

National Aeronautics and Space Administration



# LAGNIAPPE

John C. Stennis Space Center

Volume 8 Issue 3

[www.nasa.gov/centers/stennis](http://www.nasa.gov/centers/stennis)

March 2013



## J-2X engine – full speed ahead

A new high-definition camera shows a head-on view of the Feb. 27 test of the next-generation J-2X rocket engine on the A-2 Test Stand at Stennis Space Center. Engineers are conducting a round of full-duration tests on engine No. 10002; the Feb. 27 test ran 550 seconds, with subsequent tests conducted for 560 seconds. The tests provide critical performance data for continued development of the upper-stage engine for NASA's new Space Launch System. Following the A-2 Test Stand series, engine No. 10002 will be transferred to the A-1 Test Stand for gimbal (pivot) testing.

*“We are not only a model for the federal government from a cost-sharing standpoint, but we truly display caring and respect for each other’s missions during our day-to-day interactions.”*

From the desk of  
**Robert Harris**

Director, Office of Procurement, Stennis Space Center



**W**ow! How cool is it to be a part of south Mississippi/Louisiana and the John C. Stennis Space Center!! No other federal organization even comes close to the organizational diversity found here at Stennis Space Center. Every time I drive through the gate, it amazes me that we have more than 30 diverse organizations working on their various missions while sharing precious taxpayer resources. We are not only a model for the federal government from a cost-sharing standpoint, but we truly display caring and respect for each other’s missions during our day-to-day interactions. We in the Office of Procurement totally understand the critical missions you all undertake, and we strive to put shared contracts in place to make it easier and cost-effective to access the critical supplies, services and construction you need to succeed.

As a resident on Stennis, you have several contracts at your fingertips to assist you in getting your job done. These contracts include: the Facility Operating Services Contract, which provides a whole list of services that include engineering, facility maintenance, procurements, operations, logistics and custodial; the Laboratory Services Contract, which provides laboratory services that include calibration, gas, materials and environmental laboratory analysis; the Information Technical Services Contract, which provides information technology operations and support services; and the Administrative Clerical Support Services Contract, which provides administrative support services.

We are proud to say that many of the contractual tools you use to meet your respective missions are awarded to highly motivated and qualified small businesses. Stennis’ awards to small business contractors continue to grow. We have awarded 7.9 percent more to small

businesses today as compared to last year at this same time, and 33 percent over where we were in fiscal year 2011, which is the year Stennis won the Small Business Administrator’s Cup Award for having the best overall small business program for NASA. The Stennis team winning streak continued this year when the Multiple Award Construction Contract (MACC) Source Evaluation Board won the NASA Small Business Advocate Award for Procurement Team of the Year. This Stennis “first-of-its-kind” MACC created a mechanism that will not only have a significant positive impact on the strategic NASA Space Launch System (SLS) mission, but will also assist in developing and growing two each of Small Business, HUBZone, Service Disabled Veteran Owned, and 8(a) businesses at a total potential award amount of \$700 million over the next five years.

Notwithstanding these achievements, this year we will continue to focus on reducing transaction costs of NASA procurements through efficient contracting. Some of the progress toward efficient contracting that we have made to date includes simplifying source selection criteria, reducing incremental funding actions and awarding the MACC. Additionally, we are exploring the opportunities for synergistic savings between Stennis and NASA’s Michoud Assembly Facility. Rest assured that in collaboration with the entire federal city, the NASA Office of Procurement will continue to strive to put contracts in place that make it easier for you to do what you do at this place we call home.

*Lagniappe* is published monthly by the Office of External Affairs – Public Affairs at NASA’s John C. Stennis Space Center.

Access monthly copies at: [www.nasa.gov/centers/stennis/news/publications/index.html](http://www.nasa.gov/centers/stennis/news/publications/index.html)

Contact information – (phone) 228-688-3749; (email) [ssc-pao@nasa.gov](mailto:ssc-pao@nasa.gov); (mail) NASA PUBLIC AFFAIRS OFFICE,

Attn: LAGNIAPPE, Mail code IA10, Building 1100 Room 304, Stennis Space Center, MS 39529

