Space Flight Center. "Last year, teams were finding their footing and tweaking their designs. This year, we have several teams that know what they're up against, and they can't wait to get back on the field. We have a lot of new competitors signed up. Improving this technology will be a huge boon, not just to NASA and space exploration, but also for countless applications here on Earth."

See ***Robot Challenge*** *on page 4*

Robot Challenge *Continued from page 3*

There will be two levels of competition. For a robot to complete Level 1 successfully, it must leave from a starting platform in search of a sample that has been previously identified in the robot's onboard computer. The robot must then autonomously return one undamaged sample to its starting platform within a 30-minute time limit. Only teams that complete Level 1 will be allowed to compete in Level 2.

To complete Level 2 successfully, a robot must autonomously return at least two undamaged samples, including the pre-cached sample, to its starting platform within a two-hour time limit.

Samples are categorized as easy, intermediate and hard based on the complexity of their shape, size and design, with higher point values given for samples classified as hard. Samples range in shape and size from rectangular (like a shoe box) or round (like a tennis ball). Prize awards will range from $100,000 to $1.5 million depending on the amount of points scored.

This is the second Sample Robot Return competition. During last year's competition, also at WPI, 11 teams registered to compete and the field narrowed to six as the competition approached. After inspections, only one team met the contest's rigorous requirements. That robot competed in Level 1, but failed to collect the required samples in the allotted time, so no prize money was awarded.

The Centennial Challenges program does not award funds to competitors unless the challenge objectives have been met. This assures desired results are gained before government funds are paid.

Returning teams this year include SpacePRIDE of Graniteville, S.C.; Survey of Los Angeles; Wunderkammer of Topanga, Calif.; Intrepid of Lynnwood, Wash.; and the University of Waterloo in Ontario, Canada. New teams entering the competition are Fetch of Alexandria, Va.; Middleman of Dunedin, Fla.; Mystic Late Robots of The Woodlands, Texas; Team AERO of Worcester, Mass.; the Autonomous Rover Team of the University of California at Santa Cruz; and Kuukuglur of Estonia.

The challenge begins on the WPI campus June 5, with awards expected June 8, if competition objectives are met. The awards ceremony will take place during the day-long TouchTomorrow technology festival hosted by WPI. The festival will showcase the teams and robots as well as NASA and WPI exhibits in science, robotics and space technology. The TouchTomorrow festival is open to the public.

Teammates from Canada's University of Waterloo work with their robot on the practice field at the Sample Return Robot Challenge held at Worcester Polytechnic Institute in Worcester, Mass., in June 2012. (NASA/Bill Ingalls)

For more information about WPI and the TouchTomorrow festival, visit:
http://touchtomorrow.wpi.edu

NASA and WPI are also hosting a NASA Social -- an informal meeting of people who follow NASA using social networking sites such as Twitter, Facebook and Google+. Participants will get a unique behind-the-scenes experience during the Sample Return Robot Challenge and are encouraged to share with others through their favorite social network. To follow along with their posts, follow #NASASocial or #SRRbot on Twitter or follow the NASA and NASA Marshall accounts in social media.

The Centennial Challenges program is part of NASA's Space Technology Mission Directorate, which is innovating, developing, testing and flying hardware for use in NASA's future missions. For more information, visit:
http://www.nasa.gov/challenges

Sudnik, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.

Marshall Picnic *Continued from page 3*

volleyball games and more.

Team members also are invited to try their hand at dousing this year's dunking booth volunteers, including Marshall Center Director Patrick Scheuermann; Steve Cash and Steve Wofford, director and deputy director, respectively, of the Safety & Mission Assurance Directorate; Dan Schumacher, manager of the Office of Science & Technology; and Steve Doering and Robert Devlin, director and deputy director, respectively, of the Office of Center Operations.

Lunch will be catered by Lawler's Barbecue. Meal tickets must be pre-purchased. Tickets are $5 each. A limited number of tickets are available from the Space Shop in Building 4203 through June 7 while supplies last. Other food and drinks will be available for purchase during the picnic.

