



Stennis director updates community leaders

Stennis Director Rick Gilbrech updates community leaders and guests on the state of the center during a briefing event Feb. 13. Gilbrech and other speakers presented information about ongoing work at the Stennis federal city, as well as future projects. Gilbrech was joined in the presentations by U.S. Rep. Steve Palazzo; Bill Burnett, deputy commander and technical director of the Naval Meteorology & Oceanography Command located at Stennis; and Helmut Portmann, director of the National Data Buoy Center, also located at Stennis.



NASA continues support of commercial spaceflight

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"I have no doubt that the NASA Stennis team will once again prove that we are truly capable of achieving great things!"

From the desk of
James Bevis

Chief Financial Officer, Stennis Office of the Chief Financial Officer



Greetings from the budget and finance world! Since my last article, I was requested to coordinate the development of Stennis' Diversity and Inclusion Implementation Plan. A working group comprised of several members of our management team reviewed survey data and shared ideas on how to better educate, inform and infuse these fundamental principles into all aspects of how we conduct business here at Stennis. The rollout of this plan to the employees will be coming very soon, and a diversity board chaired by Deputy Director Jerry Cook will help execute these strategies as we move forward.

On the personnel front, we bid farewell to Deputy Chief Financial Officer for Finance Mary Whitehead and wish her happiness in her retirement. We also welcome Courtney Gaines to the resources team, as well as the recent birth of her first child. Congratulations, and well wishes to both!

In the budget arena, the agency recently received its fiscal year 2014 appropriation totaling \$17.6 billion. Thanks to a high-level congressional budget deal that precluded the need for sequestration, this is significantly better than anticipated and slightly below the president's \$17.7 billion budget request. On Feb. 12, Congress also gave final approval to a bill suspending the cap on the federal debt limit until March 16, 2015. Once signed into law, the bill will allow the federal government to borrow the money it needs in the upcoming year.

For fiscal year 2015, NASA is working final details in support of the president's budget rollout on March 4. Although center-level details are still being worked, the budget outlook for Stennis remains very positive. We continue to have a robust testing program that actively supports both governmental and commercial engine development. We also look forward to the activation of the A-3 Test Stand and the refurbishment of the B-2 Test Stand, which will position us for more work on large-scale engines and stage testing in the near future.

Meanwhile, we are working hard to find innovative ways to become more cost effective in our management of test facilities and the federal city. As other federal and state agencies face similar pressures, the potential for expanding our tenant base in light of these challenges remains strong, and the Stennis team is prepared to meet the demands of future testing and an ever-evolving business environment.

I have no doubt that the NASA Stennis team will once again prove that we are truly capable of achieving great things!

All the best!

Jim Bevis

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Contact info – (phone) 228-688-3749; (email) ssc-pao@nasa.gov; (mail) NASA OFFICE OF COMMUNICATIONS,

Attn: LAGNIAPPE, Mail code IA00, 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 tests engine for Orbital rocket



A team of NASA, Orbital Sciences Corporation, Aerojet Rocketdyne and Lockheed Martin engineers conduct a hotfire test of Aerojet Rocketdyne AJ26 engine E-15 on the E-1 Test Stand at NASA's Stennis Space Center on Jan. 17.

On Jan. 17, Aerojet Rocketdyne AJ26 engine designated E-15 roared to life at NASA's Stennis Space Center as a team of engineers conducted a hot-fire test on the E-1 Test Stand. Initial indications are that the rocket engine performed as expected.

When post-test inspections and flight prep activities are completed, the engine will be cleared for shipment to NASA's Wallops Flight Facility in Virginia for integration with Orbital Sciences Corporation's Antares medium-class space launch vehicle.

Just days earlier, an even louder roar was heard 1,100 miles away at Wallops as a pair of AJ26 engines were ignited to power the Antares rocket on its commercial cargo resupply services flight to the International Space Station.

"Each test of an AJ26 engine is exciting and affirming because it is in direct support of NASA's com-

mercial space flight efforts, as well as a continuation of a very successful Stennis partnership with Orbital and Aerojet Rocketdyne," Stennis Director Rick Gilbrech said.

A team of NASA, Orbital, Aerojet Rocketdyne and Lockheed Martin engineers at Stennis tests all of the first-stage engines used by Orbital for its supply missions to the ISS. The company is partnered with NASA through the agency's Cargo Resupply Services initiative to provide eight cargo missions to the space station through 2016. Orbital built its Antares rocket and Cygnus spacecraft under NASA's Commercial Orbital Transportation Services Program.

