



# LAGNIAPPE

John C. Stennis Space Center

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## NASA conducts 'picture-perfect' J-2X test

NASA's test of the J-2X rocket engine on the A-2 Test Stand at Stennis Space Center on July 13 was picture perfect in more ways than one. Not only did the test provide a breathtaking view from atop the nearby A-1 Test Stand, and with the center's B-1/B-2 Test Stand in the background, but it achieved its target of 550 seconds. The test continued a series of firings to gather critical data for engine development. This was the first flight-duration test of the engine's nozzle extension, a bell shaped device to increase

engine performance. Operators collected data about the nozzle extension's performance in conditions that simulated heights up to 50,000 feet. Additionally, operators introduced different propellant pressures at startup to test how the engine reacted. The J-2X is being developed by Pratt & Whitney Rocketdyne for NASA's Marshall Space Flight Center in Huntsville, Ala. It is the first liquid oxygen and liquid hydrogen rocket engine rated to carry humans into space to be developed in 40 years.



*“With all of us interested in leaving behind something significant, it seems that now is the right time to resolve to do just that!”*

From the desk of  
**Mark Glorioso**

Director, Center Operations Directorate, Stennis Space Center



**T**his month, we celebrated Independence Day, day No. 186 in the calendar year. We are now halfway through 2012. It's a great time to reflect on the progress of our New Year's resolutions. Many of us have not stuck with them. If you are like me, you have probably forgotten what they were.

Celebrating the Fourth of July always is a great time to reflect on the fact that we work for the United States of America, the greatest country in the world. All of us should be interested in leaving behind something significant to keep it that way. Now is the right time to resolve to do just that!

At Stennis Space Center, we have specialized expertise, training, experience and wisdom that can benefit those around us. We also have the luxury of being able to go into the community and give a little of ourselves. I believe the best place to do that is in our area schools.

There is no better method of stimulating the economy than by helping to bring our local schools to an excellent standard. Having recently been awarded the Parent of the Year for District IV in the state of Mississippi, I now have a challenge for you: talk to

the Stennis Office of Education and see how you can become involved.

There are opportunities to tutor, give special presentations or work special events. Last year, some of us presented cryogenic demonstrations, judged science fair competitions, taught seminars on renewable energy and space exploration, helped students select and complete science fair projects, taught ACT preparation and assisted with Science Olympiad. These opportunities are not only helpful for our schools, they are also enriching to us.

They say you can't choose where you are from, but you sure can choose where you live. Although I wasn't born here, I got here as

quickly as I could. Economic development depends on the caliber of the local schools. I know we have the potential to be the best, but only if everyone pulls together to make it so. I want to see this center and this state excel. Show me that you agree!

*Mark Glorioso*



Stennis Space Center mascot Orbie and a Stennis outreach specialist talk to students during a NASA outreach activity at Lillie Burney Elementary School in Hattiesburg earlier this year.

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## FULFILLING NASA'S EXPLORATION MISSION



NASA engineers test an Aerojet AJ26 rocket engine on the E-1 Test Stand at Stennis Space Center on June 25 against the backdrop of the B-1/B-2

Test Stand. The engine will be used by Orbital Sciences Corporation to power commercial cargo flights to the International Space Station.

## NASA tests engine for commercial ISS flight

Engineers at Stennis Space Center conducted a test of Aerojet's AJ26 Engine E8 on June 25, continuing the agency's partnership support as Orbital Sciences Corporation prepares to provide commercial cargo missions to the International Space Station (ISS).

An Orbital, Aerojet and NASA team conducted the successful test of an AJ26 engine that had undergone hot fire testing previously. Among several objectives, the test allowed the team to collect additional engine data in advance of the planned Antares stage one hot-fire test planned for later this summer at the Wallops Island, Va., launch site. At that time, the entire stage one core, with two AJ26 engines, will be test fired.

Orbital is a partner in NASA's ongoing Commercial Orbital Transportation Services (COTS) joint research and development program. Through COTS, NASA is helping commercial partners develop and demonstrate cargo space transportation capabilities to serve the U.S. government and other potential customers.

