



John C. Stennis Space Center

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NASA honors Haise



Apollo 13 astronaut and Biloxi native Fred Haise Jr. was honored with NASA's Ambassador of Exploration Award during a Dec. 2 ceremony at Gorenflo Elementary School in Biloxi. Haise subsequently presented the moon rock award to Gorenflo for display at the school. Participating in the ceremony were (l to r): Gorenflo Principal Tina Thompson, NASA Administrator Charles Bolden, Haise, Biloxi Public School District Superintendent Paul Tisdale and Stennis Director Gene Goldman. See Page 4 story.



Stennis'
2009 Combined
Federal Campaign

Goal – \$200,000

To-date – \$178,383

(89% of goal)

Atlantis completes STS-129 mission

Space shuttle Atlantis crewmembers began their STS-129 mission to the International Space Station with a perfect, on-time launch Nov. 16 (right). Eleven days later, they completed a successful supply mission with an equally perfect landing at Kennedy Space Center in Florida on Nov. 27. During the flight, Atlantis crewmembers delivered spare parts, other equipment and supplies to the International Space Station. The STS-129 mission featured three spacewalks and accomplished all assigned tasks, in addition to some get-ahead jobs. The mission also featured exciting news for mission specialist Randy Bresnik. On the morning of Nov. 22, Bresnik was told by the Mission Control Center in Houston that his wife, Rebecca, had given birth to their daughter, Abigail Mae Bresnik.



From the desk of

Gene Goldman

Director
Stennis Space Center



*“And so, this is Christmas,
and what have we done; another year over,
and a new one just begun.”*

(John Lennon, 1971)

It's a southern winter, as decorations are going up and rain is falling. The mad rush of last-minute shopping shortens our tempers, even as we wish each other “peace and good will.” It is a season of mixed emotions as another year closes. As always, it is a great time to ponder what has, and could have, been.

Historically, December is an inspiring month for NASA. The Apollo 8 lunar circumnavigation in 1968 gave us the first, incredible pictures of earthrise. The Apollo 17 mission was the last trip to the moon, so far, with significant geologic findings, as well as astronaut Gene Cernan's final words from the surface, “We leave as we came, ... with peace and hope for all mankind.” On Dec. 2, 2009, I was in attendance as Fred Haise, a Mississippian and an astronaut of the Apollo 13 crew, donated a moon rock to his elementary school, Gorenflo in Biloxi. It was placed in the school's “Imagina-

tion Station,” and I wonder what dreams it will evoke. Time will tell.

At Stennis, we've had a great year. Space Shuttle Main Engines tested here lifted four shuttle missions to the space station, plus the final servicing of the Hubble Space Telescope in May. The E Complex performed an instrumental role, through particle velocity testing in February, to help develop flight rationale for STS-119 in March. We made great progress on preparing E Complex for future AJ-26 engine testing to support Orbital Sciences Corp., a collaboration of commercial and government sectors. A-3 Test Stand progress continues to be on track. Our Applied Sciences group won eight competitive science research proposals, a huge coup for a small group. We continue to accomplish great things.

We “live in challenging times.” Our nation is contending with significant issues on many fronts. NASA has serious questions regarding human space exploration to answer. We all have our own personal struggles. It is easy to make any of these our focus. At Stennis, our sight should continue to be on the future and its amazing opportunities. Let's continue to write history in exploration.

To each of you, happy and safe holidays, and may 2010 be a wonderful year!

Gene

Goldman holds all hands session

Stennis Space Center Director Gene Goldman addresses facility employees during a Dec. 9 all hands session in the StenniSphere auditorium. During the session, Goldman touched on various areas of center life, including the ongoing emphasis on work place and personal safety and continuing work on a new A-3 stand to test the next generation of rocket engines. While the course of American space exploration still is being determined, Goldman reminded employees that Stennis is well situated. “Whatever we do, wherever we go in space, we're going to need liquid engines, and those will be tested here,” he said. Goldman also reviewed “banner accomplishments” of 2009, such as the opening of a new

Emergency Operations Center, conducting the last scheduled space shuttle main engine test and the center's role in providing critical testing of a shuttle flow control valve to enable the STS-119 mission. Goldman reminded employees that their efforts supported five space shuttle flights during the year, including a key servicing mission to the Hubble Space Telescope.



