



John. C. Stennis Space Center



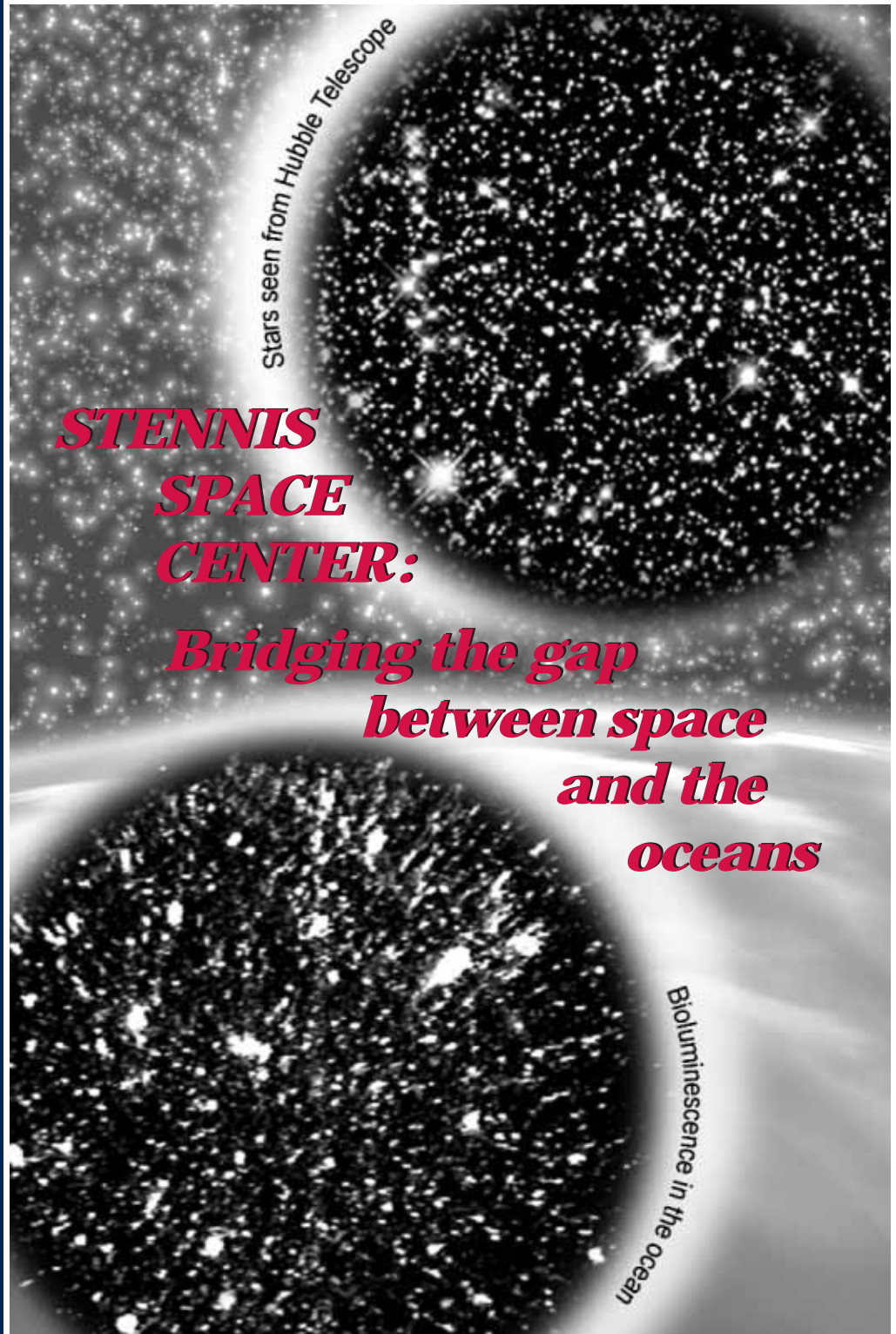
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O C E A N A I R S P A C E I N D U S T R Y S I T E

VOLUME 1, ISSUE 3

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FALL 2004



STENNIS SPACE CENTER:

***Bridging the gap
between space
and the
oceans***

Inside:

- SSC tests engines for Return to Flight
- Mercury astronauts visit
- NASA Honor Awards
- Around Our World
- Adm. Steidle visits

From the

D

irector's esk

STENNIS SPACE CENTER DIRECTOR

Adm. Thomas
Q. Donaldson V
USN (Ret.)



As we approach the end of an active hurricane season, we should pause and reflect on our good fortune as we send our best wishes for a speedy recovery to our NASA family at Kennedy Space Center.

In the last All Hands meeting, I forgot to end my presentation with a slide containing a quote from Abraham Lincoln, which is: "Character is like a tree and reputation is like a shadow. The shadow is what we think of; the tree is the real thing." I believe both character and reputation count for organizations as well as individuals. The slide also suggested we move forward in all that we do here on Stennis by being:

- Safe
- Smart
- Transparent
- Bold

We were once again given the opportunity to show how unique Stennis really is when Associate Administrator for Explorations Systems Mission Directorate Adm. Craig Steidle visited the center in September. I would like to thank everyone for the excellent support in planning, coordinating and conducting his visit in that distinctive Stennis style. Adm. Steidle arrived with a limited knowledge about the lines of business at Stennis, but left with a complete understanding of how vital this Center is in the exploration of space.