The agency program began in 2006 as a way to stimulate private sector efforts to develop and demonstrate safe, reliable and cost-effective space transportation capabilities. As NASA sets its sights on exploring deep space, the ability of the private sector to provide routine access to low-Earth orbit and the ISS is of vital importance.

Through COTS, NASA provides technical and financial assistance to private companies. In addition to resources invested by the private companies, NASA is committing about \$800 million toward developing and demonstrating commercial cargo capabilities. Companies are paid incrementally, as they achieve certain development and performance milestones.

Two companies have funded COTS agreements with NASA – Space Exploration Technologies (SpaceX) and Orbital. SpaceX conducted a successful demonstration flight to the ISS earlier this year, and Orbital is scheduled to follow suit in coming months. The ISS Program already has contracted with both companies to provide supply missions through 2015.

## FULFILLING NASA'S EXPLORATION MISSION

# NASA tests Project Morpheus engine

A team of NASA engineers from Stennis Space Center and Johnson Space Center recently conducted rocket propulsion test activities on a new liquid methane, liquid oxygen engine that will be used to power the Project Morpheus prototype lander, which could one day evolve to carry cargo safely to the moon, asteroids or Mars surfaces.

While ongoing vehicle flight tests are being conducted with an earlier version engine installed on the lander, the Morpheus Project is looking to advance its propulsion capability to meet new flight requirements. The tests on Stennis' E-3 Test Stand marked the first time this new, higher-performance version of the Morpheus engine (designated HD5) has been tested on its own. The series involved more than two dozen tests of the engine controller and thrust chamber over a six-day period.

During tests, engineers gathered performance data on the new engine, which provides greater thrust for the Morpheus lander, allowing it to carry heavier payloads during the Morpheus vehicle's actual flights. NASA has designed the lander using advanced technologies, including a "non-toxic" propulsion system and autonomous landing / hazard detection features. Development of the latter capabilities are critical to enable access to landing sites previously considered too hazardous to risk either robotic or human missions.

Use of methane as a "green" propellant is of particular interest since it can be stored for longer times in space compared to other common rocket propellants. Methane also is cheaper and safer to operate and actually could be made from ice and carbon monoxide found on the moon or CO<sub>2</sub> on Mars. In fact, the International Space Station produces – and dumps – enough methane waste gas each year to fill the Morpheus fuel tanks.

The Morpheus propulsion system is sized to carry a

variety of payloads to the moon or other celestial bodies, such as Mars or asteroids. The payloads could include robots, small rovers or even small laboratories to run automated tests.

"Our test stand was set up perfectly for this test program," said Craig Chandler, E3 Test Stand director "It's also very exciting to be part of the Morpheus Project, which is important to NASA's mission."

Following recent testing of the engine, Morpheus Project Manager Dr. Jon Olansen at Johnson Space Center in Houston praised the Stennis leaders and team members for their work. "Our Stennis partners proved to me that it was worth it for Morpheus to make an investment in testing there, not only for our HD5 engine, but also to have that stand available for follow-on development work," he said.

Morpheus is one of 20 small projects comprising NASA's Advanced Exploration Systems Program. AES projects pioneer new approaches for rapidly developing prototype systems, demonstrating key capabilities and validating operational concepts for future human missions beyond Earth orbit.

