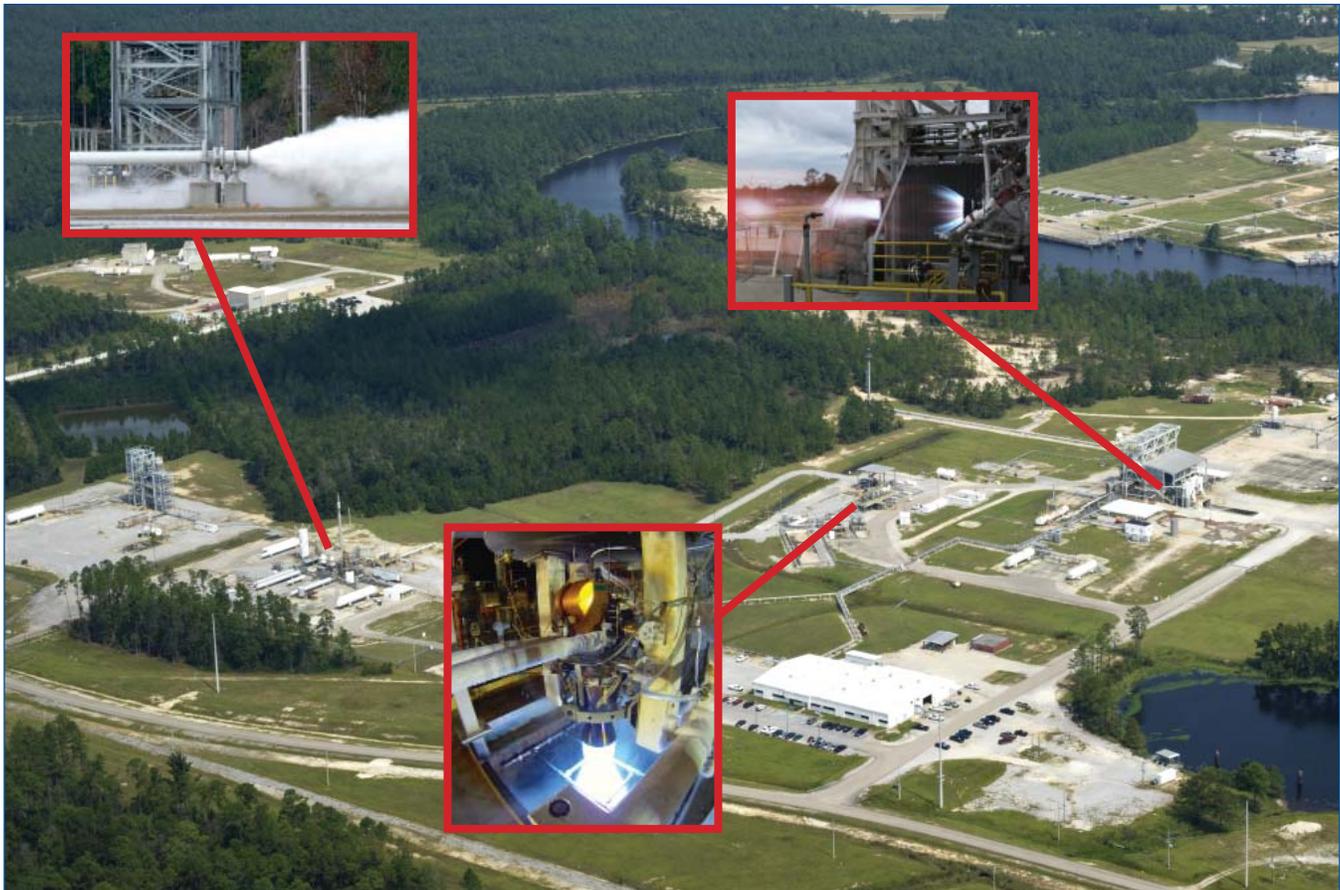


NASA completes historic week of testing



NASA recorded a historic week Nov. 5-9, conducting tests on all three stands in the E Test Complex at Stennis Space Center. Inset images show the types of tests conducted on the E-1 Test Stand (right), the E-2 Test Stand (left) and the E-3 Test Stand (center). The E-1 photo is from an early October test and is provided courtesy of Blue Origin. Other photos are from tests conducted the week of Nov. 5.

Think working beehive or active anthill, and you have an apt description of the E Test Complex at NASA's John C. Stennis Space Center the week of Nov. 5.

Twenty-seven tests were conducted in a three-day period during the week, on three different rocket engines/components and on three E Complex test stands. These included tests on the three stands during a 24-hour period Nov. 6-7 and during a nine-hour-plus period on Nov. 8. Test managers characterized the convergence of tests as historic.

"The E Test Complex is NASA's most capable and flexible set of rocket propulsion test facilities, able to meet customer needs from small thrusters, to full-scale turbomachinery and thrust chambers, to full-scale engine systems," explained Randy Galloway, director of the Engineering & Test Directorate at Stennis. "Our NASA/Test Operations Contract team at the E Complex has done many astounding things over the past several years, and this latest accomplishment of running a hot-fire test on each stand in the same week is yet another one to add to their list."

See **HISTORIC**, Pages 3-6

“Stennis has had a tremendous year of successes in 2012, made possible by the dedicated workforce here and by the tremendous support of our surrounding communities and officials.”

From the desk of
Rick Gilbrech

Director, Stennis Space Center

Thankful. That is the word that came to mind when I sat down to write my first *Lagniappe* article after assuming the center director position at Stennis Space Center for the second time in my career.

I am thankful to be asked to lead such a tremendous NASA team again, thankful to be staying in an area my family and I have grown to love, and thankful to be able to provide stability in Stennis leadership during a very busy and exciting timeframe.