FULFILLING NASA'S EXPLORATION MISSION



Stennis engineers challenge limits of test stand water system

Water cascades from the A-2 Test Stand at Stennis Space Center as engineers challenge the limits of the high-pressure water system as part of the preparation process for the A-3 Test Stand under construction. Jeff Henderson, test director for Stennis' A Complex, led a series of tests Nov. 16-20, flowing water simultaneously on the A-1 and A-2 stands, followed by the A-1 and B-1 stands, to determine if the high-pressure industrial water facility pumps and the existing pipe system can support the needs of the A-3 stand. The stand is being built to test rocket engines that will carry astronauts beyond low-Earth orbit and will need about 300,000 gallons of water per minute when operating, but the Stennis system never had been tested to that level. The recent tests were successful in showing the water facility pumps can operate at that capacity – reaching 318,000 gallons per minute in one instance. However, officials continue to analyze data to determine if the system can provide the necessary pressure at that capacity and if the delivery system piping is adequate. "We just think if there's a problem, it's better to identify and address it now rather than when A-3 is finished and it has to be dealt with," Henderson said.

Launch schedule

STS-130

Shuttle Endeavour
Target: Feb. 4, 2010

GOES-P
satellite (Delta IV)
Target: March 4, 2010

STS-131
Shuttle Discovery
Target: March 18, 2010

STS-132
Shuttle Atlantis
Target: May 14, 2010

STS-134
Shuttle Endeavour
Target: July 29, 2010

STS-133
Shuttle Discovery
Target: Sept. 16, 2010

Stennis, schools partner on space effort

NASA's John C. Stennis Space Center announced plans Nov. 9 to team with students at four Mississippi high schools to develop prototype hardware for the next-generation rockets being built to carry humans beyond low-Earth orbit.

During the next few months, students at East Central High School in Hurley, Gulfport High School, New Albany School of Career and Technical Education and Petal High School will participate in the High Schools United with NASA to Create Hardware (HUNCH) initiative.

Their assignment is to partner with NASA engineers and mentors and use

materials provided by the space agency to develop prototype models for the next generation J-2X engine and the Ares I rocket. Both are being built as part of NASA's Constellation Program plan to transport astronauts to the International Space Station after the space shuttle is retired and to explore destinations beyond low-Earth orbit.

"This is not just a simulation of work experiences – it is an actual work-world experience, as students collaborate with peers and NASA engineers to develop a real product," explained Cheryl Guilbeau, the Jacobs Facility Operating Services Group elementary and secondary projects coordinator for the Stennis Education Office.

HUNCH was launched in 2003 and expanded to include Stennis Space Center this year. Participating student teams receive product specifications from NASA, as well as materials needed to construct a prototype model and software to create computer-assisted designs. Through March, students will create such designs, then build prototype models of their product based on those designs. NASA engineers will use those models for hands-on, table-top discussion and for checking their functional fit in a full-scale space vehicle mockup. The models will be unveiled at an Awards Day ceremony at Stennis on April 23.

In addition to introducing students to a real-world

work experience, the goal of the HUNCH initiative is to inspire high school students to pursue careers in science, technology or engineering fields.

"HUNCH is a win-win for NASA, schools and students," Guilbeau said. "NASA is inspiring the next generation workforce and gaining parts for the Ares mockup. Students are developing communication, teamwork and problem-solving skills to succeed in the workforce."

HUNCH teams include faculty leads and 10-15 students who work with NASA mentors. Teams also have support from local school systems, industry partners, media representatives and nonprofit groups.

Haise receives prestigious moon

NASA Administrator Charles Bolden presented Apollo 13 astronaut Fred Haise Jr. with the agency's Ambassador of Exploration Award on Dec. 2, honoring a career that included one of space exploration's most-dramatic chapters.

In turn, Haise paid homage to Gorenflo Elementary School in Biloxi, where he began his education, with the presentation of the encased moon rock award for display.

In presenting the award, Bolden praised Haise for his overall space career and his performance on the Apollo 13 mission that was crippled two days after launch. Haise and fellow crewmembers nursed the spacecraft on a perilous trip back to Earth.

"The historic Apollo 13 mission was as dramatic as any Hollywood production," Bolden acknowledged. "When an explosion crippled his command module, Fred and his crewmates, Jim Lovell and Jack

Swigert, guided their spacecraft around the moon and back to a successful splashdown in the Pacific Ocean – all while the world held its breath. While Fred didn't have the chance to walk on the moon, the cool courage and concentration in the face of crisis is among NASA's most enduring legacies."