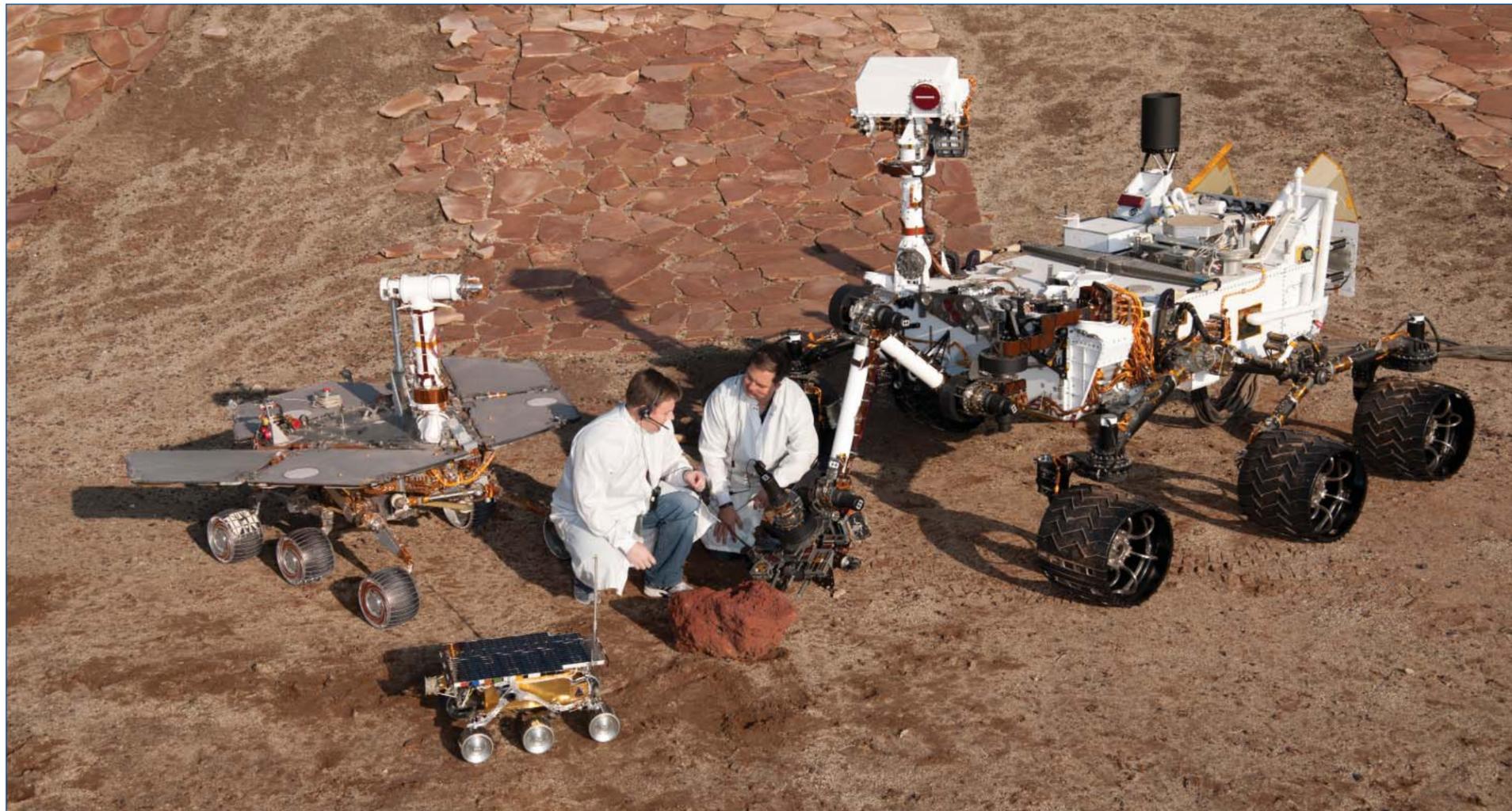


A frame grab from a mounted video camera on the E-3 Test Stand at Stennis Space Center documents testing of the new Project Morpheus engine.

Gary Taylor, Stennis' project engineer, commented: "Participating in a center-to-center team arrangement and defining this partnership as 'lean engineering,' all individuals from both centers had the flexibility and encouragement to share/assist one another in day-to-day activities. This approach allowed the team to accomplish activities quickly, develop overall team unity and increase individual's skills by working outside of their normal organizational roles; therefore, fostering and being in alignment with the "rapid developing" concept as outlined by overall AES program objectives."

The Lander has been undergoing tether tests at NASA's Johnson Space Center in Houston. Free flight testing is scheduled this year at Kennedy Space Center in Florida.

## FULFILLING NASA'S EXPLORATION MISSION



Engineers Matt Robinson (l) and Wesley Kuykendall provide a comparison of three generations of Mars rovers developed at NASA's Jet Propulsion Laboratory, Pasadena, Calif. Front and center is the flight spare for the first Mars rover, Sojourner, which landed on Mars in 1997 as part of the Mars Pathfinder Project. On the left is a Mars Exploration Rover Project test rover that is a working sibling to Spirit and Opportunity, which landed on Mars in 2004. On the right is a Mars Science Laboratory test rover the size of that project's Mars rover, Curiosity. Sojourner and its flight spare are 2 feet long. The Mars Exploration Rover Project's rover is 5.2 feet long. The Curiosity rover is 10 feet long.