Managing Editor – Rebecca Strecker

Editor – Lacy Thompson

Staff Photographer – Danny Nowlin



## FULFILLING NASA'S EXPLORATION MISSION

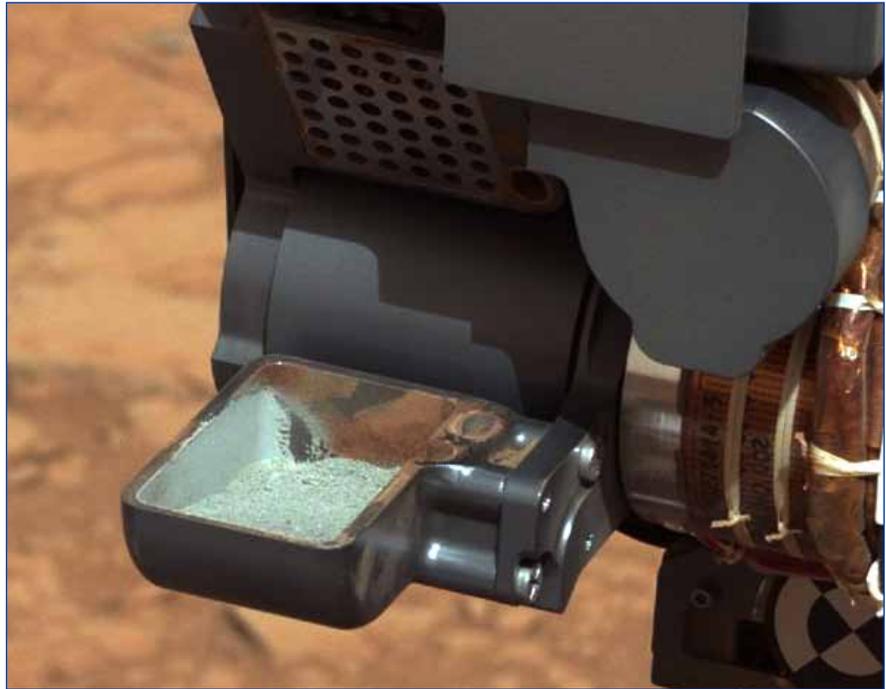
# NASA: Mars could have supported life

An analysis of a rock sample collected by NASA's Curiosity rover shows ancient Mars could have supported living microbes.

Scientists identified sulfur, nitrogen, hydrogen, oxygen, phosphorus and carbon – some key chemical ingredients for life – in the powder Curiosity drilled out of a sedimentary rock near an ancient stream bed in Gale Crater on the Red Planet last month.

“A fundamental question for this mission is whether Mars could have supported a habitable environment,” said Michael Meyer, lead scientist for NASA's Mars Exploration Program at the agency's headquarters in Washington. “From what we know now, the answer is yes.”

Clues to this habitable environment come from data returned by the rover's Sample Analysis at Mars and Chemistry and Mineralogy instruments. The data indicate the Yellowknife Bay area the rover is exploring was the end of an ancient river system or an intermittently wet lake bed that could have provided chemical energy and other favorable conditions for microbes. The rock is made up of a fine grain mudstone containing clay minerals, sulfate minerals and other chemicals. This ancient wet environ-



This image from NASA's Curiosity rover shows the first sample of powdered rock extracted by the rover's drill. The image was taken after the sample was transferred from the drill to the rover's scoop. The image was obtained by Curiosity's Mast Camera on Feb. 20, Curiosity's 193rd Martian day of operations. The image has been white-balanced to show what the sample would look like if it were on Earth. (Image credit: NASA/JPL-Caltech/MSSS)

ment, unlike some others on Mars, was not harshly oxidizing, acidic or extremely salty.

Curiosity, carrying 10 science instruments, landed seven months ago to begin its two-year prime mission. NASA's Jet Propulsion Laboratory in

Pasadena, Calif., manages the project for NASA's Science Mission Directorate in Washington.

For more, visit: [www.nasa.gov/msl](http://www.nasa.gov/msl). You can follow the mission at: [www.facebook.com/marscuriosity](https://www.facebook.com/marscuriosity) and [www.twitter.com/marscuriosity](https://www.twitter.com/marscuriosity).

## Mississippi First Lady visits INFINITY

Mississippi First Lady Deborah Bryant (blue suit, foreground) and invited guests view the Controlled Environment Agriculture unit during a visit to the INFINITY Science Center on March 12. The INFINITY exhibit grows trays of butterhead lettuce, using an aeroponic process that involves no soil and advanced LED lighting. The exhibit is a demonstration of a growing technique that could be used as a food source for future space travelers. In addition to touring INFINITY exhibits, the Mississippi First Lady and her guests also visited Stennis Space Center to ride with U.S. Navy Special Boat Team TWENTY-TWO.



# Stennis updates moving vehicle policy

The Office of Protective Services at NASA's John C. Stennis Space Center has announced increased penalties for violating the facility's policy against using communication devices in moving vehicles.