I am thankful and blessed to have such a great job in a great community when so many across the country are struggling to make ends meet.

I am also thankful for the three-and-a-half years I was privileged to spend working with my good friend and now-Marshall Space Flight Center Director Patrick Scheuermann.

Stennis has had a tremendous year of successes in 2012 as we recently highlighted at our 51st Anniversary Gala Celebration deemed “Our Year to Shine.”

Those successes were all made possible by the dedicated workforce here and by the tremendous support of our surrounding communities and our local, state and federal officials.



Rick Gilbrech speaks to Stennis employees during an all hands meeting Sept. 25 announcing his appointment as center director.

We also celebrated Veteran’s Day this month to honor and commemorate all those who have given service to our country, thanking them and all on active duty for protecting the freedoms we enjoy every day.

Finally, most all of us will sit down to break bread on Thanksgiving Day this month, and each in his or her own way will recount the things that bring joy and thanks during this holiday season.

To close, I want to personally thank everyone on the NASA Stennis team for the dedicated work you do to make Stennis Space Center so successful. I look forward to many more years of sharing my gratitude for your excellence as we continue to do great things. Thank you!

Richard J. Gilbrech

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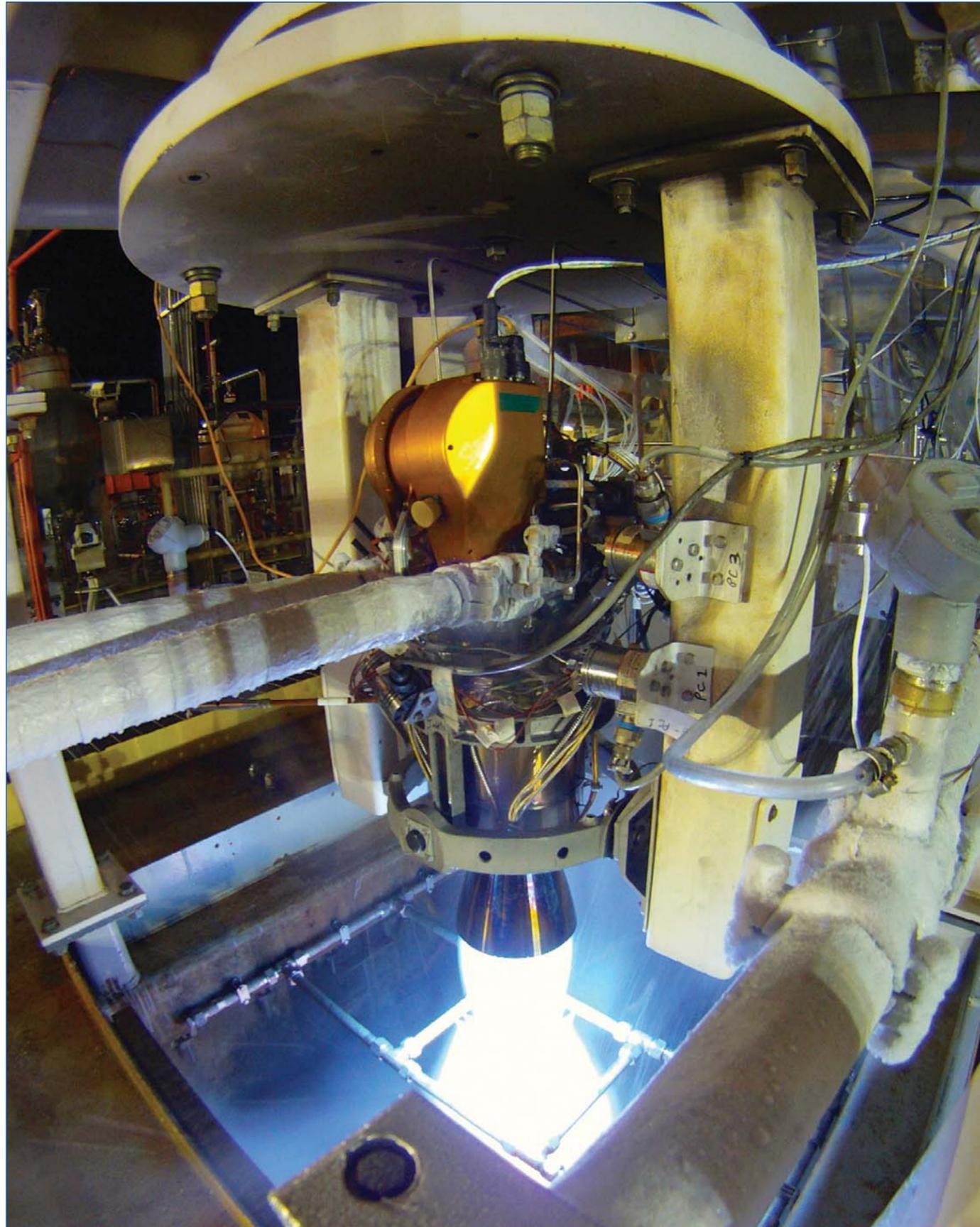
Managing Editor – Rebecca Strecker

Editor – Lacy Thompson

Staff Photographer – Danny Nowlin



FULFILLING NASA'S EXPLORATION MISSION



(Left photo) A test of the liquid oxygen, liquid methane Project Morpheus engine is conducted Nov. 8 on the E-3 Test Stand at Stennis Space Center.

(Above photo) Jason Hopper of NASA (front row), Jody Ladner of Lockheed Martin (back row, left) and Chris Mulkey of NASA prepare to test the Blue Origin BE-3 engine thrust chamber in the E-1 Test Stand Control Center on Nov. 8.