We often talk about metrics as an indicator of how we're doing, and here are three I'd like to share with you. Since the early days of the space program, we have completed more than 2,530 liquid-fueled engine tests on the large test stands at Stennis. In addition, there have been 725 tests of various types and sizes of rocket engine components in the E-Complex since 1998. Very impressive statistics; in fact, probably the best in the world.

Also, in our Applied Science Directorate, we have seen their contributions to improved hurricane forecasting by the National Weather Service, and improved Natural Disaster Prediction Models by the Federal Emergency Management Agency this summer.

The final statistic deals with workforce participation in the recent survey by Behavioral Science Technology, Inc. This is part of continuing efforts to effectively implement changes to NASA's organizational culture and mission safety. Thank you for rising to the challenge of participating in the survey during a very busy week – 77 percent of you took the time to complete the survey and we will become a better organization as a result.

I have stated previously that character and reputation are vital to an organization and to each of us, and I know that you will continue to exhibit the characteristics of a great organization.

On the cover

The cover images show the similarities between two of Stennis Space Center's specialties: space and the ocean.

The top image is a photo of stars taken by the Hubble Telescope; the bottom image is bioluminescence, or naturally glowing plankton, in the ocean.

SSC tests Space Shuttle Discovery's engines for return to flight



The Boeing Co.'s Joe Lewis, Sonny Jarrell and C.C. Hanna work on Space Shuttle Main Engine 2056, one of three tested and proven flight-worthy at SSC for NASA's Return to Flight mission.

The Stennis Space Center (SSC) team for Space Shuttle Main Engines has completed testing the three flight engines that will carry the next Space Shuttle into orbit, STS-114.

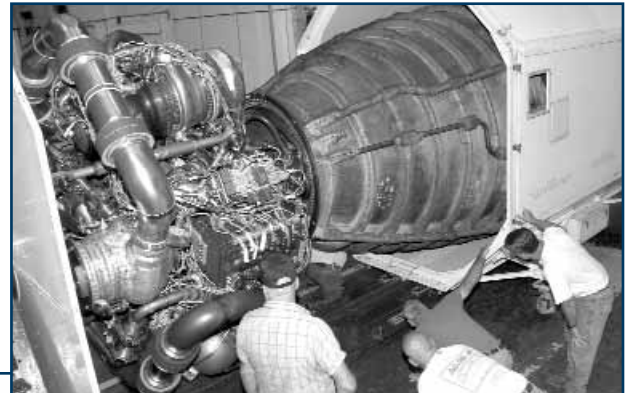
The three SSMEs passed final acceptance tests on March 26, July 16 and Aug. 19. They were shipped to NASA's Kennedy Space Center in Cape Canaveral, Fla., for installation on Space Shuttle Discovery, readying it for the STS-114 mission to the International Space Station. Designated as the Shuttle's Return to Flight mission, STS-114 is expected to launch in 2005.

"Our NASA and contractor team has continued to work hard

over the past year and a half to make sure this incredible piece of machinery maintains its impeccable safety record," said Miguel Rodriguez, director of the Propulsion Test Directorate at SSC. "All the effort will pay off when we see the Space Shuttle Discovery lift off. To know we had such a big part in returning the orbiter to flight will be a great reward."

Gene Goldman, manager of the Space Shuttle Main Engine Project Office at NASA's Marshall Space Flight Center in Huntsville, Ala., said, "There has been a tremendous effort by the team at Stennis, both civil servant and contractor, to ready the engines for flight. Their diligent attention to detail is critical to the safe and reliable performance of the engines."

Rocketdyne Propulsion and Power, a business unit of The Boeing Co. of Canoga Park, Calif., manufactures the Shuttle's Main Engines. Pratt and Whitney, a United Technologies Company of West Palm Beach, Fla., builds the high-pressure turbopumps. NASA's Space Shuttle Main Engine Project Office administers the main engine program.



On Oct. 5, SSC shipped the last of the three SSMEs (above) to NASA's Kennedy Space Center for installation on Space Shuttle Discovery for its STS-114 mission.

With a rumble and a rush of water vapor, a successful flight acceptance test (right) was conducted at SSC for the first complete engine to be tested and shipped in its entirety to Kennedy Space Center for STS-114, NASA's Return to Flight mission.

Space Shuttle Discovery's three engines were tested and proven flight-worthy at SSC, passing final acceptance tests on March 26, July 16 and Aug. 19 of this year.



Shuttle Mission Execution Panel meets at Stennis

About 25 members of the Mission Execution Panel of this year's Integrated Space Operations Summit (ISOS) activity, met at NASA John C. Stennis Space Center (SSC) Sept. 30-Oct. 1. The ISOS process, sponsored by the NASA Space Operations Mission Directorate, is intended to evaluate the Agency's space operations assets (Space Shuttle, International Space Station and associated infrastructure) and provide strategic recommendations regarding their safe operation and transition to support the Vision for Space Exploration.



While at SSC, panel members toured SSC's rocket engine test stands and talked with The Boeing Co.'s site manager David Geiger about the rigorous testing process for each Space Shuttle Main Engine.

The ISOS Mission Execution Panel, chaired by SSC Deputy Director David Throckmorton, is specifically tasked with defining requirements to assure safe operation of the Space Shuttle system through completion of the flight manifest.

Pictured are (from left) Karen Lucht, Mike McClain, Barbara Kress, John Olansen, Loraine Schafer, David Geiger, Jeff McCaleb, Joyce Rozewski, Stu McClung, David Throckmorton, Pete Wickas, Jim Seiler and Phil Engelauf.