Beginning March 18, a violation of the Stennis policy prohibiting use of communication devices while driving onsite will result in:

- Loss of onsite driving privileges for the following business day.
- A letter forwarded to the motorist's project manager, director or commander, advising them of the violation and penalty.
- Eleven points on the motorist's driving record. (The previous penalty was six points. Motorists receive a 30-day suspension of onsite driving privileges for accumulating 12 points in 12 months. Eighteen points in 18 months merits a 90-day suspension, and 24 points in 24 months results in a 180-day loss of driving privileges.)
- An added 30 days of penalty for any motorist caught driving onsite while under suspension.

"It is critical that we do all we can to

ensure the safety of the population here – drivers, passengers and pedestrians alike," said Bill Turner, project manager for ISS Action, which provides onsite security services at Stennis. "The simple fact of the matter is, if you're using your cell phone or similar device while driving, you're not concentrating on



your driving. All it takes is one second of not paying attention, and you could be in real trouble on the road."

Stennis policy prohibits use of a communication device by a driver "unless the vehicle is safely parked or the driver is using a hands-free device." That covers driving onsite and about two miles north and south of security gates on Highway 607.

As defined in the policy, communication devices include such items as telephones, radios, walkie-talkies, Blackberry units, text-messaging instruments, computer laptops, MP3 players, tablet computers or personal digital assistant (PDA) devices. The only exceptions are for emergency, security and fire personnel during official operations.

Stennis policy also prohibits the use of any communication device, even of the hands-free variety, by a driver entering or exiting a security checkpoint. It prohibits all forms of text messaging while driving onsite.

"This is an issue that is receiving a lot of focus in a lot of places these days, and there was a broad consensus among Stennis senior managers that we all need to do more to ensure safety in this area," Turner said.

In addition to communicating the change through onsite publications, new signage will indicate use of communication devices is prohibited while driving at Stennis. For more information regarding traffic operations, consult the latest copy of Stennis Procedural Requirement (SPR) 1600.1, located at: <http://ssccommunity.ssc.nasa.gov/OPS/>.

## 2013 African-American History Month program

Participants watch a video on the 1963 March on Washington for Jobs and Freedom during a Feb. 28 lunch-and-learn roundtable discussion at Stennis Space Center. The Stennis Diversity Council sponsored the program in recognition of African-American History Month, observed each year in February. The theme was "At the Crossroads of Freedom and Equality: The Emancipation Proclamation (1863) and the March on Washington (1963)." President Abraham Lincoln issued the Emancipation Proclamation freeing slaves in the United States during the Civil War in 1863; the March on Washington for Jobs and Freedom was held 100 years later on Aug. 28, 1963. It still stands as one of the largest rallies for human rights in U.S. history and featured the "I Have a Dream" speech delivered by Martin Luther King Jr.



# Stennis hosts annual G.E.M.S. event

Almost 100 girls from area high schools visited Stennis Space Center on March 8 for a day of activities designed to promote studies in science and mathematics.

The Girls Excited about Math and Science (G.E.M.S.) event attracted girls from 19 Louisiana and Mississippi schools. Participants attended a variety of presentations, including a cryogenics demonstration, a “Dress for Success” fashion show and a College and Career Expo. Various NASA employees spoke with girls, including Stennis Chief Information Officer Dinna Cottrell, who delivered words of encouragement.

Participating schools from Louisiana were: Baton Rouge Magnet High School, Mandeville High School, Pearl River High School and Pope John Paul II High School in Slidell. Participating schools from Mississippi were: Bay High School in Bay St. Louis, D’Iberville High School in Biloxi, Gulfport High School, Hancock High School in Kiln, Harrison Central High School in Gulfport, Long Beach High School, Our Lady Academy in Bay St. Louis, Pass Christian High School, Pearl River Central High School in Carriere, Picayune Memorial High School, Poplarville High School and West Harrison High School. Students associated with two home schools also participated.

G.E.M.S. was sponsored by NASA, Jacobs Technology, Pratt & Whitney Rocketdyne, A<sup>2</sup>Research and Patriot Technologies.



(Top photo) Girls from 19 area high schools visited Stennis Space Center on March 8 to participate in science- and mathematics-related activities.

(Below photo) Louisiana and Mississippi high school girls collect information during a College and Career Expo during G.E.M.S. activities March 8.

(Bottom left photo) NASA employee Karma Snyder demonstrates use of cryogenics during a Girls Excited about Math and Science presentation at Stennis Space Center.

(Bottom right photo) High school girls enjoy a fashion show presentation during March 8 activities.



## McCormick remembered as 1st Stennis employee

*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 chapter in the history of the south Mississippi rocket engine test center.*

Little is known about NASA's John C. Stennis Space Center's first employee, Margaret Anderson McCormick. However, as a Stennis Space Center history maker, she is being recognized during this March in observance of National Women's History Month.