NASA has tested AJ26 engines at Stennis since November 2010, including those that powered test and demonstration flights last year. A pair of Stennis-tested engines also powered Orbital's first full resupply mission, which launched Jan. 9 to deliver 2,780 pounds of supplies, including a

number of scientific experiments, to orbiting astronauts.

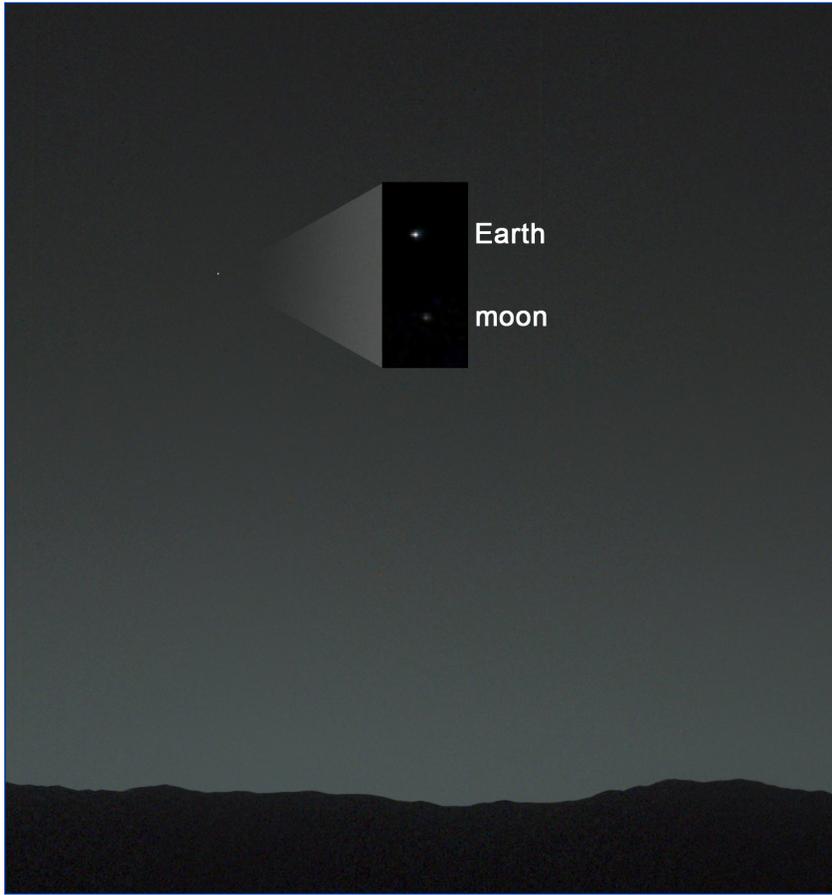
"When you talk about participation in space flight efforts, you cannot get any more immediate than this," said Randy Holland, AJ26 project manager at Stennis. "When you read about the current Cygnus mission delivering science experiments and supplies and even family Christmas presents for space station astronauts, we helped make that happen. That's very exciting."

NASA initiatives such as CRS are helping develop a robust U.S. commercial space transportation industry with the goal of achieving safe, reliable and cost-effective transportation to and from the International Space Station and low-Earth orbit.

NASA's Commercial Crew Program also is working with commercial space partners to develop capabilities to launch U.S. astronauts from American soil in the next few years.