NASA alumni look to the past for exploring the future

Former NASA leadership met at Stennis Space Center (SSC) on Tuesday, Aug. 17, for a lessons learned meeting focusing on the challenges facing NASA's future exploration missions. The meeting was initiated by NASA's Office of Exploration Systems.

Participants included former SSC Director Roy Estess, Thomas Utsman, Arnie Aldrich, Gus Guastaferrro, Jim Odom, Howard Robins and John Newcombe.

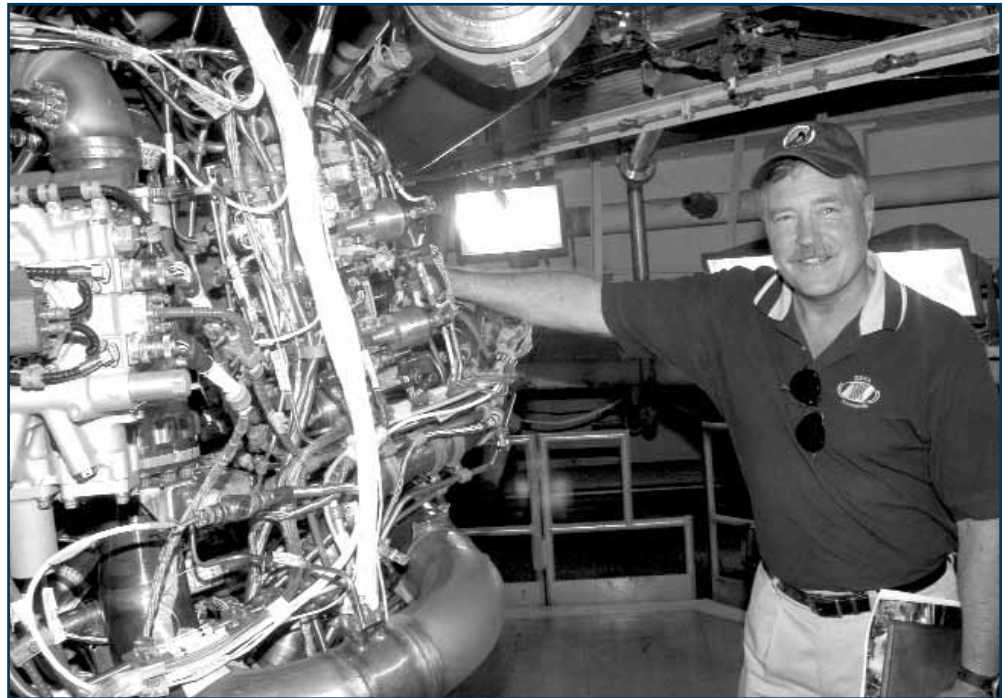
Adm. Steidle explores SSC's capabilities

Adm. Craig E. Steidle, Associate Administrator for the Exploration Systems Mission Directorate toured Stennis Space Center (SSC) on Sept. 1.

During the visit, Adm. Steidle learned about the center's unique propulsion testing and applied science capabilities, and how they apply to the Vision for Space Exploration. Adm. Steidle saw an activation test for future Space Shuttle flowliner testing in SSC's E Complex, where engineers test engines and components for future spaceflight vehicles. The versatile, three-stand complex includes seven separate test cells capable of testing that involves ultra high-pressure gases and high-pressure, super-cold fluids.

The Exploration Systems Mission Directorate was established to set priorities for achieving the exploration goals in human and robotic technology and transportation systems for the Vision for Space Exploration.

The directorate will provide the focus and direction of future exploration technologies by applying strategy-to-task technology analytical processes involving an integrated team of users and developers.



During his visit to SSC, Adm. Steidle was briefed on SSC activities by members of the Propulsion Test Directorate, including testing of the Integrated Powerhead Demonstrator (above), and Applied Sciences Directorate (left) at SSC.

Rocket motor uses common household product for fuel



Jared Grover (left), a NASA test conductor, watches as R.B. Shaw, a mechanical technician, works on a gaseous oxygen line prior to the test-firing of a paraffin-fueled rocket motor.

On Sept. 30, NASA Stennis Space Center (SSC) tested a rocket motor powered by fuel most people have in their homes: paraffin, the material used in common candles.

In the past, paraffin was thought to be too weak and unstable to use as rocket fuel, but a research team at Stanford University in Palo Alto, Calif., found it to be twice as strong as conventional solid propellants. It also burns at a higher combustion rate, is safer, cheaper and very friendly to the environment, producing water vapor and carbon dioxide.

Lockheed Martin-Michoud Operations designed and fabricated the hybrid motor in collaboration with Space Propulsion Group Inc., which was formed by the Stanford team. The motor tested at SSC fired for the full planned duration and produced more than 5,000 pounds of thrust.

“The testing demonstrated that paraffin has a much higher regression rate when compared with HTPB (hydroxyl terminated

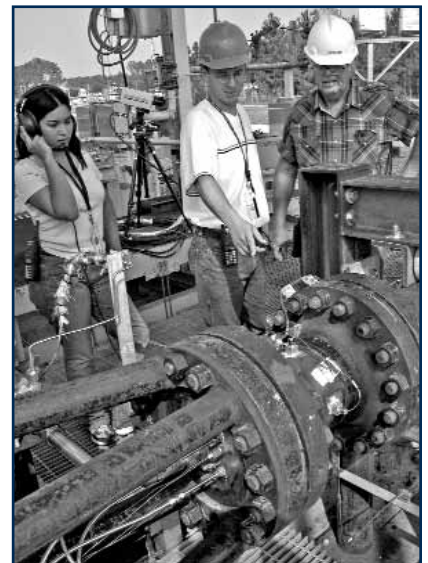
polybutadiene). If the paraffin technology can be scaled up to even larger sizes, this higher regression rate has the potential for improved hybrid propulsion performance. We will be looking at paraffin-fueled hybrids for future applications,” said Tim Knowles, Lockheed Martin’s principal investigator for hybrid rocket motors.