"This is the greatest thing that could happen to anyone, to be in on the start of a half-billion-dollar project," McCormick said in a Nov. 21, 1962, article published in the Picayune Item newspaper. The comment came a day after her first full day of work and the day after Mississippi Test Operations (MTO) held its first flag-raising ceremony.

"McCormick's first full day on the job was a busy one as she scurried to meet the needs of the dignitaries and local press," notes *Way Station to Space: A History of the John C. Stennis Space Center*. She also prepared refreshments for prominent NASA officials, who included the site's first manager, Capt. William C. "Bill" Fortune, and America's space chief from Huntsville, Ala., Marshall Space Flight Center Director Dr. Wernher von Braun.



Margaret McCormick holds the official register of the first flag-raising ceremony at Mississippi Test Operations on Nov. 20, 1962, with her boss and first site manager, Capt. William "Bill" Fortune.

A New Orleans native, McCormick transferred from the U.S. Navy in Mayport, Fla., to open Capt. Fortune's headquarters, which was located onsite at the Rouchon House in the former town of Gainesville.

With a local connection to the area, McCormick's two adopted children already were living with relatives and attending school in Picayune before she started work at MTO. The children lived with McCormick's sister, Marie Sones, a schoolteacher and wife of Rev. John Warren Sones, pastor at Bogalusa Baptist Church. The Sones family lived in Carriere. McCormick had another sister, Mrs.

E.P. Rady of Santa Rosa, who was a secretary for the International Paper Co. in Westonia.

McCormick made her home in Picayune, where she had numerous relatives and friends. She was an advocate for the new NASA installation, conducting community outreach to help area residents understand the positive impact of the rocket testing facility.

On Jan. 13, 2011, Margaret A. McCormick Tingle died at Fairfax (Va.) Nursing Home, at age 92. She was preceded in death by her husband, Ernest, and six siblings.

## Stennis cited in NASA 2012 Spinoff publication

Studies by NASA Senior Research Scientist Lauren Underwood at Stennis Space Center was cited in two entries in the space agency's 2012 *Spinoff* publication, which highlights space-related developments being adapted to benefit life on Earth.

NASA has partnered with a pair of companies, PURETi Inc. and Nanocepts Inc., in development of technologies related to photocatalytic

materials. Based on Underwood's research, products are being produced that transform nearly any surface, from buildings to textiles to glass, into a self-cleaning air purifier.

Photocatalytic coatings reduce maintenance, eliminate odors, create hospital-grade air quality and reduce dangerous volatile organic compounds emitted from some paints, carpets, furniture and office equipment.

The NASA publication cites Stennis as a key contributor to aerospace innovation. "Over the years, the center has become a hotbed of collaboration between government and industry," it notes.

"The center that is NASA's testbed for rocket engine technology is now also – thanks to an enterprising researcher and a private industry partnership – a testbed for a product that seems 'too good to be true.'"

# Real gratitude grounded in experience, not rhetoric

*“As we light a path for others, we naturally light our own way.”*

Mary Anne Radmacher

The ability and willingness to express sincere appreciation is one of the most valuable skills of leadership communication. People will tend to willingly follow others who make them feel good about themselves. It sounds simple, yet the expression of sincere gratitude is rare. It is simply not easy, and frequently not considered important, to convey real appreciation in our world where convention rather than authenticity rules most of our communication. We all know how to say “thank you.” Few of us know how to generate the experience of being grateful. Unfortunately, unless we do generate the experience in ourselves, the object of our thanks will only experience the conventional and obligatory communication as well – “Thanks.” Leaders have to develop the capability of generating the experience of gratitude in themselves. Today’s leaders are called on to exhibit uncommon emotional intelligence. Part of that intelligence is the ability to express authentic gratitude.

Whatever else each of us derives from our work, there may be nothing more precious than the feeling that we truly matter, that we contribute unique value to the whole, and that we’re recognized for it. The single highest driver of engagement, according to a worldwide study, is whether or not workers feel their managers are genuinely interested in their well-being. Less than 40 percent of workers feel so. Feeling genuinely appreciated lifts people up. At the most basic level, it makes us feel safe, which is what frees us to do our best work. It’s also energizing. When our value feels at risk, as it so often does, that worry becomes preoccupying, which drains and diverts our energy from creating value.

So, why is it that openly praising or expressing appreciation to other people at work can so easily seem awkward, contrived, mawkish and even disingenuous? The obvious answer is that we’re not fluent in the language of positive emotions in the workplace. We’re so unaccustomed to sharing them that we don’t feel comfortable doing so. Heartfelt appreciation is a muscle we’ve not spent much time building, or felt encouraged to build.