## NASA in the News

### NASA selects development technologies

NASA's Space Technology Program has selected 14 technologies for development and demonstration on commercial reusable suborbital launch vehicles. The selected proposals offer innovative cutting-edge ideas and approaches for technology in areas such as active thermal management, advanced avionics, pinpoint landing and advanced in-space propulsion. They also address many of the high-priority technology needs to enable NASA's current and future missions in exploration, science and space operations. Awards range from \$125,000 to \$500,000 with a total NASA investment of about \$3.5 million. Payloads are expected to fly in 2013 and 2014. For more about NASA's Space Technology Program, visit: [www.nasa.gov/oct](http://www.nasa.gov/oct).

### Orion spacecraft arrives at Kennedy

More than 450 guests at NASA's Kennedy Space Center in Florida welcomed the arrival of the agency's first space-bound Orion spacecraft July 2, marking a major milestone in construction of the vehicle that will carry astronauts farther into space than ever before. "Orion's arrival at Kennedy is an important step in meeting the president's goal to send humans to an asteroid by 2025 and to Mars in the 2030s," NASA Deputy Administrator Lori Garver said. Orion will be the most advanced spacecraft ever designed. It will provide emergency abort capability, sustain astronauts during space travel and provide safe re-entry from deep space. Orion will launch on Exploration Flight Test-1, an uncrewed mission planned for 2014. Orion was built at NASA's Michoud Assembly Facility in New Orleans. For more on the Orion Program, visit: [www.nasa.gov/orion](http://www.nasa.gov/orion). For more on the Space Launch System, visit: [www.nasa.gov/sls](http://www.nasa.gov/sls).

### Data suggest water on Saturn moon

Data from NASA's Cassini spacecraft have revealed Saturn's moon Titan likely harbors a layer of liquid water under its ice shell. Researchers saw a large amount of squeezing and stretching as the moon orbited Saturn. They deduced that if Titan were composed entirely of stiff rock, the gravitational attraction of Saturn would cause bulges, or solid "tides," on the moon only 3 feet (1 meter) in height. Spacecraft data show Saturn creates solid tides about 30 feet (10 meters) in height, which suggests Titan is not made entirely of solid rocky material. The finding appears in the June 28 edition of the journal *Science*. "The search for water is an important goal in solar system exploration, and now we've spotted another place where it is abundant," a research team leader said of the finding. For more information about the mission, visit: [www.nasa.gov/cassini](http://www.nasa.gov/cassini).

For the latest NASA news, visit: [www.nasa.gov/news/releases/latest/index.html](http://www.nasa.gov/news/releases/latest/index.html).

## A great adventure – NASA rover prepares to land on Mars

NASA's Mars rover Curiosity is scheduled to touch down on the surface of the Red Planet early on the morning of Aug. 6, but it will be about 14 minutes before agency scientists know whether the landing has been successful.

That is how long it takes a radio signal from Mars to arrive on Earth, which is just one of the challenges faced by the NASA Mars Science Laboratory craft that is carrying Curiosity as it arrives at the Red Planet. The mission launched November 2011.

Once it enters the Martian atmosphere, the craft experiences what NASA has termed "seven minutes of terror." Protected from 1,600-degree temperatures by a heat shield, the rover craft must slow from 13,000 mph, jettison the shield and land safely on the surface, using only computer guidance. To do so, the spacecraft will deploy the largest, strongest supersonic parachute ever constructed, as well as fire retro rockets mounted on the rover itself to slow and maneuver into place.

In the final moments of landing, the rover will be lowered from its accompanying spacecraft by a sky crane-type tether to set gently down on the surface of Mars. Some of the technology has been proven on earlier flights, such as the Phoenix flight to Mars, but the Curiosity mission employs new features, including the tethered landing.