HISTORIC

Continued from Page 1

The Stennis team conducted:

- Four tests during two days (Nov. 6 and 8) on the Blue Origin engine thrust chamber on the E-1 Test Stand. The component will be used on the BE-3 100,000 lbf, liquid oxygen, liquid hydrogen engine to power Blue's Reusable Booster System, now in development. The company is one of several commercial organizations that have partnered with NASA through the agency's Commercial Crew Development Program to develop a commercial crew space transportation capability.
- Five tests during two days (Nov. 6 and 8) on a modified chemical steam generator on the E-2 Test Stand. A series of 27 CSG units will be used on the A-3 Test Stand under construction at Stennis. The recent tests provided critical data on the effectiveness of the unit modifications.
- Eighteen tests during two days (Nov. 7 and 8) on the liquid oxygen, liquid methane Project Morpheus engine on the E-3 Test Stand. The engine will be used on a NASA prototype lander, which could one day evolve to carry cargo safely to the moon, asteroids or Mars.

"The fact that such a feat is even possible is a great testimonial to our facilities and the team that operates and maintains them," Galloway continued. "Our customers, NASA or industry, know

that our E Complex team will do whatever it takes to meet their testing needs."

What it took that week was a high level of coordination and planning to meet the work crew and logistical challenges posed by three active test stands. The flexibility of the E Complex team was critical in meeting those challenges, said Jeff Lott, E-1 test director. "This is a real credit to the crews," he said. "Our folks are fairly young but are a very talented and flexible team."

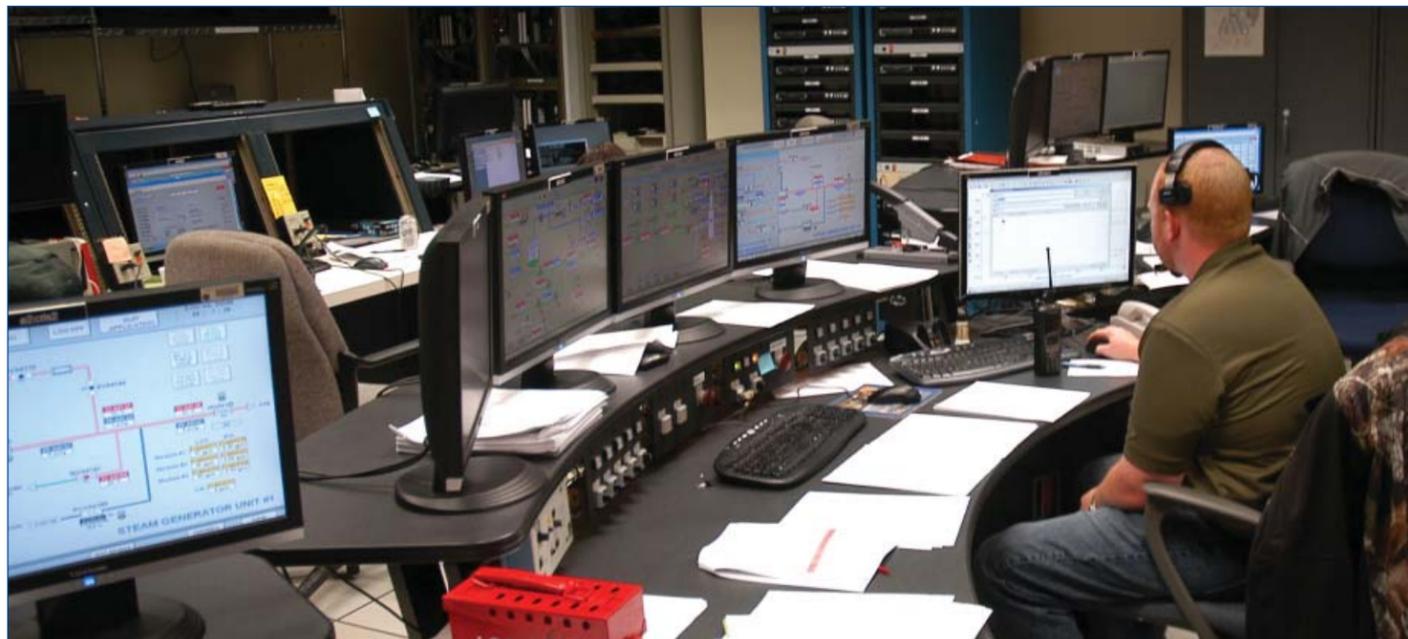
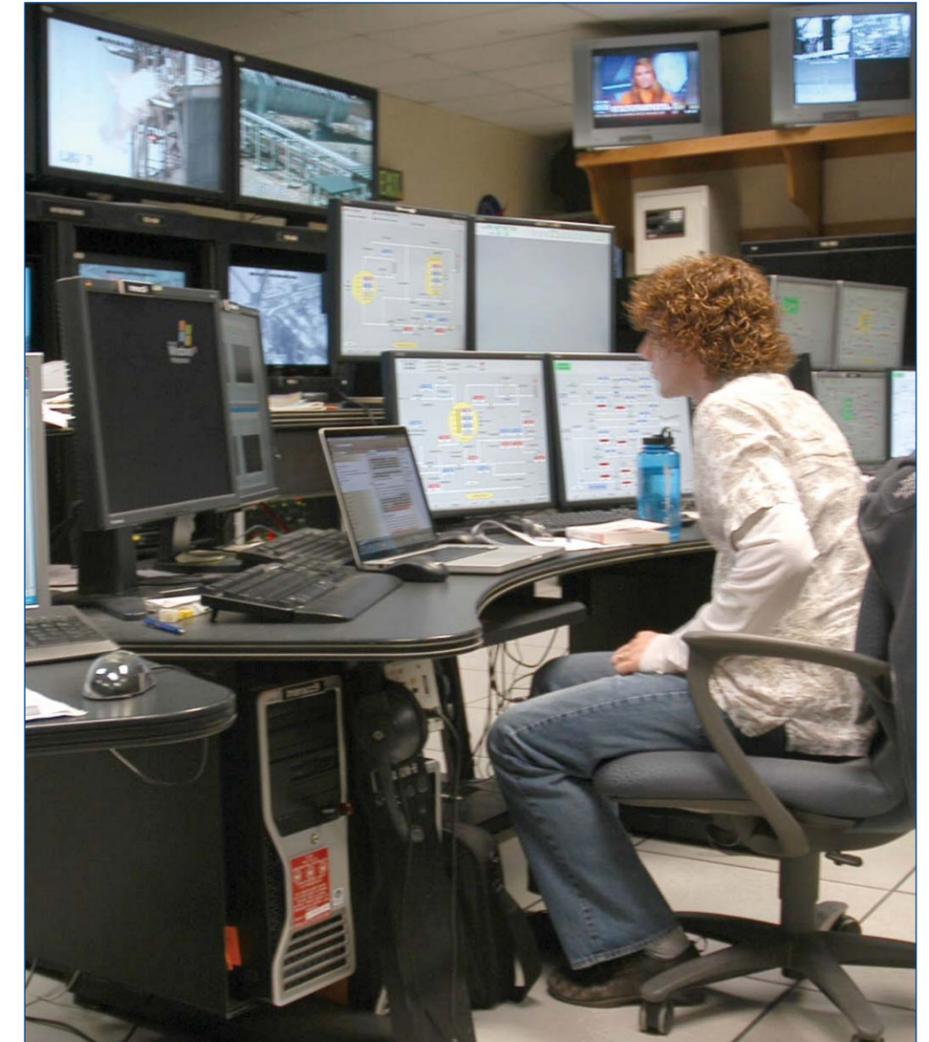
Stennis Chief of Test Operations Maury Vander agreed. "During a week like we just had, individuals were asked to do above and beyond the typical expectations of their job," he said. "However, they do that all of the time. They adjust as needed to meet test requirements. They make it happen."