The Ambassador of Exploration Award honors the sacrifices of the Gemini, Mercury and Apollo astronauts and involves presentation of an encased moon rock to the astronaut or his family. The recipients typically donate the moon rock for display at a museum or other site.

"When you see this rock, see it as a symbol of the effort made by a lot of people – about 400,000 at the time who were part of the space program – to allow us to enjoy the successes we had," Haise said in presenting the moon rock to Biloxi Public School District Superintendent Paul Tisdale.



Apollo 13 astronaut and Biloxi native Fred Haise Jr. smiles during a Dec. 2 ceremony at Gorenflo Elementary School in Biloxi honoring his space career. During the ceremony, Haise was presented with NASA's Ambassador of Exploration Award (an encased moon rock). He subsequently presented the moon rock to Gorenflo officials for display at the school. Haise is best known as one of three astronauts who nursed a crippled Apollo 13 spacecraft back to Earth during a perilous 1970 mission. Although he was unable to walk on the moon as planned for that mission, Haise ended his astronaut career having logged 142 hours and 54 minutes in space. During the ceremony, he praised all those who contributed to the space program.



NASA Administrator Charles Bolden (left) speaks at a Dec. 2 ceremony (right) for his contributions to space exploration. During the ceremony, Haise was presented with the Ambassador of Exploration Award (an encased moon rock) for his lifetime of space exploration.

"Today, we have proof that dreams come true," Tisdale subsequently told students gathered for the ceremony. "When you see the moon rock here at Gorenflo Elementary, think of your dream – and work hard on your dream to make it come true."

NASA's John C. Stennis Space Center Director Gene Goldman echoed the remarks in praising Haise as a space pioneer and real American hero. "He's not just a former astronaut," Goldman told students. "He's also a former Gorenflo Elementary student just like you. He's a living example of what you can do in life if you dream big and dare to try amazing things. As I look out across all of your young faces, I wonder if there might be a future astronaut, a future leader of NASA or maybe even a future president of the United States among you. Whatever your dream may be, dare to follow it with all your heart and be willing to work for it. You, too, can accomplish great things."

Haise was a Marine, Air Force and NASA pilot before his selection

rock award



emony honoring Biloxi native and Apollo 13 astronaut Fred Haise ceremony, Bolden presented Haise with the prestigious Ambassador space achievement.

into the astronaut corps in 1966. He served as backup lunar module pilot for the Apollo 8 and Apollo 11 missions and backup spacecraft commander for the Apollo 16 mission. He was to serve as commander of Apollo 19, but the lunar program was cancelled following Apollo 17. Haise later served as commander of the space shuttle Enterprise on a series of approach and landing test flights.

Many recall Haise as a crewmember of the dramatic Apollo 13 mission in April 1970. Scheduled as the third lunar mission, the Apollo 13 spacecraft was crippled by a cryogenic oxygen explosion just 55 hours after launch. Haise and fellow crewmembers worked with ground controllers to turn the lunar module into a virtual lifeboat in space. Conserving power and supplies, they were able to navigate a free-return trajectory around the moon and back to Earth, completing a mission that was termed a "successful failure." The drama captured world attention and has been recounted in books and a major motion picture.

NASA honors Stennis employees for safety



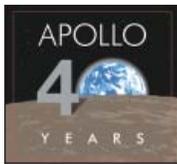
Fourteen NASA John C. Stennis Space Center employees recently were honored by NASA's Space Flight Awareness program for contributions to flight safety. The awards were presented by Stennis Space Center Associate Director Rick Gilbrech during a Nov. 24 ceremony at Stennis. Pictured are (seated, l to r) Sharlene Majors (Applied Geo Technologies), Gloria Otis (Jacobs Technology Facility Operating Services Contract Group), Christine Grapusa (NASA) and Leah Smith (Jacobs Technology NASA Test Operations Group); and (standing, l to r) Gilbrech, Michael Reich (Pratt & Whitney Rocketdyne), Gerald Norris (NASA), Hans Holzinger (Jacobs Technology NASA Test Operations Group), Scott Corage (Jacobs Technology Facility Operating Services Contract Group), William Davis (Pratt & Whitney Rocketdyne), Chip Ellis (NASA) and Tracy Buras (Pratt & Whitney Rocketdyne). Not pictured are David Carey and Glenn Faciane (Pratt & Whitney Rocketdyne) and Peter Ve Tran (NASA).