The paraffin motor test at SSC was the last of four tests conducted as part of the Hybrid Technology Test Project (HTTP). The other three tests used HTPB. “We completed this project meeting all of the technical requirements from the customer – safely, on schedule, and under budget,” said Robert Ross, HTTP project manager at SSC.

Hybrid motors combine solid and liquid materials. An oxidizer such as oxygen is generally used with all rocket fuels to aid burning. Conventional rocket fuels are either solids, like what is used in the Space Shuttle boosters, or liquids, like what is used in the Space Shuttle Main Engine.

Hybrid motors are not new – they have been in development for about 50 years – but have not produced enough thrust to power heavy space launch vehicles. Paraffin shows promise because tests at Stanford and at NASA Ames Research Center have shown it burns at a rate three times greater than other hybrid fuels.

The Stanford researchers found that paraffin burns faster because as the oxygen gas blows across the melted surface, waves form and are pulled off as a spray of droplets. That spray burns very rapidly, increasing the fuel’s combustion rate.



Above, Rosa Obregon (left), a NASA test engineer, Jared Grover and R.B. Shaw check over the preparations for test-firing a paraffin-fueled rocket motor.

At left, the motor fires for the full planned duration during a test on Sept. 30, producing more than 5,000 pounds of thrust.



Heroes of America's space program touch down at SSC

Former Mercury Astronauts Scott Carpenter, Gordon Cooper and Wally Schirra, along with former Apollo Astronaut Al Worden, visited NASA Stennis Space Center (SSC) Aug. 23 and 27 to talk about their missions and their role in the Astronaut Scholarship Foundation (ASF).

"We need a lot of push, a lot of attention" given to the Vision for Space Exploration, Worden said. "We need to talk more about the technology spinoffs from the space program that put this country out ahead of everyone else. We take seriously the education of future astronauts and scientists."

The astronauts' emphasis on supporting the next generation of explorers was part of the reason for their visit to SSC. With the aim of helping the U.S. retain its world leadership in science and technology, ASF raises funds to annually award a total of \$170,000 to 17 college students who exhibit exceptional performance in science and engineering.

ASF was formed in 1984 by six surviving original Mercury astronauts and Betty Grissom, the widow of the seventh, Virgil "Gus" Grissom. To date, the foundation has awarded nearly \$2 million to 183 deserving students, and counts more than 40 Gemini, Apollo and Space Shuttle astronauts among its members.

"You are in the presence of heroes," Adm. Thomas Q. Donaldson V, USN (Ret.), SSC Center Director, told the crowd in StenniSphere. "When you're in the presence of greatness, you just know it. These guys are the real thing."

Worden was command module pilot for Apollo 15, July 26-Aug. 7, 1971. Apollo 15 took the lunar rover to the Moon, and spent the longest time on the lunar surface. Cooper piloted Faith 7 on a 22-orbit mission May 15-18, 1963, that tested the Mercury craft to its limits and concluded Project Mercury. He also served as command pilot of Gemini 5, the step between Project Mercury and the Apollo Program. Schirra, the only astronaut to fly on Mercury,



Mercury mission Astronauts Scott Carpenter (left) and Gordon Cooper, along with Apollo 15 Astronaut Al Worden, put their fingerprints on a Space Shuttle Main Engine at SSC.

Gemini and Apollo vehicles, piloted the Sigma 7 on America's third orbital flight on Oct. 3, 1962. As command pilot, he flew Apollo 7, the initial flight of the Apollo series.

Carpenter followed John Glenn to make the second American orbital flight on May 24, 1962, piloting the Aurora 7 spacecraft through three revolutions of the Earth.

"We will go back to the Moon again," Carpenter said. "It's not a question of if, but when. We won the space race once, but it has no end. We just need to renew our resolve."

For more information about ASF, visit www.AstronautScholarship.org.

**We will go back to the Moon again.
It's not a question of if, but when.**

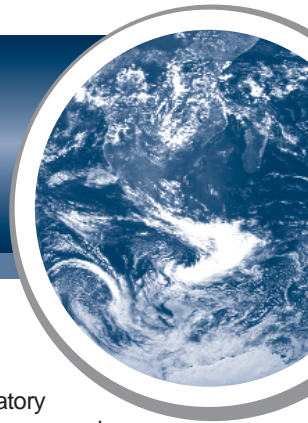
-- Astronaut Scott Carpenter

Editor's note: Mercury Astronaut Gordon Cooper died Oct. 4 at his home in Ventura, Calif., from natural causes. He was 77. Also, Dr. Maxime Faget, who designed the original spacecraft for the Mercury Project, died Oct. 9 at his home in Houston. He was 83.

Carpenter (left), Schirra and Cooper gave a brief presentation to SSC employees in the StenniSphere auditorium, followed by a question-and-answer session during the Aug. 27 visit.