They do so by meeting the logistics challenge of coordinating tests so conflicts do not arise, ensuring test propellants are available when needed and just being in the right place at the right time. Since a test on one stand affects the ability to work on another, team members must understand where they should and should not be throughout the day.

"This team is just great at handling all of that," Vander said.

E-2/E-3 Test Director Craig Chandler agreed, adding that meeting the challenge makes the job exciting. "This is not something just anybody can do," he said. "Meeting test challenges, especially in a week like the one we just had, provides a real sense of achievement and accomplishment."

FULFILLING NASA'S EXPLORATION MISSION



(Top left photo) NASA engineers test a chemical steam generator unit on the E-2 Test Stand at Stennis Space Center on Nov. 6.

(Top right photo) Jason Hopper of NASA works in the E-1 Test Stand Control Center on Nov. 8.

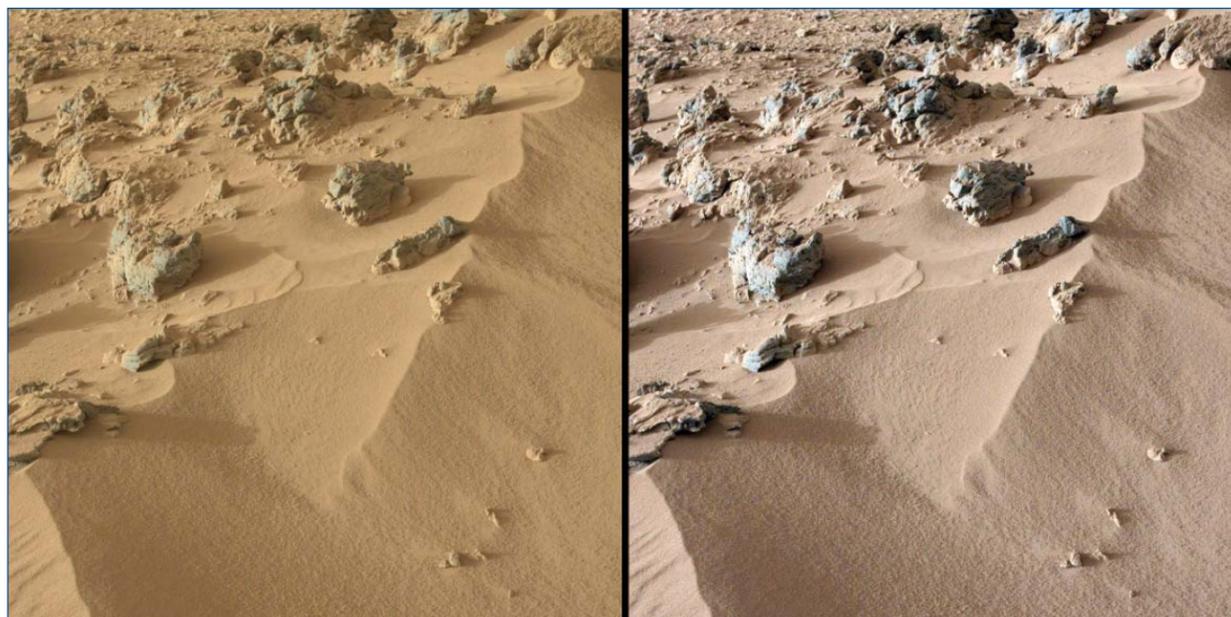
(Bottom left photo) Stephen Rawls performs pre-test work in the E-2 Test Stand Control Center at Stennis. Rawls and other engineers conducted tests of a modified chemical steam generator unit the week of Nov. 5.

(Bottom right photo) Andy Guymon studies data in the E-3 Test Stand Control Center during testing of the Project Morpheus engine.