Keesler Air Force Base team tours Stennis

Stennis Space Center Deputy Director Patrick Scheuermann (seated, center) welcomed members of the Keesler Air Force Base management team from Biloxi during a Nov. 4 tour of the rocket engine test facility. During the visit, Keesler team members toured several areas, including the A-3 Test Stand construction site and the Pratt & Whitney Rocketdyne engine assembly facility. Management team members visiting Stennis included Brig. Gen. Ian R. Dickinson (seated, right), commander of the Keesler base, and Col. Christopher Valle (seated, left), vice commander of the base.

Stennis named Center of Excellence



Editor's Note: John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month, Lagniappe looks back on an important moment in the center's history.

Following more than 30 years of successful rocket engine test operations, John C. Stennis Space Center was recognized as NASA's Center of Excellence for proving large propulsion systems flight worthy on Dec. 30, 1991.

The announcement expanded Stennis' role to include managing and executing test programs designed by the agency's development centers. Then-NASA Administrator Richard Truly, a Mississippi native, subsequently made the aggressive decision to change the space agency's management and organization.

"These decisions will result in a better organized and

managed NASA institution, which will serve the nation's civil space program well in the coming years," Truly said.

This new designation also paved the way for an expansion of Stennis' propulsion test technology program within the Science and Technology Laboratory. The goal was to enhance Stennis' test program by allowing engineers to conduct tests more efficiently and on a faster schedule.

In the ensuing 18 years, Stennis has continued to be at the forefront of NASA's rocket propulsion testing. In July, Stennis marked the end of an era for testing the main engines that have powered the nation's Space Shuttle Program for nearly three decades.

Stennis now has moved into the next phase of propulsion testing, preparing to test the J-2X engines that will help power the spacecraft being developed to transport astronauts to the International Space Station after the shuttle retires and to explore destinations beyond low-Earth orbit.

Stennis promotes 'green' living

Stennis Space Center employees focused on "green" living world in November with a pair of events. Stennis employees built birdhouses using recycled materials as part of America Recycles Day activities Nov. 12. At left are contest winners (l to r): Sheila Ware – Best Use of Recycled Materials; Kenneth McCormack – Most Unique; Elizabeth Parker – Best Constructed. At right, Sherrill Reynolds of the Jacobs Facility Operating Services Contract Group displays clothing made of recycled materials during a Nov. 3 "Living in a Green World" workshop for K-4 teachers on how to reduce, reuse, recycle and preserve natural resources, and protect wildlife.



@ Stennis

What is your favorite holiday movie – and why?

Editor's Note: @ Stennis highlights the views and opinions of Stennis Space Center employees. This month, members of the External Affairs Office are featured with a wish that everyone at Stennis enjoys a safe and wonderful holiday season.



"*The Nightmare Before Christmas* is hilarious and makes you appreciate Christmas. I watched it over and over as a child, and I'm still a child at heart!"

Apolonia Acker, NASA

"*It's a Wonderful Life* because it offers a truly wonderful and very important message – that everybody has worth."

**Paul Foerman
NASA**



"My favorite holiday movie is *National Lampoon's Christmas Vacation*. It's a great chance to laugh at family dynamics magnified during the holidays."

Cheryl Guilbeau, Jacobs FOSC Group

"*A Christmas Story*. I remember watching it as a child, then with my children and now with my grandchildren. It's a timeless and coming-of-age tradition."

Denise Jarrell, CSC



Office of Diversity and Equal Opportunity

Happy holidays – celebrate the good things in people

How do you say “Happy Holidays?” It depends on where you are from! Throughout the world, the Christmas holiday is one celebration that is recognized in many countries. As it is the season of good cheer and an important time for religious celebrations in America and elsewhere, it is a time of year for many to celebrate the good things in people and to show how good and kind people can be.

In celebrating the season, some recognize the coming of Jesus as the meeting-point of heaven and Earth. Hindus celebrate their Diwali with lights and fireworks, Jews their Hanukkah, Muslims their Eid, and many secularists refer to the winter solstice festivity.

Below is how others say “Happy Holidays” in their native tongues.