AROUND



New leadership at Naval Meteorology and Oceanography Command



Rear Adm. Timothy McGee (right) salutes Rear Adm. Steven Tomaszeski during an Assumption of Command Ceremony on Sept. 14 at SSC. McGee assumed command of the Stennis-based Naval Meteorology and Oceanography Command in the ceremony.

Rear Adm. Steven Tomaszeski, the Oceanographer of the Navy in Washington, D.C., spoke at the ceremony. The U.S. Senate confirmed McGee's promotion to his current rank on July 22, and he was promoted during a ceremony at SSC on July 30.

A native of Washington, D.C., McGee most recently served as Special Assistant to the Oceanographer of the Navy. He was previously vice commander, Chief of Naval Research, Arlington, Va. He is a 1978 graduate of the U.S. Naval Academy and also holds a master's degree from the Naval Postgraduate School.

The Naval Meteorology and Oceanography Command, based at SSC, is a worldwide organization comprised of approximately 3,000 military and civilian personnel in about 60 locations. The command provides forecasts of weather and ocean conditions, necessary for safe and successful operations, to operating defense forces. It is Mississippi's only operational Navy command headed by an admiral.

Combined Federal Campaign 2004 kicks off at SSC



The Combined Federal Campaign (CFC) is the annual fund-raising drive conducted by federal employees in their workplace each fall. Each year federal employees and military personnel raise millions of dollars through the CFC that bene-

fits thousands of nonprofit charities.

The SSC sitewide kickoff for 2004's CFC was held Thursday, Oct. 21, on the front lawn of Bldg. 1100. The SSC campaign will run through Friday, Nov. 5.

The Office of CFC Operations at the Office of Personnel Management is responsible for oversight of the CFC.

Workshop promotes newest system scanner at NRL

A recent workshop at the Naval Research Laboratory (NRL) at SSC initiated and promoted collaborative research associated with their newest Computed Tomography (CT) system, and familiarized potential collaborators with the system's capabilities and limitations.

Twenty-three scientists and engineers, representing 11 institutions and private industry, participated in the workshop.

The researchers were provided the opportunity to evaluate shear banding in sand, multiphase flow or drainage in sand, gas hydrate structure and constituents, volume inhomogeneities, and bubble growth dynamics in marine mud. Results were discussed throughout the course of the workshop, future collaborations were addressed, and participants were furnished with high resolution CT data of their specimens.

"We demonstrated that the CT can work much better than many other CTs currently in operation," said Dr. Allen Reed of NRL's Marine Geosciences Division. "We also collected the highest resolution images of gas hydrates and gas bubbles ever obtained."

Collaborations with researchers to allow others to benefit from the CT are of interest to Reed. NRL can be contracted through a purchase agreement. For information on forming collaborations, contact Reed at <http://www7430.nrlssc.navy.mil/facilities/CTscanner/index>, or by calling (228) 688-5473 (office) or (228) 688-5433 (CT lab).

Boeing-Rocketdyne honors employees



The Boeing-Rocketdyne management team at SSC recently recognized six months of superior achievement with a Steak Night for all SSC Boeing-Rocketdyne employees.

The Space Shuttle Main Engine (SSME) team supported activation of the A-1 test stand to initiate testing on two test stands for the first time in many years. The SSME team also supported processing for all three return to flight engines. The RS-68 Assembly and Test team accumulated an additional 2,280 seconds of test time with 12 tests on six RS-68 engines. Significant milestones of this achievement included the delivery of five production flight units, exceeding 100 tests on the B-1 test stand, the initiation of the single acceptance test as the RS-68 processing standard and the performance of rapid turnaround between engines. The Integrated Powerhead Demonstrator (IPD) team provided support to numerous successful test programs at the E Complex, including the RS-84 Experimental Preburner and the IPD Fuel Turbopump. The IPD Engine assembly is progressing with a scheduled delivery date to E-1 Cell 3 in October. The Steak Night was attended by over 200 employees and included entertainment provided by Boeing employee Steve Kellar.

OUR WORLD

Kopfler marks 40 years of service

The U.S. Environmental Protection Agency Gulf of Mexico Program would like to congratulate Dr. Frederick Kopfler on 40 years of distinguished service to the federal government. Dr.

Kopfler has a degree in chemistry from Southeastern Louisiana University in Hammond, a master's in biochemistry from Louisiana State University and a doctorate in food science and technology, also from LSU. He began his federal career in 1964 with USDA's Protein Pioneering Research Laboratory in Philadelphia, Pa. He then went to work for the Public Health Service in Dauphin Island, Ala. In 1970 he became a charter member of the newly formed U.S. Environmental Protection Agency. Today, Dr. Kopfler is one of only 325 remaining charter members of the organization. In 1973 he moved to Cincinnati, Ohio, with EPA and then joined the Gulf of Mexico Program in 1989.



NAVOCEANO at SSC hosts multibeam sonar workshop in Gulfport

NAVOCEANO recently hosted a multibeam workshop at the Naval Construction Battalion Center in Gulfport. Thirteen Latin American nations participated in the workshop titled "Beyond Safety of Navigation," which focused on multibeam equipment and visualization techniques used in hydrographic surveying. At the workshop, industry representatives addressed the development and advancements of modern multibeam sonar and supporting technologies.

Multibeam sonar systems aid in the study of hydrography and hydrographic surveying, the charting or bottom mapping of water bodies.

The sonar system uses sound waves to provide hydrographers with images of the sea floor. Multibeam sonar systems are usually attached to sea vessels and can transmit and receive soundings at both horizontal and vertical angles.