FULFILLING NASA'S EXPLORATION MISSION

Curiosity rover on Mars



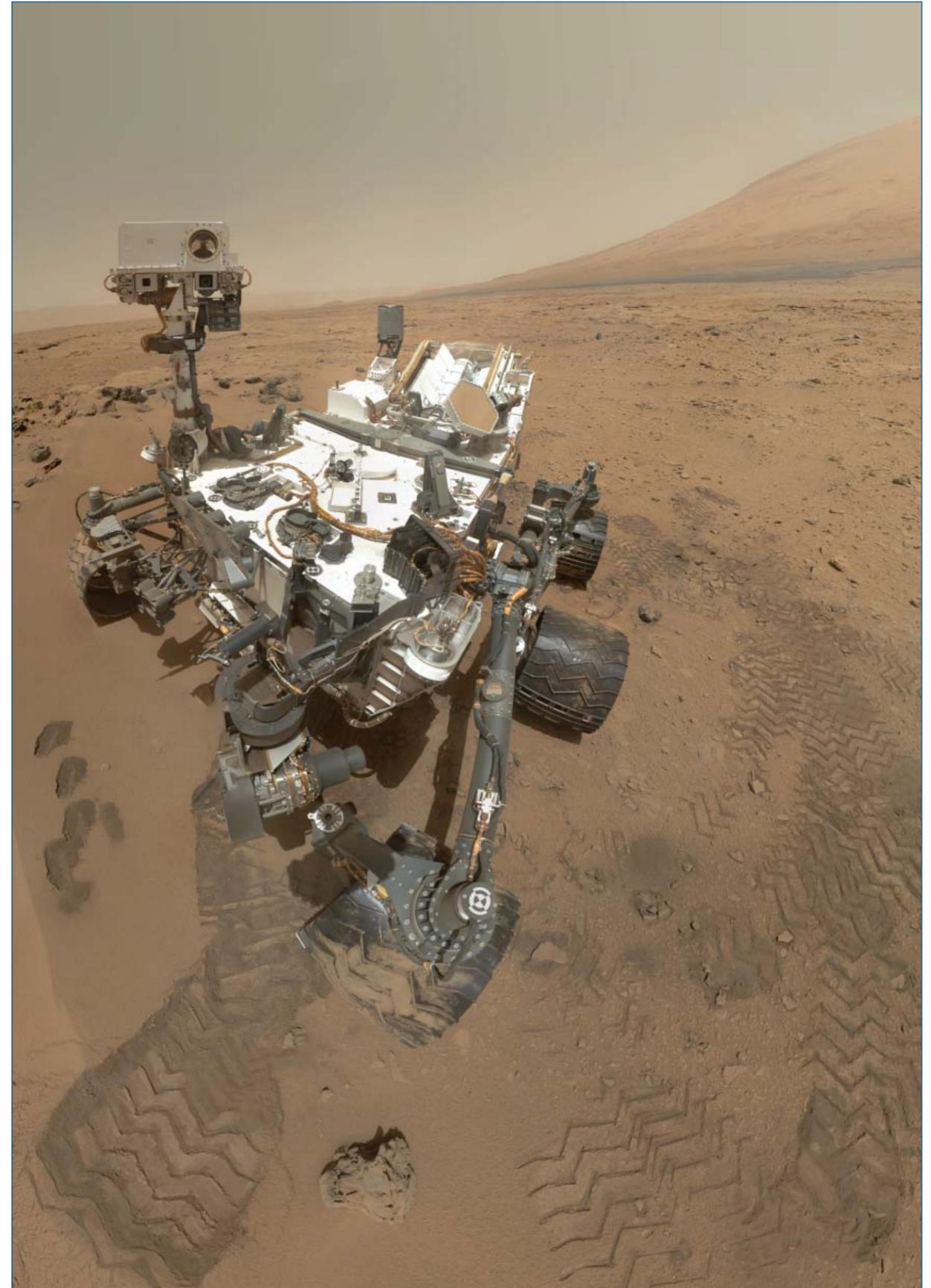
NASA's Curiosity rover continues to return images and data from the agency's Mars Science Laboratory mission to the Red Planet.

(Right photo) On Oct. 31, NASA's Curiosity rover captured a set of 55 images, which were stitched together to create this full-color self-portrait. The mosaic shows the rover at "Rocknest," the spot in Gale Crater where the mission's first scoop sampling took place. Four scoop scars can be seen in front of the rover.

(Top photo) This 360-degree scene shows the location where the Curiosity rover arrived on the 59th day of its mission on Mars (Oct. 5). It is a mosaic of images taken by Curiosity's Navigation Camera. Mount Sharp is on the horizon in the southeast. Tracks that Curiosity's wheels made while driving toward Rocknest recede toward the west.

(Middle photos) This pair of images show a "bite mark" where NASA's Curiosity rover scooped up Martian soil (left), and the scoop carrying soil. The first scoop sample was taken from the Rocknest patch of dust and sand on Oct. 7. Scientists enhanced the color to show the Martian scene as it would appear under lighting conditions on Earth.

(Bottom photos) These images show the upper portion of Rocknest. The colors in the image at left are unmodified, showing the scene as it would appear on Mars, which has a dusty red-colored atmosphere. The image at right has been white-balanced to show what the same area would look like under the lighting conditions on Earth.



Stennis Gala celebration

Members of the Stennis Space Center community and supporters of the NASA rocket engine test facility gathered at INFINITY Science Center on Oct. 20 to mark the 51st year of operation for the south Mississippi center.

Almost 350 Stennis employees and guests gathered for the annual Gala celebration, sponsored by Partners for Stennis. The theme of the evening was "Our Year to Shine." Speakers for the event included new Stennis Director Rick Gilbrech, U.S. Rep. Steven Palazzo, R-Miss., and Gulfport Mayor George Schloegel.