The landing site is a tricky one – in the center of the Gale Crater, close to the foot of Mt. Sharp, presenting a landing hazard. Scientists have adjusted the landing site closer to the mountain because of increased confidence in precision landing technology aboard the spacecraft. Rock layers located in the mountain are the prime location for research with the rover.

Once safely on the planet, the real fun begins as Curiosity employs its beefed-up mechanics and technology to explore targeted areas of Mars. The rover carries equipment to gather and examine rock and soil samples, can roll over obstacles up to 2 feet high, and can travel as far as 660 feet a day.

Curiosity's radioisotope power generator should provide the electricity needed for 687 days of exploring, which represents a full Martian year. All data will be relayed to eager scientists on Earth by radio relay via Mars orbiters. The overriding goal of the mission is to examine the landing area and determine if it ever had or still has environmental conditions favorable to microbial life.

As NASA prepares to resume deep space manned missions in upcoming years, the unmanned Curiosity rover is garnering plenty of attention. Stennis Space Center has planned two days of activities at the INFINITY at NASA Stennis Space Center visitor center, one on Aug. 4 and one on Aug. 25 to celebrate the landing and mission of the rover.

Visitors will learn about the mission, as well as other NASA space exploration efforts. They also will be able to collect space-related items, enjoy hands-on activities, and view Curiosity-related videos.

## Astronauts present Silver Snoopy awards



Stennis Space Center Deputy Director Rick Gilbrech and astronauts Lee Archambault and Dan Tani stand with recipients of 2012 Silver Snoopy awards following a July 18 onsite ceremony. Fifteen Stennis employees received the astronauts' personal award, presented to less than 1 percent of the total workforce annually in recognition of contributions to flight safety and mission success. This year's recipients and ceremony participants were: (seated, l to r) Marlena LaFontaine (Patriot Technologies), Edith Thomas (Jacobs Technology Facility Operating Services Contract Group), Wendy LeSieur

(Jacobs FOSC Group), David Glasenapp (ASRC Research and Technology Solutions), Josh Hansell (Pratt & Whitney Rocketdyne), Charles Heim (NASA), Daniel Goad (NASA); (standing, l to r) Gilbrech, Tani, Kirk Sharp (NASA), Cleveland "C.J." Pichon (Jacobs FOSC Group), Clayton Brown (Jacobs FOSC Group), Tracy Buras (PWR), Billy Smith (Jacobs FOSC Group), Steven Rathbun (Jacobs FOSC Group), Terry Wactor (Lockheed Martin Test Operations Contract Group), Greg McVay (Lockheed Martin TOC Group) and Archambault.

## NASA honors employees for flight safety



Eight Stennis Space Center employees were honored July 1 by NASA's Space Flight Awareness Program for contributions to flight safety. Awards were presented by astronaut Ricky Arnold in conjunction with the arrival of the Orion Multi-Purpose Crew Vehicle at Kennedy Space Center in Florida on July 2. Orion's delivery to Kennedy marks a critical milestone in preparation for its first test flight, set for 2014. Above (l to r), Stennis

Center Scheuermann stands with SFA honorees Lamar Nicholson (ASRC Research and Technology Solutions), Cheryl Bennett (Lockheed Martin Test Operations Contract Group), Brian Sproles (Pratt & Whitney Rocketdyne), Andrea Thornton (A<sup>2</sup>Research), Thom Rich (NASA), Son Le (NASA), Michael Duncan (ASRC Research and Technology Solutions) and Brian Corr (Jacobs Technology Facility Operating Services Contract Group).

## Stennis manager selected to fill SES post

**N**ASA manager Freddie Douglas III has become the first African-American to fill an agency Senior Executive Service position at Stennis Space Center. Douglas gained that honor when the manager position in the Stennis Office of Safety & Mission Assurance (SMA) was reclassified as an SES position.

“It’s a blessing” Douglas said of his selection to fill the reclassified post. “Just working for NASA has been a blessing for me. And in turn, I hope I am able to affect lives for the better. That’s the real measure of success.”

Douglas already was serving as manager of the Stennis SMA office when the position was re-advertised as an SES position. Douglas was competitively chosen to fill the role and continue in his safety duties. The SMA office is responsible for the safety and mission success of all activities executed at Stennis, including public and private rocket engine testing and the work of more than 30 resident entities that comprise the federal city.