The data collected from surveys using the multibeam sonar are used to generate marine products such as nautical charts, which aid in the safety of navigation of commercial and military vessels. The information is also used in the protection of the marine environment, the development of databases and models for coastal

zone management and for studying the effects of hazardous spills on ocean behavior.

The countries took the knowledge gained from this workshop back to their oceanographic and hydrographic offices to ensure their current and future surveys meet the International Hydrographic Organization's standards. The workshop also stressed the value of hydrography and what multibeam sonar systems can do – beyond safety.

NAVOCEANO is a leader in operational multibeam technology, hydrography and high volume data processing. Conference sponsors include the Chief of Naval Operations; Commander, U.S. Fleet Forces Command; Office of Naval Research; and NAVOCEANO, with support from the Commander, Naval Meteorology and Oceanography Command; the Pan American Institute of Geography and History; and the University of Southern Mississippi.

INFINITY science center moving into detail design phase

INFINITY at NASA Stennis Space Center, the state-of-the-art science center and visitor attraction to be located near the Interstate 10 entrance to NASA Stennis Space Center, moves forward with detail design.



Leo Seal, chairman of the board, MAST Inc., recently signed contracts totaling \$3.25 million for detail design services. A \$1.8 million fixed-price contract was awarded to New York-based ESI Design, one of the world's foremost experiential design firms, for development of the visitor experience.

MAST Inc. has also awarded a \$471,000 fixed-price contract to Stantec Architecture of Vancouver, British Columbia, for final design of the INFINITY facility. Studio South, an architectural and engineering firm based in Gulfport and Biloxi, was awarded a contract for \$975,000, and will serve as the project's architect of record.

The project concept and design result from a public-private partnership between NASA and MAST Inc., a nonprofit 501(c)3 charitable organization chartered in the state of Mississippi. MAST Inc. was formed in 2001 by a group of area business leaders to work with NASA on the project.

Site preparation for INFINITY at NASA Stennis Space Center is scheduled to begin late 2004 with a formal groundbreaking in 2005. Doors will open in early 2007. For more information, please contact Tommie Staten at (228) 688-1393 or by sending e-mail to tommie.staten@ssc.nasa.gov.



INSPIRING
the next
generation . . .
as only NASA can

Coming Events

Holiday Astro Camp activities

■ StenniSphere, the visitor center at NASA Stennis Space Center, is the perfect place for families and out-of-town guests to visit during the Thanksgiving holidays. On Friday, Nov. 25, and Saturday, Nov. 26, free Astro Camp activities for all visitors will take place all day throughout StenniSphere.

Winter hours

■ StenniSphere has begun its winter hours. StenniSphere is open Monday-Saturday from 9 a.m. to 4 p.m.; public tours begin at 10 a.m. and depart from the I-10, Exit 2, Hancock County Welcome Center.

Grandparents, grandkids attend Astro Camp

StenniSphere held its second annual Astro Camp for grandparents and their grandchildren on Saturday, Sept. 11. The event, themed "Rocketry 101," coincided with Grandparents' Day on Sept. 12. Pictured is Lynn Blankenburg (left), an employee at Johnson Space Center in Houston, Texas, and his grandson Austin Anderson, 8, of Covington, La. The day's activities culminated in the teams building and launching their own rockets.



SSC presents Moon Tree to Jackson planetarium

Pam Covington (left), External Affairs Officer at SSC, presents a "Moon Tree" to Linda Taylor, City of Jackson Assistant Chief Administrator, Aug. 21 as part of NASA Day at the Russell C. Davis Planetarium. Covington and Taylor participated in a ceremonial planting of the sycamore sapling, a descendant of seeds carried to the Moon and back in 1971 by Apollo 14 Astronaut Stuart Roosa. Roosa, a resident of the Mississippi Gulf Coast until his death in 1994, carried the seeds in his personal kit – an experiment inspired by his years with the U.S. Forest Service.

Dr. Loston visits South Delta Middle School

Dr. Adena Loston (standing, left), NASA Education Officer from Headquarters in Washington, D.C., visited with students at South Delta Middle School, a NASA Explorer School, in Anguilla, Miss., on Oct. 1. Loston and Astronaut Scott Parazynski inspired students to reach for their dreams with the theme "There is a place for me at NASA."



Students increase Earth science awareness

Six students participated in the DEVELOP program at SSC this summer through the Office of External Affairs & Education. They are, from left: back row, James Robinson, Philadelphia, Miss.; Dan Judnick, San Jose, Calif.; Andy Hilburn, Mobile, Ala.; Matt Tisdale, Newport News, Va.; front row, Rebecca Alsip, Mobile; and Michele Tisdale, Newport News. The DEVELOP program aims to increase public access to federal information about the Earth and works to bridge the gap between the public and the applications of Earth science technology.

SSC workers receive Spaceflight Awareness awards



NASA Astronaut Pam Melroy (left) helped present Stennis Space Center (SSC) employees with Spaceflight Awareness Awards on Aug. 27 in Florida. The following SSC employees were recognized for their significant roles in Return to Flight (from left): Ralph Gonzalez, Boeing/Rocketdyne; Samuel Stephens, Lockheed Martin Space Operations, Stennis Programs; Donna Pullman, Mississippi Space Services; Gary Taylor, NASA; Trevor Mack, Lockheed Martin Space Operations, Stennis Programs; and Brian Childers, Boeing/Rocketdyne.