The evening also featured presentation of the Roy S. Estess Public Service Leadership Award, named for the late director of Stennis from 1989 to 2002. The annual award was established in memory of Estess to honor an individual demonstrating a career record of innovative leadership benefitting the government, as well as a history of volunteerism supporting the general public.

(Right photo) Stennis Director Rick Gilbrech welcomes participants to the 2012 Gala celebration. Speakers and presentations during the evening focused on achievements of the recent year at Stennis.

(Bottom left photo) Gulfport Mayor George Schloegel (left) congratulates Lee Anne Woods Futrell following presentation of the Roy S. Estess Public Service Leadership Award. Futrell received the award on behalf of her late father, Glade Woods, a longtime south Mississippi businessman and community supporter who died earlier this year. Woods was a strong advocate for Stennis Space Center and the nation's space program. Futrell was joined at the award presentation by her husband, Dr. David Futrell (right), and their son, Matthew. The annual leadership award is named in memory of Roy S. Estess, who served as Stennis Space Center director from 1989 to 2002.

(Bottom right photo) A pair of Gala participants use 3-D glasses to view images transmitted by NASA's Curiosity rover, which landed on Mars earlier this year for a scientific research mission.





(Left photo) Gala participants enjoy a reception during the annual dinner celebration Oct. 20 at INFINITY Science Center, the official visitors center for Stennis Space Center.

(Top photo) A Gala couple view one of the many exhibits at INFINITY Science Center during annual Gala festivities.

(Right photo) Stennis Director Rick Gilbrech speaks to Gala guests during the Oct. 20 celebration.

(Below right photo) U.S. Rep. Steven Palazzo, R-Miss., welcomes members and supporters of the Stennis community during the annual Gala celebration at INFINITY Science Center.

(Bottom center photo) Steve and Heather Harper of Bay St. Louis provide background music during the Gala reception.



NASA hosts climate workshop at Stennis

NASA Headquarters held a Resilience and Adaptation to Climate Risks Workshop at Stennis Space Center last month to understand climate change risks and adaptation strategies.

The workshop was part of an effort that joins the science and operations arms of the agency in a coordinated response to climate change. NASA Headquarters is holding workshops on the subject at all NASA centers.

The Oct. 16-18 session at Stennis included scientific and informational presentations, as well as breakout sessions for participants to discuss climate risks unique to the facility. Participants focused on developing a seven-step process to identify climate hazards, develop adaptation strategies and integrate those into Stennis management and planning.

“The workshop creates climate change awareness with facility managers about what climate change science means practically to Stennis Space Center,” said Bill Graham, Climate Adaptation Science Investigator in the Stennis Applied Science Technology & Project Office (ASTPO). “Hurricane Katrina has



Participants in an Oct. 16-18 workshop at Stennis focused on identifying current and future climate risks and developing strategies to address them.

had everyone thinking about climate strategies at Stennis. This workshop affords the coordination among scientists and facility managers to prepare for climate change to ensure our viability as a test complex, science center and federal city.”

In addition to testing rocket engines, Stennis conducts Earth science applications research to bring socioeconomic benefit from NASA’s

investment in Earth science and technology. Stennis ASTPO has active partnerships with the U.S. Geological Survey, the U.S. Forest Service and the National Oceanic and Atmospheric Administration to provide Earth science research that aids their decision-making.

ASTPO also runs NASA’s Gulf of Mexico Initiative that examines coastal management issues.



The Combined Federal Campaign is the largest annual workplace charity effort in the nation. Each year, its gifts support organizations providing health and human service benefits throughout the world.

**Stennis 2012
Combined
Federal Campaign**

Goal – \$196,300
To-date – \$160,420
(81.7% of goal)

1977 – Lagniappe debuts

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.

Thirty-five years ago this month, the original *Lagniappe* (Lan-yap) staff – Leroy Gilbert, manager of institutional operations; Mack Herring, NASA public affairs officer; Elva Smith, information services; and Charlie Swan, graphic illustrator – published the first sitewide newsletter for employees at the National Space Technology Laboratories (NSTL), renamed John C. Stennis Space Center on May 20, 1988.

The *Lagniappe* quickly became a popular newsletter with employees throughout NASA, providing them with news and information about NSTL. Many asked why the newsletter carried such an odd name. The introductory issue of the monthly newspaper included a brief definition of the word “lagniappe.”

A little history of the word and how it is pronounced helped to understand how the name came about.

The Merriam-Webster Dictionary defines “lagniappe” as an American-French word from the American-Spanish term “la napa,” meaning something given or obtained gratuitously or by way of good measure. Many people along the Mississippi Gulf Coast and south Louisiana commonly use the word. So, Ed Ling, chief counsel of NSTL, came up with the name because that is what the paper was to be: “a little something extra for employees.”