Team members and their families are reminded to use Gate 8 (Drake and Goss roads) or Gate 9 (Rideout Road) for access to Redstone Arsenal on June 8.

The picnic is organized and sponsored by the Marshall Exchange, with key support from the center directorates. For complete event details, including meal menu and musical performers, see the story in the May 29 issue of The Marshall Star, or visit ExplorNet to learn more.

Ruth Jones *Continued from page 3*

successfully complete the investigation within the 75-day requirement.

"Dr. Jones works effectively with center personnel and provides significant contributions to the agency's investigation process," said Alan Phillips, director of the NASA Safety Center. "She is a great employee for NASA and also is very active in mentoring youth and young women in the community. Her disposition and attitude are a blessing to all who interact with her and I was proud to nominate her for this award."

Jones' NASA career began as an undergraduate student at the University of Arkansas at Pine Bluff, or UAPB. She interned at the Goddard Space Flight Center her junior year and joined the Marshall Center after becoming the first woman to earn a bachelor's degree in physics from UAPB in 1994. She was a co-op student at Marshall while completing her graduate studies, earning her master's degree in physics/materials science in 1997 and her doctorate in 2000, both from Alabama A&M University in Huntsville. She was only the second African-American to receive a doctorate in physics in the state of Alabama.

Jones is an active mentor in the Youth Motivation Task Force at UAPB and Alabama A&M. This group seeks to inspire, motivate, empower and encourage young people as they transition from academics to a professional and business environment.

"While I mentor several young women and try to be a positive influence on our future leaders and scientists, working for NASA has always been a dream of mine," Jones said. "So, I am very honored to be recognized for both my work performance as well as the assistance I feel called to give to these young professionals."

Her co-workers second the sentiments expressed by the award.

"Ruth is such a pleasure to work with and is a key member of our team," said Ken O'Connor, manager of the Mishap Investigation Support Office. "She is sincere and always looks forward to helping and contributing. Her compassion and efforts to reach out to youth sets a great example for all of us."

Jones has earned a number of awards during her tenure with NASA, including a Marshall Center Director's Commendation in 2003 and a Glenn Research Center Director's Commendation in 2011. She also has published several articles on optical physics.

Jones is a native of West Helena, Ark., where her parents, William and Essie, still live. She currently resides in Huntsville.

Hubscher, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.

Space Station Students *Continued from page 2*

friend -- had not taught us science, technology, engineering and mathematics (STEM) disciplines and about the agency," said Presson. "We want to give others the opportunity we had to learn about NASA and the International Space Station because they are the future of our space program."

Since March, the team has visited more than a thousand students in the region near Marshall, both in Alabama -- including Huntsville, Madison, Decatur, Toney and Tuscumbia -- and Tennessee including Brentwood, Lynchburg, Fayetteville, Lincoln, Manchester and Tullahoma. More details about the Lynchburg visit can be found here in an article from the Moore County News.

If you would like the Payload Operations Integration Center team to speak to your child's school in the upcoming school year, contact Presson at 544-7583 or katie.j.presson@nasa.gov, or Susan Currie, an education program specialist, at 544-3629 or susan.currie@nasa.gov.

After all, with experiments being conducted on the station that include robots, spiders and preventing fires in space, chances are your child will have a hearing ear to these beneficial studies that they could one day be a part of in the future.

Samantha Shine, a student trainee in the Ground Operations and Logistics Branch of Marshall's Engineering Directorate, speaks to participants of Girls Inc. of Huntsville on March 21. Shine shared her experiences with the exciting science work that goes on at NASA's Payload Operations Integration Center, as well as the many educational activities NASA and Marshall have to offer. (NASA/MSFC/Emmett Given)

Eagan, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.

Distinguished Lecturer Series: Ned Wright on Exploring the Universe with WISE

By Jena Rowe

Ned Wright, principal investigator for the Wide-field Infrared Survey Explorer (WISE), will present results from the latest WISE mission at the National Space Science and Technology Center (NSSTC), 320 Sparkman Drive, Room 2096, on June 10 from 1:30-2:30 p.m.