Oddly, we’re often more experienced at expressing negative emotions, reactively and defensively, and often without recognizing their corrosive impact on others until much later, if we do at all. That’s unfortunate. The impact of negative emotions, and more specifically the feeling of being devalued, is incredibly toxic. In one well-known study, workers who felt unfairly criticized by a boss or felt they had a boss who didn’t listen to their concerns had a 30 percent higher rate of coronary disease than those who felt treated fairly and with care. In the workplace itself, researcher Marcial Losada has found that among high-performing teams, the expression

of positive feedback outweighs that of negative feedback by a ratio of 5.6 to 1. By contrast, low-performing teams have a ratio of 0.36 to 1. So, what are the practical steps you can take, especially as a manager, to use appreciation in the service of building a higher-performing (and more sustainable) team?

1. As the Hippocratic oath prescribes to physicians, “Above all else, do no harm.” Or perhaps more accurately: do less harm, since it’s unrealistic to do none. The costs of devaluing others are so great that we need to spend far more time thinking about how to hold people’s value, even in situations where they’ve fallen short and our goal is get them to change their behavior for the better.
2. Practice appreciation by starting with yourself. If you have difficulty openly appreciating others, it’s likely you also find it difficult to appreciate yourself. Take a few moments at the end of the day to ask yourself this simple question: “What can I rightly feel proud of today?” If you are committed to constant self-improvement, you can also ask yourself, “What could I do better tomorrow?”
3. Make it a priority to notice what others are doing right. The more you work at it, the better you’ll get at it, and the more natural it will become for you.
4. Be appreciative. The more specific you can be about what you value – and the more you notice what’s most meaningful to that person – the more positive your impact on that person is likely to be. A handwritten note makes a bigger impression than an email or a passing comment, but better any one of them than nothing at all.

We’re all more vulnerable and needy than we like to imagine. Authentically appreciating others will make you feel better about yourself, and it will also increase the likelihood they’ll invest more in their work, and in you. The human instinct for reciprocity runs deep.

## Hail & Farewell

### NASA bids farewell to the following:

**Marco Giardino** Physical Scientist  
Office of External Affairs

### And welcomes the following:

**Neil Toupin** AST, Safety & Mission Assurance  
Office of Safety & Mission Assurance

**Rachel Harrison-Woodard** AST, Facility Systems Safety  
Office of Safety & Mission Assurance

**Alex Elliot** AST, Software Systems Engineer  
Engineering & Test Directorate

# NASA outreach – Mississippi Children’s Museum



Stennis Space Center representatives sponsored NASA activities at the Mississippi Children’s Museum in Jackson on March 9, hosting hundreds of visiting children during the day. Launch into STEM (science, technology, engineering and mathematics) activities included Living and Working in Space presentations, robotics demonstrations and a hands-on edible Mars Rover station. Visiting children had an opportunity to take photos with

Stennis Space Center mascot Orbie the Astronaut and in an astronaut cut-out suit. They also were able to collect NASA memorabilia, including items related to NASA’s new Space Launch System under development to carry humans deeper into space than ever. Teams from Warren Central and St. Aloysius high schools in Vicksburg and Central Mississippi Robotics in Brandon provided robotic demonstrations during the day.



Teachers participate in a hands-on exercise during a NASA resource workshop in Hammond, La.

## NASA hosts teacher workshops

Stennis Space Center educators hosted a pair of recent workshops for more than 120 pre-service and in-service Louisiana teachers.

Eighty-one participants, including 10 Taiwanese pre-service teachers, attended a March 1 workshop at the University of Louisiana in Monroe. The workshop was a collaborative effort between the Stennis Education Office, NASA’s Human Exploration and Operations Mission Directorate and the Monroe school.

NASA specialists presented hands-on,

problem-based learning and technology-based activities, including sessions on: What’s Next for NASA?, Digital Learning Network & Teaching from Space, LEGOs in Space, and NASA’s BEST (Beginning Engineering, Science and Technology).

Participating teachers received professional development credit, Continuing Learning Units and NASA education materials and resources.

Stennis educators hosted a similar workshop Feb. 22 at Southeastern Louisiana University in Hammond, attracting 48 participants.



## Stennis sponsors history Quiz Bowl

Stennis Space Center employees compete during a Quiz Bowl event sponsored onsite March 14 in observance of Women’s History Month. The theme for this year’s observance is “Women Inspiring Innovation through Imagination: Celebrating Women in Science, Technology, Engineering and Mathematics. The Stennis event highlighting the emphasis featured male and female site employees competing to answer questions related to women’s history.