Lagniappe also came with another popular, yet odd feature, the Gator cartoon. Gator has a rich history at Stennis, going back to the very beginning when the Mississippi Test Facility (renamed NSTL on June 14, 1974) began to rise out of the swamps. With problems such as rain and mosquitoes plaguing the workers, a strong mascot and motivational symbol was needed. Both the armadillo and the alligator were discussed, but

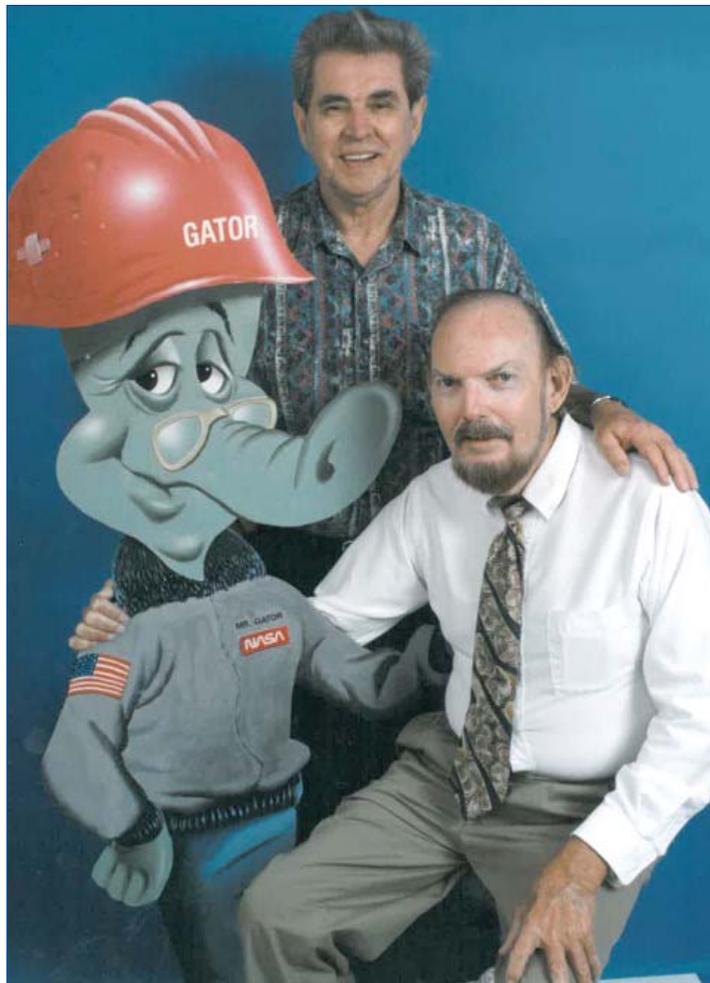
because the alligator was strong and powerful, the first Gator cartoons were drawn by Charlie Swan.

Mack Herring later joined the History Office at Stennis, and penned a popular commentary column for *Lagniappe*.

In Herring's Nov. 20, 1986, *Lagniappe* commentary titled, “A Little Something Extra ...,” he stated, “We've had four capable editors during the nine years. Lacy Lee Baker was our first editor. She was followed by Elva Smith, Lisa Monti and Melinda Smith, our present editor. We are proud of all of the papers. Of course, there are a few issues which stand out in my mind.

“Of all the *Lagniappe* issues, I think I enjoyed the first one best. It was published Nov. 11,

1977. We didn't have an official editor at the time, so Elva Smith, Leroy Gilbert, Charlie Swan and myself worked many long hours and into the night getting it together in time for our deadline. We didn't have much equipment ... no word processors, computers, light tables or other sophisticated tools we use today. But when it rolled off the press, and we were able to see it in the light of day, we felt we had truly created ‘a little something extra.’”



Cartoonist Charlie Swan (standing) created Gator as the Stennis Space Center mascot in the 1970s. Mack Herring worked as the Stennis public affairs officer. Both were involved in success of the monthly *Lagniappe* publication at the facility. *Lagniappe* debuted 35 years ago, in November 1977.

Office of Diversity and Equal Opportunity

Appreciate, respect American Indian heritage

*I do not think the measure of a civilization
is how tall its buildings of concrete are,
But rather how well its people have learned to relate
to their environment and fellow man.*

Sun Bear of the Chippewa Tribe

Throughout our lives, we have been bombarded by stereotypical portrayals of American Indians. Books, television programs, movies and toys tend to depict Native Americans as oversimplified feather-wearing characters. Inaccurate, and often offensive, representations of American Indians are deeply rooted in the American consciousness.

As a result, we have become desensitized to terminology and imagery that is offensive to American Indians. For example, we might not think it is odd to ask kids to line up Indian file. And we might not see any reason our kids should not dress up and play Indians.

American Indian children who frequently encounter stereotypical images of their cultures are hindered in developing pride in their heritage and a healthy self-image. When asked, there are American Indian preschoolers who will say they are not Indians. Why? Because they have learned from popular movies and cartoons that Indians wear feathers and face paint and live in tepees and carry tomahawks. Preschoolers do not look like that, so they do not consider themselves Indians.

American Indians are not all the same

One of the most popular misconceptions about American Indians is that they are all the same – one homogeneous group of people who look alike, speak the same language, and share the same customs and history. Nothing could be further from the truth.

Although American Indians make up less than 1 percent of the U.S. population, they represent half of the nation's languages and cultures. This statistic may seem incredible, but remember that American Indians were the sole inhabitants of this continent until Europeans arrived only five centuries ago. Before that, Native Americans had thousands of years to migrate across the country in small groups and in relative isolation from one another to develop unique cultural identities.

Today, there are about 500 American Indian tribes, each with its own language and cultural traditions. The Diné Nation (Navajo) is the largest, with 170,000 members. Others include the Oglala Sioux, Cherokee Nation, Blackfeet, Fort Apache, Gila River, Hopi, Papago, San Carlos Apache, Rosebud Sioux and Zuñi Pueblo. Almost half of all tribes have fewer than 1,000 members but still

have unique identities. There are large tribal differences in clothing, housing, lifestyles and cultural practices.

Sadly, these differences are not appreciated by most non-Native Americans, because the rich diversity of American Indians is not reflected, nor presented accurately, in readily available teaching materials, popular entertainment and children's toys. Toy manufacturers typically misrepresent American Indians by creating toys that, for example, mix the tepee from the Plains culture or the totem pole from the Northwest Pacific Coast groups with the Navajo rug, loom, or desert plants from the Southwest groups.