FULFILLING NASA'S EXPLORATION MISSION

Earth seen as bright 'evening star' from Mars



This view of the twilight sky and Martian horizon taken by NASA's Curiosity Mars rover includes Earth as the brightest point of light in the night sky. Researchers used the left eye camera of Curiosity's Mast Camera to capture this scene about 80 minutes after sunset on Jan. 31, the 529th Martian day, or sol, of the rover's work on Mars. The image has been processed to remove effects of cosmic rays. The distance between Earth and Mars when Curiosity took the photo was about 99 million miles. A human observer with normal vision, if standing on Mars, could easily see Earth and the moon as two distinct, bright "evening stars." NASA's Jet Propulsion Laboratory, a division of the California Institute of Technology, Pasadena, manages the Mars Science Laboratory Project for NASA's Science Mission Directorate in Washington. JPL designed and built the project's Curiosity rover. The images of Earth from Mars are available at: <http://photojournal.jpl.nasa.gov/catalog/PIA17936> for a broad scene of the evening sky, and at: <http://photojournal.jpl.nasa.gov/catalog/PIA17935> for a zoomed-in view of Earth and the moon. NASA's Mars Science Laboratory Project is using Curiosity to assess ancient habitable environments and major changes in Martian environmental conditions. For more information about Curiosity, visit online at: www.nasa.gov/msl and <http://mars.jpl.nasa.gov/msl/>. You can follow the mission on Facebook at: <http://www.facebook.com/marscuriosity> and on Twitter at: <http://www.twitter.com/marscuriosity>. Image Credit: NASA/JPL-Caltech/MSSS/TAMU

NASA in the News

NASA moves to aid medical treatments

NASA has signed two patent license agreements with GRoK Technologies LLC of Houston to help develop novel biotechnology approaches that could have multiple applications in space and on Earth. The agreements are the results of the agency's Technology Transfer Program, which helps open up NASA's research and technology to the public for use and development. The agreements grant rights for four patented technologies invented by NASA and GRoK scientists. NASA is interested in the potential these technologies present for regenerating bone and muscle. During long spaceflights, astronauts are susceptible to developing osteopenia, which is a condition arising from the loss of bone and muscle mass and bone density. The patented technologies also could help GRoK develop breakthrough products for the research and medical communities and advance overall understanding of biomedicine. For more information regarding NASA's Technology Transfer Program, visit: <http://technology.nasa.gov>.

NASA invites public to search the skies

NASA is inviting the public to help astronomers discover embryonic planetary systems hidden among data from the agency's Wide-field Infrared Survey Explorer (WISE) mission through a new website, DiskDetective.org. Disk Detective is NASA's largest crowdsourcing project whose primary goal is to produce publishable scientific results. "Through Disk Detective, volunteers will help the astronomical community discover new planetary nurseries that will become future targets for NASA's Hubble Space Telescope and its successor, the James Webb Space Telescope," said James Garvin, the chief scientist for NASA Goddard's Sciences and Exploration Directorate. Public participation in scientific research is a type of crowdsourcing known as citizen science. It allows the public to make critical contributions to the fields of science, technology, engineering and mathematics by collecting, analyzing and sharing a wide range of data. For more about Disk Detective, visit: <http://www.diskdetective.org>. For NASA news releases, visit: www.nasa.gov/news/releases/latest/index.html.

Stennis presents top contractor awards

Stennis Space Center presented its highest honor for quality and performance, the Contractor Excellence Award, to A²Research and Jacobs Technology Inc. for outstanding contributions to the missions of the center.

A²Research received the small business Contractor Excellence Award. The company has managed a laboratory services contract at Stennis since 2010. Under the contract, the company provides gas, materials and environmental laboratory analysis; professional data reduction and analysis; maintenance of measurement standards; and the calibration and repair of instrumentation. A²Research is recognized by the Occupational Safety and Health Administration as a Voluntary Protection Programs (VPP) Star worksite for its commitment to safety and health.

Jacobs Technology Inc. was presented the large business Contractor Excellence Award. The company has performed the Facility Operating Services Contract at Stennis since 2007. The scope of the contract includes program management, life support services, engineering services, institutional services, facility maintenance and operations, and



NASA's Stennis Space Center Director Rick Gilbrech (center) stands with Keith Beck of Jacobs Technology Inc. (right) and Al Watkins of A²Research following presentation of 2013 Contractor Excellence Awards to the companies. Jacobs Technology Inc. was presented the large business Contractor Excellence Award. A²Research received the small business Contractor Excellence Award.

logistics and transportation services to Stennis and its federal city resident organizations. Jacobs also is recognized by OSHA as a VPP Star worksite for its safety and health program.

Contractor Excellence Awards were presented to representatives of the companies during a Feb. 5 ceremony at Stennis. The Stennis Contractor Excellence Award was established in 2008 to recognize large and small business contractors, subcontractors

or providers for outstanding performance during a three-year period.

Stennis Director Rick Gilbrech praised the companies for their support of the NASA mission. "A²Research and Jacobs Technology employees are invaluable members of the NASA team at Stennis," Gilbrech said. "Their commitment to excellence is critical as we continue our work to test the engines that power the nation's space program."