During this NASA Medium Explorer (MIDEX) mission, WISE surveyed the entire sky in four mid-infrared bands at 3.4, 4.6, 12 and 22 microns with vastly greater sensitivity than previous all-sky surveys at these wavelengths. WISE surveyed everything more than one astronomical unit from the sun including minor planets, comets, nearby brown dwarfs and star-forming regions both in the Milky Way and in distant galaxies.

WISE launched from Vandenberg Air Force Base on Dec. 14, 2009, ejected its cover on Dec. 29, 2009, and entered routine survey operations on Jan. 14, 2010. It completed the full sky coverage on July 17, 2010, and then started warming up in early August. WISE ran with its three shortest bands until the end of September, and then with its two shortest bands until Feb. 1, 2011.

For more information about WISE, visit here.

Rowe, an Analytical Services Inc. employee and the Marshall Star editor, supports the Office of Strategic Analysis & Communications.

Visit NASA's Visitor Centers with New 'Passport to Explore Space'

By Jena Rowe

Some people visit every national park in the country. Others boast of visiting all 30 major league baseball parks. Now you can be one of the first to visit every NASA visitor center to experience the history and future of America's space program.

To sweeten the deal, NASA visitor centers and Shuttle Orbiter locations have developed a "Passport to Explore Space" to be stamped with a special insignia at each location you attend.

"The U.S. Space & Rocket Center is thrilled to be participating in this new program," said Dr. Deborah Barnhart, CEO and executive director of the Space & Rocket Center. "With NASA's Passport to Explore Space, you have the opportunity to embark on a mission to explore and experience the diverse visitor centers and Orbiter locations that are home to America's space legacy. The best part, it's absolutely free."

Each NASA visitor center has a unique focus and scope of work that contributes to the overall mission of America's space program. At the U.S Space & Rocket Center, you can see first-hand how much power it took to get man to the moon. You can also learn about all the science experiments on board the International Space Station and how it affects your life today. Learn about mission control and astronaut training at Space Center Houston. And check out the control center for the Curiosity Mars Rover at the Jet Propulsion Laboratory in Pasadena, Calif.

When you join the free Passport to Explore Space program, you will receive an official eight-page Passport to Explore Space; a commemorative stamp in your passport at every NASA visitor center and space shuttle location you visit; savings on admission, tours, food and retail (offers vary by location; offers not available at some locations); and the Space Flyer Quarterly newsletter offering the latest happenings at each NASA visitor center and Shuttle Orbiter locations.

For more information about the Passport to Explore Space and NASA visitor centers, visit here or contact Tim Hall.

The U.S. Space & Rocket Center, a Smithsonian affiliate, is home to Space Camp®, Aviation Challenge®, the Apollo 16 capsule and the Saturn V Rocket. It is also the official visitor's information center for NASA's Marshall Space Flight Center. To learn about all of the exciting programs and activities at the Space & Rocket Center, visit here. Or, follow it on Facebook and Twitter.

Rowe, an Analytical Services Inc. employee and the Marshall Star editor, supports the Office of Strategic Analysis & Communications.

Power Conservation *Continued from page 2*

Power-saver modes are great ways to extend equipment life and protect our computers when we're away from our desks, Davis noted -- but most computers, monitors, printers and other "sleep-mode"-capable equipment continue to draw minute amounts of power even when inactive. "Not so much taken individually," he said, "but add them all up, and they amount to needless extra energy expenditures for the center."

Federal guidelines for energy savings challenge every government facility to achieve a maximum 30-percent reduction in total energy use -- based on 2003 consumption figures -- by 2015. Davis is confident Marshall is well-positioned to achieve that goal, thanks to its conscientious, committed workforce.

"By working together to flip those switches, to make those small, fundamental changes in our daily behavior, we can make a positive, long-term difference," he said.

Davis also encourages Marshall team members to share their own energy-conservation ideas with his team, and report any potential concerns about electricity consumption that team members can't resolve on their own. Contact Davis at cedreck.g.davis@nasa.gov or 256-544-3221, or Rhonda Truitt at rhonda.m.truitt@nasa.gov or 256-961-3883.

Smith, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.