“We have an excellent group of folks in this office who cover a range of activities,” Douglas said of his SMA team. “When it comes to safety, we cover everyone who comes through the gates at Stennis, whether they are full-time employees, short-term contractors, NASA personnel, resident agency employees or teammates. We are a safety resource for the entire center, an enabling force for everyone’s mission. I can’t say enough about the work of this team.”



In addition to the reclassification of the Stennis’ top SMA spot, the position of chief safety officer at the center was added to the SMA office as a senior leadership position. The changes offer new opportunities for SMA team members, as well as the center, to aspire to and recognize the hard work of all.

Douglas joined NASA at Marshall Space Flight Center in Huntsville, Ala., in 1983, as a professional intern. There, he worked on several projects, such as the International Space Station, the Hubble Space Telescope and the post-Challenger Accident Return to Flight effort. He also served as a neutral buoyancy diver.

Douglas transferred to Stennis Space Center in 1989. At the center, he has worked on the space shuttle main engine test project, research-and-development rocket testing and other agency initiatives. He also has served in both project and functional management positions. Prior to leading Stennis’ Office of Safety and Mission Assurance, Douglas served as its deputy manager. In 2007, he also was selected as the Stennis chief engineer (co-located) with the Langley Research Center-based NASA Engineering and Safety Center.

In addition to an extensive work experience, Douglas received a bachelor’s degree from Southern University and A&M College in Baton Rouge, La., and advanced degrees from the University of Alabama in Huntsville and Massachusetts Institute of Technology in Cambridge. He also holds the rank of commander in the U.S. Navy Reserve.

## Stennis hosts annual IT Expo

Jaci Mize of the National Oceanic and Atmospheric Administration at Stennis Space Center learns about “phishing,” a favorite ploy used by hackers to gain sensitive information from unsuspecting computer users, during the eighth annual Information Technology Expo held June 21 at the rocket engine test facility. The event was sponsored by the Stennis Office of the Chief Information Officer. During the expo, Stennis employees were able to collect materials and information about services provided by the Office of the CIO and supporting contractors. The event also featured a seminar on protecting computer data.



## NASA employee focuses on school support

For NASA employee Mark Glorioso, volunteering time at a local school just makes perfect sense: for the community, the economy and the future alike.

Glorioso should know. The director of Stennis' Center Operations Directorate was named District IV Parent of the Year by the Mississippi Department of Education for his support to Pearl River Central High School in Carriere. Glorioso is a regular volunteer at the school and was recognized earlier this year as Parent of the Year for his work with students. Glorioso also was recognized as Parent of the Year by the local and state school districts.

Stennis Space Center employee Mark Glorioso sits with students during a visit to Pearl River Central High School in Carriere. Glorioso is a regular volunteer at the school and was recognized earlier this year as Parent of the Year for his work with students. Glorioso also was recognized as Parent of the Year by the local and state school districts.



"This is so important," Glorioso said of involvement with schools. "Imagine what we could do with all the people at this center getting involved in schools. We could totally change the history of this area."

Helping schools aids the economy by improving the quality of life in a community, making it more attractive to businesses, Glorioso said. It contributes to the future by developing students as leaders of tomorrow.

Glorioso understands the importance

of parental involvement in schools. His youngest child, Sam, begins his junior year in high school this fall. However, he is committed to involvement with young people even after his son graduates. Glorioso even thinks he may teach physics after retirement. "That would be a great way to inspire the next generation of scientists and engineers," he said.

In addition to promoting STEM (science, technology, engineering and mathematics) studies in schools, Glorioso also is intent on encouraging others to get involved as well. It does not require an extensive time com-

mitment, just being available when one can, he stressed.

Glorioso and colleagues have engaged in a range of efforts, from judging science fair projects to helping students prepare for ACT testing, to presenting cryogenic demonstrations, to speaking on NASA, space exploration and renewable energy.

"It's just about managing time so you can spend some with kids," Glorioso said. "I may go six to eight weeks and spend four hours or so. However, even a two-hour time commitment can make a real difference."