Stennis observes annual Day of Remembrance

Stennis Space Center Director Rick Gilbrech and Deputy Director Jerry Cook led a moment of silence Jan. 31 in memory of NASA family members who lost their lives while furthering the cause of exploration and discovery. Stennis employees gathered that morning in memory of those who gave their lives in support of space exploration, including the crews of Apollo 1 and shuttles Challenger and Columbia. In addition, employees remembered two members of the Stennis family who passed away in 2013, Candace Rogers and Dale Sewell.

Survey reveals buffer zone historical facts

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 provides a glimpse into the history of the south Mississippi rocket engine test center.

A Cultural Resources Management Survey by NASA's Earth System Science Office that revealed a prominent historical family's relationship with area African-Americans and a slave's invention is remembered this February in recognition of African-American History Month.

In 1997-98, an archaeological survey was conducted on three land parcels owned by NASA's Stennis Space Center in the former Logtown, Miss., to assess their potential cultural significance prior to planned logging activities. As part of the space center's 125,000-acre buffer zone, Logtown was one of five Hancock County communities that made way for NASA's Mississippi Test Operations in the 1960s.

One of the relevant land claims well-documented from the early 19th century was that of Christian Koch. A Danish sea captain, Koch was an anti-slavery immigrant who visited the area around Pearlinton in the early 1830s. In his diaries, written between 1831 and 1836, he described Pearlinton as a "small and insignificant town situated in a large

pine forest, owned mostly by the U.S. government." Koch eventually purchased several large sections of land in the Logtown area.

The Koch family and their descendants were very prominent in furthering the welfare of African-Americans in the Logtown area. They were federal sympathizers during the Civil War although their eldest son, Elers, fought for the Confederate Army. The Koches sold land parcels to many African-Americans.

In all these transactions, Koch stipulated that the recipient could not sell or lease "their" land without his permission. Examples of these transactions, recorded mostly in 1880 in the Hancock County Courthouse, include: Christian Koch to Edmund Christmas for about two acres; to Charles Christmas for 2.25 acres; to Willis Vaughn, 25 years old, his wife and infant son, for three-fourths of an acre; and to Sam Butler for two acres. Continuing his father's initiative, son Emil Koch donated land to the trustees of the Logtown Colored School on April 14, 1919.

The Christmases, who are listed in the 1880 census as laborers, were heavily involved in the local lumber business for decades.

Willis Vaughn may have been a relative of Usan Vaughn, a Pearlinton slave blacksmith who developed the

high-wheeled wide tread carrylog (also spelled caralog) that greatly facilitated the logging of wetlands.

Early on, transportation of timber to lumber mills was almost exclusively by water. In a 2010 paper on "Technological Development in Sawmills and Lumbering along the Pearl River," Graham Callaway noted the "caralog" or "carrylog" was developed to help move timber cut at inland locations to sawmills. The carrylog was a two-wheeled cart usually drawn by four oxen, which lifted one end of the log and allowed the other to drag along the ground.

"Sometime before the Civil War, a slave blacksmith named Usan Vaughn, owned by Nezan Favre of Pearlinton, developed an improved caralog better suited to the swampy conditions of south Mississippi," Callaway noted. "The original caralog had fairly small wheels and a tread 4 inches wide – Vaughn's new caralog used a wider tread and wheels with a diameter of 7 feet. These new caralogs did not bog down as easily, and could also carry much larger logs."

For more details about the NASA survey, go to: <http://tiny.cc/xhz2ax>.

Read more about the Vaughn family at <http://tiny.cc/xiz2ax>.

To access the Callaway article, visit: <http://tiny.cc/og12ax>.



Usan Vaughn invented the famous high-wheeled, wide-tread carrylog (caralog) shown above that made it possible for logging crews to work in wet ground and haul out logs of any size with their sturdy ox teams.

Office of Diversity and Equal Opportunity

Individuality plays pivotal role in workplace

No one should part with their individuality and become that of another.
William Channing

Individual characteristics and traits are what initiate change and drive society; thus, in a world in which individuality did not exist, modern society as now known would likely fall to pieces. William Channing's quote exemplifies the belief that individuality is important and that one should never try to become someone else. Instead, each person should embrace his/her uniqueness. This belief holds true, especially in regard to the current world. Individuality spurs innovations, keeps life and culture captivating and forces society to continue to evolve.