French: *Joyeuses Fêtes!*

Spanish: *Felices Fiestas!*

Swedish: *Trevlig Helg!*

Portuguese: *Boas Festas!*

Turkish: *Mutlu Bayramlar!*

Romanian: *Sarbatori Fericitel!*

Mandarin: *Jie Ri Yu Kuai*

Catalan: *Bones Festes!*

Japanese: *Tanoshii kurisumasu wo!* (*Have a happy Christmas*)

Italian: *Buone Feste!*

South African: *Ii holide eximnandi*

German: *Forbe Feiertage*

Dutch: *Prettige feestdagen*

Hawaiian: *Hau'oli Lanui*

Gaelic: *Beannachtaí na Féile*

Slovenian: *Vesele Praznike*

Indonesian: *Selamat Hari Raya!*

Croatian: *Sretni praznici!*

Happy Holidays
from the Office of Diversity and Equal Opportunity!



Stennis celebrates Native American Heritage Month with cultural displays

Famie Willis (left), 2009-2010 Choctaw Indian Princess, displays artifacts during Native American Heritage Month activities at Stennis Space Center on Nov. 24. The celebration featured various Native American cultural displays for Stennis employees to view. Shown above are (l to r): Willis, Elaine Couchman of NASA Shared Services Center, John Ceconi of NSSC and Lakeisha Robertson of the Environmental Protection Agency.

Hail & Farewell

NASA bids farewell to the following:

Christine Morreale	Information technology specialist Center Operations Directorate
Debrina Harrell	Computer scientist Center Operations Directorate
Marie Reed	AST, Technical Management Engineering and Test Directorate
Mike Nichols	AST, Engineering Program Management Rocket Propulsion Test Program Office
Samantha Yeager	Student Office of External Affairs

And welcomes the following:

Christopher Carmichael	Computer scientist Center Operations Directorate
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NASA Stennis Space Center Shooting For A Star



*VPP is about every employee's safety,
including work and at home.*

Holiday safety is simple – stay aware of hazards during set-up activities; watch out for children because they don't always notice the hazards adults do; and pay attention when driving to and from our places of gathering.

Have a Safe, Fun and Happy Holiday Season!

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FIRST Robotics seeks mentors

Mentors are being sought for Mississippi and Louisiana teams preparing to compete in the 2010 FIRST (For Inspiration and Recognition of Science and Technology) Robotics competition.

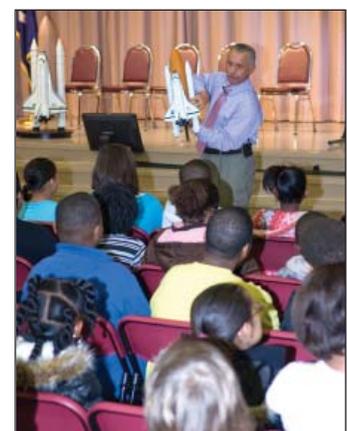
Kickoff for the 2010 competition is set for Jan. 9 in the StenniSphere auditorium at NASA's John C. Stennis Space Center. The FIRST competition is designed to encourage students to pursue engineering and technology studies and careers.

Over a six-week period, teams use standard parts kits and a common set of rules to build robots that can perform assigned tasks. They then compete in regional events to earn a chance to go to national finals. Each year, Stennis provides support for the Bayou Regionals competition. The 2010 event is scheduled for March 4-6 in the Alario Center in Westwego, La.

For information on serving as a mentor or supporting FIRST Robotics, call Katie Wallace at 228-688-7744 or Barbara Marino at 228-688-1378.

Stennis Education Office hosts activities for Biloxi students

The NASA Education Office at Stennis Space Center hosted several activities for students at Gorenflo Elementary School in Biloxi during a Dec. 2 ceremony honoring hometown astronaut Fred Haise Jr. At right, Education Office Director Katie Wallace performs a cryogenic demonstration for students. Below left, students participate in a session on the future of space exploration. Below right, NASA Administrator Charles Bolden talks to students about the space shuttle.



FIRST LEGO League tourney rescheduled

Concerns with possible weather conditions caused the postponement of the Mississippi Championship FIRST LEGO League competition on Dec. 5. The event now is scheduled for Jan. 30, 2010 at Mississippi Gulf Coast Com-

munity College in Gautier.

To volunteer for the FIRST (For Inspiration and Recognition of Science and Technology) event, contact Randall Hicks at 228-688-3653 or randall.t.hicks@nasa.gov.