## Stennis engineer completes development program

Nine systems engineers from across NASA, including Eric Ross from Stennis Space Center, graduated from the Systems Engineering Leadership Development Program (SELDP) during ceremonies in Washington, D.C., on June 20.

The graduation marked culmination of a yearlong program that provided participants with knowledge, skills, and experiences aimed at preparing them for the challenges of systems engineering leadership at NASA. Program activities included mentoring and coaching, technical training, leadership development exercises, and forums. The core of the SELDP experience is a hands-on developmental assignment at a different NASA center.

Ross, a systems and test integration engineer at Stennis, was assigned to Ames Research Center in California, and served as the deputy lead systems engineer on the Edison Demonstration of Small Satellite Networks Project, and the systems engineer for both the Nanosatellite Launch Adapter System Project and the Small Spacecraft Payloads and Technologies Program.



NASA Administrator Charles Bolden (r) and NASA Chief Engineer Mike Ryschkewitsch (l) stand with Stennis Space Center engineer Eric Ross, who graduated from the NASA Systems Engineering Leadership Development Program on June 20.



Steam billows from the A-2 Test Stand at Stennis Space Center during a July 29, 2009, space shuttle main engine test. The test was the last for the main engines that powered 135 Space Shuttle Program missions from 1981 to 2011.

## July 2009 – Stennis test marks end of era

*Note: For more than 50 years, NASA's John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month's Lagniappe highlights a moment in the history of the south Mississippi rocket engine test center.*

Stennis Space Center employees witnessed the final test of a space shuttle main engine three years ago on July 29, 2009.

With 520 seconds of shake, rattle and roar, Stennis marked the end of an era for testing the space shuttle main engines that powered the nation's Space Shuttle Program for nearly three decades.

More than 37 years ago, on June 27, 1975, Stennis engineers conducted the first test on one of the world's most sophisticated rocket engines.

"It would be difficult to overstate the role Stennis has played in our nation's space program for the last 34 years," then-Stennis Director Gene Goldman said. "Its workers have created an unparalleled legacy of engine testing excellence."

In single-engine and cluster testing alike, the goal was the same: eight and one-half minutes of successful firing, duplicating the amount of time it took engines to power the shuttle from launch to orbit. In more than three decades of testing, about 50 main engines were certified for use on 135 shuttle missions. Engines could power more than a dozen flights before being retested.

"The excellent flight record of the space shuttle main engine can be largely attributed to the test team at

Stennis," said Ronnie Rigney, then-acting space shuttle main engine test project manager at Stennis. "This last test of the space shuttle main engine represents great accomplishments for this team, as well as new opportunities and challenges to transition to a new era in the nation's space program."

At one point, all three test stands at Stennis were involved in shuttle engine testing. NASA assigned Stennis to test space shuttle main engines in 1971. Prior to the first shuttle flight, Stennis engineers conducted some 500 tests on the engine and its components. They also test-fired the three-engine cluster arrangement – the main propulsion test article – that was used to power the shuttle, an accomplishment some called the facility's "finest hour."

## Office of Diversity and Equal Opportunity

# Gender identity discrimination prohibited

In April, the Equal Employment Opportunity Commission issued a unanimous decision finding that claims of discrimination based on gender identity now fall under Title VII's sex discrimination prohibition and may be processed under the Equal Employment Opportunity (EEO) complaints process. NASA finalized procedures for processing complaints based on sexual orientation and have disseminated them to all center directors.

The Stennis Office of Diversity and Equal Opportunity (ODEO) is pleased to announce NASA Procedural Requirements (NPR) 3713.4, Procedures for Discrimination Complaints Based on Sexual Orientation.

This NPR provides an internal agency administrative process to address complaints of sexual orientation discrimination by NASA employees or applicants for employment. This complaint process also provides an avenue of redress for claims of reprisal for participating in this process or opposing sexual orientation discrimination. The process is comparable to the EEO complaints process, to the extent permitted by law.