The truth about feathers and headbands

All are familiar with the popular use of a headband with one feather or a headdress containing numerous feathers (warbonnet) as symbols for Indian imagery. But these headbands are a trite representation of American Indians. Historically, eagle feathers were worn only by certain members of the Plains cultural groups who had distinguished themselves as worthy of such adornment. Feathered headdresses were not worn as everyday clothing but for special ceremonial occasions. Today, feathers still carry highly religious meaning in most tribes. Making feathered fans in tribes for powwows and religious ceremonies is accompanied by appropriate prayers and songs. Handling feathers is not taken lightly.

A challenging and rewarding undertaking

Not all American Indian communities have had the same historical experience, and because each American Indian is unique, what may be offensive to one may not be offensive to another. For example, most Native Americans find the popular song "Ten Little Indians" offensive, but others do not mind it.

The diversity of American Indian cultures is so grand that it may be challenging to comprehend, yet it is our responsibility to try. Just the act of trying to inform ourselves about American Indians is a great sign of respect.

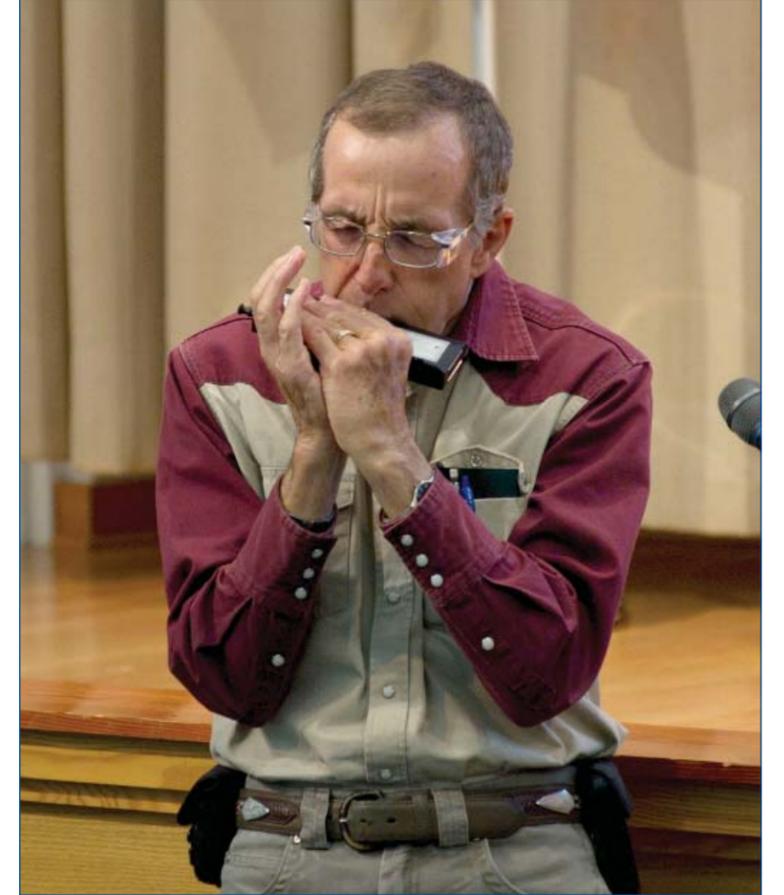
Hail & Farewell

NASA welcomes the following:

Ke Nguyen	AST, Flight Systems Test Engineering & Test Directorate
Amanda Schmidt	AST, Mechanical Experimental Equipment Engineering & Test Directorate
Courtney Gaines	Program Analyst Center Operations Directorate

Stennis celebrates 2012 Diversity Day

Stennis Space Center employees enjoyed 2012 Diversity Day activities Oct. 31. The day's color-filled schedule included an employee talent showcase, a car/motorcycle show, Stennis "Family Feud" contests, a cultural dress parade, food vendors and various cultural exhibits.



Stennis hosts LEGO® Bricks in Space workshop

The Stennis Space Center Educator Resource Center hosted an Oct. 20 workshop to equip teachers in grades 3-12 to use the new LEGO® Bricks in Space curriculum.

The new NASA curriculum encourages students to investigate simple machines as they team up with the crew aboard the International Space Station (ISS) to view video clips shot in a microgravity environment. Students can watch as astronauts use LEGO® models and complete the same activities the students will see in the classroom.

Participants in the Stennis workshop built their own LEGO® simple machine prototypes and explored the engineering principles that make them work – on Earth and in space. Ten area educators attended the five-hour professional development workshop.

The new curriculum is a partnership effort between NASA and LEGO® to inspire investigation of science, technology, engineering and mathematics (STEM). The resource challenges students' problem-solving skills and gets them energized about space exploration.

Throughout this year, more than a dozen LEGO®-based activities will be conducted aboard the ISS, with participating students invited to follow along.

In doing so, students will explore life in space; use the scientific method to investigate the effect of microgravity on simple machines; compare results on Earth to those found aboard the ISS; examine scientific topics, such as force, friction, simple machines and gravity; and investigate math concepts like distance, area, measurement, and accuracy.



Stennis Space Center educators and area teachers partner during a professional development workshop Oct. 20 to learn about the LEGO® Bricks in Space curriculum issued by NASA. The curriculum is designed to encourage students in areas of science, technology, engineering and mathematics.





Stennis hosts outreach activities in Picayune

Stennis Space Center hosted outreach activities at the Walmart Supercenter Store in Picayune on Nov. 3, focusing on helping area residents learn about NASA and Stennis' role in the future of space exploration. Visitors could learn about living and working in space, participate in hands-on educational activities, discover facts about the International Space Station, view images from NASA's latest rover mission to Mars and find out about rocket engine test work at Stennis Space Center. They also were able to collect commemorative items, such as bookmarks, fact sheets and stickers.