Today, people have every convenience at their fingertips: computers, cell phones and tablets all interact to make lives easier. Where would everyone be if Michael Dell had not brought the home computer into nearly every household? If Steve Jobs had not invented the iPhone? If Thomas Edison had not created the light bulb? Creativity drove these innovations, and that creativity is directly related to individuality. If Michael Dell and Steve Jobs had the same personality, traits and behaviors, it is doubtful that either one of them would have brainstormed and created the society-changing technology they did.

While individuality impacts innovation, the importance of individuality can most notably be seen in culture. Literature is filled with distinctive personalities and uniqueness. Literary works are often comparable, but one will never find a work that does not reflect the author's distinct character. In every case, the author's individual beliefs and feelings pour through, keeping the arts from becoming mundane and repetitive. Individuality not only infuses culture but also forces society and culture to evolve and encompass new innovations and beliefs.

Historically, people have not been kind to that which is different; the Holocaust, slavery and demeaning stereotypes all illustrate how many frown upon individuality and being different from societal norms. But this is what has driven the evolution of society. Society is constantly changing and evolving, and it is all due to our uniqueness. It takes one creative thinker to voice his/her opinion, to

develop an argument and to attract followers in order to initiate change. In politics, which is an instrumental part of society, voters are constantly looking for change.

It is clear: individuality plays a pivotal role in the work environment. Today, individuality is cherished and revered; everyone is seeking to be distinguishable from any other person. Everyone strives to be different, to stand out, to find themselves. No one wants to be a part of the crowd; everyone wants to be their own person. Thus, not only does individuality lend itself to innovations, culture and society, individuality is a distinct trait for which people search.

Below are individual's responses to the question, "What does it mean to fit in?"

- Giving up a little of who one is for the benefit of others.
- Conforming to the majority.
- Compromising personal integrity.
- Being cognitively and emotionally mature enough to read the unspoken social rules of a group.
- Being professional.
- Behaving in a way that is expected.
- Being human.
- All of these things – if it places an undue emotional strain on a person, they may need to think about changing their social group/job.

"Fitting in" is inevitable, especially when in groups for extended periods of time, like a typical 40-hour work week. Whether one likes it or not, he/she will subconsciously probably start to change speech and jargon, perhaps even behavior. This is natural because it allows the team to function and communicate better. It is not a threat to being an individual; even the rebel has to "fit in" a little.

From a philosophical viewpoint, one could argue that "fitting in" is a natural trait everyone exhibits. It is necessary to avoid social rejection, which may damage esteem and even threaten one physically. Most people exhibit subtle forms of this social conformity in their everyday lives whether they are aware of it or not.

Hail & Farewell

NASA bids farewell to the following:

Cheryl Lunt	Contract Specialist	Office of Procurement
Bruce Spiering	AST, Electronics Instrumentation Systems	Project Directorate

And welcomes the following:

Keith Cognevich	Lead, Information Technology Specialist	Center Operations Directorate
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Stennis educators host scouts for training event

A young participant prepares to “launch” her balloon during a rocket transportation activity sponsored by Stennis Space Center on Jan. 18. Stennis educators hosted 28 Girl Scouts, Brownie Scouts and scout leaders from Slidell, La., last month for a “train-the-trainer” workshop at INFINITY Science Center. The train-the-trainer concept introduces leaders and senior scouts to various activities so they can go back to their councils and troops and present the activities and materials to younger scouts. Several activities were presented, including stomp rockets, straw rockets and pop rockets, to demonstrate rocket transportation and Newton’s Laws of Motion. Activities involving paper tents, balloon races and ping pong balls in a cup of liquid were used to illustrate Bernoulli’s Principle regarding fluid dynamics. Scouts completed their day with a tour of INFINITY Science Center exhibits and activities.



Stennis observes Martin Luther King Jr. Day

Author and motivational speaker Gwen Williams (center) of Picayune stands with James Jacobs (left) of NASA and Nan Hardin of Lockheed Martin following a Martin Luther King Jr. Day program at NASA’s Stennis Space Center on Jan. 22. In addition to Williams, the program included members of the Picayune Junior High School Art Club, who displayed art and presented essays. The annual program celebrating King’s life and legacy was sponsored by NASA and the Stennis Diversity Council, along with Lockheed Martin, A²Research and Commander, Naval Meteorology and Oceanography Command.