Under the NPR, NASA officials-in-charge and center directors have the responsibility to assist ODEO with ensuring compliance with NASA policies and procedures regarding discrimination complaints based on sexual orientation and with ensuring appropriate dissemination of such policies and procedures to NASA employees. An online link to the policies and procedures has been posted on the Stennis Space Center ODEO website at: [www.nasa.gov/centers/stennis/about/organization/odeo/](http://www.nasa.gov/centers/stennis/about/organization/odeo/)

ODEO encourages all management to become familiar with the above NPR. It is their obligation to be aware of any discriminatory activity that might be taking place and

understand how to stop it and help those who are discriminating to realize it will not be tolerated. These internal complaint procedures provide an alternative forum for redress in addition to the union grievance process and the NASA Administrative Grievance System, NPR 3771.1, which, with issuance of this NPR, does not exclude grievances based on sexual orientation.

These procedures also provide an alternative forum to filing a complaint of discrimination based on sexual orientation with the U.S. Office of Special Counsel or to filing an appeal with the U.S. Merit Systems Protection Board (MSPB), if the action complained of is otherwise appealable to the MSPB. These procedures do not affect a complainant's right to base his or her claim on an EEO-protected basis, that is, a basis protected under federal antidiscrimination law or to include an EEO-protected basis in his or her claim(s) in addition to the bases covered under these procedures.

If complainant reports harassment based on sexual orientation to a supervisor or other management official in his or her office or to the center's anti-harassment coordinator, the harassment allegation shall be processed, as any reported harassment on any other basis, in accordance with NPR 3713.3, NASA Anti-Harassment Procedures.

For additional information on this or related matters, please visit the Stennis ODEO website.

## Hail & Farewell

### NASA bids farewell to the following:

Rebecca Hopper Contract Specialist  
Office of Procurement

## Feds Feed Families Food Drive under way at Stennis

Stennis Space Center Office of Human Capital employees Dorsie Jones (l to r), Cabrina Bell and Jeanie Frederick sort through early contributions to the fourth Feds Feed Families Food Drive under way at the NASA facility. All federal agencies are working together this summer to collect nonperishable food items for local food banks across the country. In the past three years, federal employees have collected 8 million pounds of food and non-perishable items through the annual campaign. NASA centers are working together to collect food through the end of August. Last year, Stennis employees collected almost 7,000 pounds of food items, leading all NASA centers in average donation per person at 6.9 pounds per employee.



# Area youth enjoy Stennis camp activities

Summer is a time of educational activity at Stennis Space Center. In June, 25 young people age 13-15 attended the annual Astro STARS (Spaceflight, Technology, Astronomy & Robotics @ Stennis) camp at the rocket engine test facility. During the five-day camp, participants engaged in hands-on experiences in a variety of areas, including engineering and robotics. On the final day, campers launched model rockets they had assembled (top photos). In addition to Astro STARS campers, Stennis educators traveled to Keesler Air Force Base in Biloxi to provide Astro Camp activities to as many as 39 children age 7-12 during a four-day camp June 26-29. The efforts was in support of the White House Initiative, Strengthening Our Military Families. Focusing on the theme, "What's Next for NASA! Moon, Mars, Asteroids and Beyond," camp participants engaged in various hands-on activities to learn about living and working in space and the science behind space exploration. They also constructed model Estes solid fuel rockets, which they launched during a visit to Stennis Space Center on the final day of the camp.



## Stennis hosts educators for workshops

Mississippi educators participated in a variety of hands-on activities, including rocketry, robotics, and NASA's BEST (Beginning Engineering, Science, and Technology) during a pair of professional development workshops conducted by Stennis Space Center educators in June. On June 14, Stennis educators presented workshops to 96 kindergarten-through-12th-grade science teachers and eight Jackson State University faculty, as part of JSU's Project MAST (Mississippi Academy for Science Teaching) Project. MAST goals are to increase teacher knowledge in science; and to improve curricula adaptations, technology integration, and content efficacy. On June 21, educators presented workshops in Starkville to 43 fourth-through-eighth-grade science teachers as part of Mississippi State University's Advancing Teachers of Middle School Science initiative. The effort is designed to increase the number of highly qualified teachers in the state and increase the academic achievement levels among the students of those teachers. In all of the workshops, NASA aerospace and education specialists presented a variety of hands-on, problem-based learning and technology-based activities that are aligned to national standards and can be integrated across the curriculum.