SSC celebrates Hispanic Heritage Month

In 1988, Sept. 15-Oct. 15 was designated Hispanic Heritage Month to commemorate the anniversary of Mexican Independence Day and other Latin American independence day celebrations in the United States. Hispanic refers to those whose ethnic origin is in a Spanish-speaking country, no matter what their race. This year's theme is "Hispanic Americans – Making a Difference in Our Communities and Our Nation." During this month, Americans celebrate the culture and traditions of U.S. residents who trace their roots to Spain, Mexico and the Spanish-speaking nations of Central America, South America and the Caribbean. SSC marked the month with a Hispanic Heritage display in the front lobby of Bldg. 1100.



Panelists discuss issues at Women's Equality Day



SSC's celebration of Women's Equality Day, sponsored by Lockheed Martin Mississippi Space and Technology Center, was held Aug. 26. A panel discussion included participants from a variety of organizations discussing their views and suggestions for keys to success for women in today's environment.

Panelists were (from left) Candace Watkins, Mayor of Covington, La.; Heidi Lovett Daniels, Assistant Professor of Education, Dillard University; Tish Haas Williams, director, Hancock County Chamber of Commerce; Joanne Beckham, director, Lockheed Martin Mississippi Space and Technology Center at SSC; and Steve Jackson, general manager, Test Operations Group, Jacobs Sverdrup.

The panel was followed by three half-hour program topics and a luncheon featuring keynote speaker Joanne M. Maguire of Sunnyvale, Calif., vice president and deputy to the president of Lockheed Martin Space Systems.

NASA bestows 2004 Honor

Stennis Space Center Director Adm. Thomas Q. Donaldson V, USN, (Ret.) and NASA Associate Administrator of the Space Operations Mission Directorate William F. Readdy presented NASA's prestigious Exceptional Service Medal to several NASA employees at Stennis Space Center (SSC) on Aug. 12.

The NASA Exceptional Service Medal is given for significant sustained performance characterized by unusual initiative or creative ability that clearly demonstrates improvements in engineering, aeronautics, space flight, administration, support or space-related endeavors which contribute to NASA's mission. Recipients were:

■ James T. Bevis, a resident of Diamondhead, chief financial officer for SSC's Business Management Directorate. He was given the award for his vital role in integrating the rocket propulsion facilities and capabilities of four different NASA field centers. His efforts to identify funding sources at each center were called a striking example of "One NASA" teamwork.

■ Robert C. Bruce Jr., a resident of Gulfport, director of SSC's Technology Development and Transfer Office. He was given the award for using his propulsion engineering expertise in promoting the propulsion testing capabilities at SSC, as well as leveraging the testing capabilities at other NASA centers through the Rocket Propulsion Test Management Board.

■ Dr. Shamim A. Rahman, a resident of Mandeville, La., chief engineer for SSC's Propulsion Test Directorate (PTD). He was given the award for improving propulsion test capabilities so much that SSC is recognized for engineering excellence in testing facility preparation, developing high-quality test products and assisting customers develop and test propulsion components. He initiated a technology forecast activity and developed a new technology road map for each of SSC's major programs.

Donaldson and Readdy also presented NASA Public Service medals to two individuals not government employees during the period a service is performed, to recognize exceptional contributions to NASA's mission. Those medals were awarded to:

■ Chief Phillip Martin, elected Tribal Chief of the Mississippi Band of Choctaw Indians (MBCI), for his strong leadership and support for education as the pathway to success resulting in the implementation of NASA educational programs in the MBCI

School System. His dedication to bettering education for American Indians is recognized nationally.

■ James M. Sherrer, a resident of Picayune, was the Lockheed Martin Information Technology (LMIT) program manager of the Outsourcing Desktop Initiative for NASA (ODIN) contract at SSC. He was given the award for helping NASA realize the benefits of outsourced information technology services. ODIN is a performance-based, fixed-price contract representing a new way of doing business for NASA. Sherrer has been called "an agent of change" in introducing and deploying the ODIN IT services delivery model at SSC.

Donaldson and Readdy also presented a NASA Exceptional Achievement Medal for a significant, specific accomplishment or contribution clearly characterized by a substantial and significant improvement in operations, efficiency, service, financial savings, science or technology that contributes to NASA's mission.

The award was given to David J. Coote, chief of SSC's Engineering Division for the PTD and a Slidell resident, for assembling and leading a team in developing the Propellant Systems Analysis Model (PSAM). The PSAM was built to meet engineering design and analysis challenges for rocket propulsion testing in support of the Next Generation Launch Technology program and other rocket propulsion test programs.



NASA Public Service Medal
Chief Phillip Martin
*Tribal Chief of the Mississippi Band
of Choctaw Indians*



NASA Public Service Medal
James Sherrer
Former ODIN program manager



NASA Exceptional Service Medal
Shamim Rahman
*Chief engineer for SSC's
Propulsion Test Directorate*



NASA Exceptional Service Medal
James Bevis
*Chief financial officer for SSC's
Business Management Directorate*



NASA Exceptional Service Medal
Robert Bruce
*Director of SSC's Technology
Development and Transfer Office*



NASA Exceptional Achievement Medal
David Coote
*Chief of SSC's Engineering
Division for the PTD*

Awards at SSC

Group Achievement Awards:

Stennis Space Center Association for Cultural Awareness

NASA

Susan M. Cleaves (former)
Dinna L. Cottrell
Patricia H. Fairley
Jorge F. Figueroa
Rhonda M. Foley
Melba M. Harris
Margaret E. Rhodes (former)
Nancy G. Sullivan (former)
Peter V. Tran
Karen L. Vander

Boeing

Benjamin A. Gousman
Joyce M. Lawrence

Commander, Naval Meteorology and Oceanography Command

Elizabeth O. Kirby

Environmental Protection Agency

Gerald O. Binninger
Terry Hines-Smith

Lockheed Martin Space Operations

Bertha L. Jackson
La Sonya M. Merrill

Mississippi Space Services

B. Denise Dedeaux (former)
Marsha H. King
Susan M. Sprouse

Mississippi State University, Educator Resource Center

Stephanie L. McDaniel

Naval Oceanographic Office

Claudette R. Flynn
Rhonda L. Huffman

Naval Research Laboratory

Margueritte B. Frommeyer

National Data Buoy Center

Martha A. Mitchell
Robert Cage Jr.

Navy Human Resources Center, Southeast

Adolph H. Delgado
Arthur L. Thornton

U.S. Geological Survey

Barbara J. Wheat
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Dane M. Howell
Kenton W. Ross
Kristen J. Russell
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Charles M. Smith
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Joint Agency Commercial Imagery Evaluation Team

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Group Achievement Award
Audio/Visual and Video Production Services Team



Group Achievement Award
SSC Association for Cultural Awareness



Group Achievement Award
Fluid Component Processing Facility Team



Group Achievement Award
Integrated Powerhead Demonstrator Team



Group Achievement Award
Joint Agency Commercial Imagery Evaluation Team



Group Achievement Award
Outsourcing Desktop Information for NASA
Minimum Essential Infrastructure Team



Group Achievement Award
Public Health Applications of Earth Sciences Program Team



Group Achievement Award
Site for Online Learning and Resources
Environmental Management System Project Team

AWARDS

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Audio/Visual and Video Production Services Team

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Oologah Technologies Inc.
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Philip H. Hart
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Stanley C. Warren
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Defense Contract Management Agency

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William J. Davis Jr.
Linda C. Davis
Douglas G. Dike

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AWARDS

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James R. Freeman
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Jerry L. Hanna
Leslie G. Hanna
Kenneth B. Hawkins
David W. Hodge
Michael W. Hodge
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Cynthia A. Maurigi
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Thomas M. Rich
Bobby J. Rodriguez Jr.
Bobby J. Rodriguez Sr.
Charles F. Smith
William C. Spansel Jr.
Ike J. Stewart

*Site for Online Learning and
Resources Environmental
Management System Project Team*

NASA

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Sarah E. Luster (former)

Lockheed Martin Space Operations

Gerard E. Ledet
Sean S. Labat

*Outsourcing Desktop Information for
NASA Minimum Essential
Infrastructure Team*

Lockheed Martin Space Operations

James R. Allgood
William B. Brumfield
William N. DeDeaux
William R. Dye
Karen A. Ekey
David L. Greer
Zackery J. Grimes
Jeanne B. Hoffmann
Marshall C. Holloway
Wilbert Johnson

NASA Space Flight Awareness
Leadership Award

Boeing

Michael E. McDaniel

Length of Service Awards**25 Years Service**

James T. Bevis
Robert C. Bruce Jr.
Samuel D. McCarty
Gerald R. Meeks
Bruce A. Spiering

30 Years Service

Janet M. Austill
Larry F. Bland (former)
Gregory Fletcher
Robert J. Heitzmann
Donald E. Kelly

35 Years

Terence T. Bordelon

Director's Certificate of Appreciation

John A. Wilson
John D. Williams
Tommie H. Staten

Peer Recognition Award-Safety Award

Richard W. Harris

Special Recognition Awards

*Legal Team Honor Awards Program
Ethics Team and Columbia Field Team*
Sandra M. Wozniak

*NASA Group Achievement Award
Competency Management System Team*
Dorsie Jones

*NASA Invention and Contributions
Board (ICB) Awards*

ICB Board Action Awards
Plant Chlorophyll Content Meter

NASA

Bruce A. Spiering

University of Southern Mississippi

Gregory Carter
Direct-to-Disk High-Speed Data
Acquisition System

Boeing

Paul M. Lagarde Jr.
NASA Tech Briefs Awards
Strain Gage System and Method to
Measure Tank Fluid Mass

NASA

Jorge F. Figueroa
William W. St. Cyr

Lockheed Martin Space Operations

Lester A. Langford

William M. Mitchell
David B. Van Dyke
Gregory P. McVay
Application Research Toolbox

NASA

Vicki M. Zanon

Lockheed Martin Space Operations

Randall K. Greer
Gerald E. Gasser Jr.
Jeffery A. Russell
Slawomir S. Blonski
Robert E. Ryan

*NASA Invention and Contributions
Board Awards*

Automated Electrostatics Environmental
Chamber

NASA

Aubri C. Buchanan – awarded by
Kennedy Space Center

Base Environmental Management
System

Lockheed Martin Space Operations

Charlie W. Matherne
Christopher A. Callac

Simulation-Based Cost Model

Lockheed Martin Space Operations

Carolyn L. Smith

Generalized Computer-Based
Computation of Venturi and Orifice
Pressure Drops

NASA

Laurence de Quay

SSC scientist receives Presidential award



Carlos Del Castillo

Dr. Carlos Del Castillo of Slidell, La., is one of three NASA-funded scientists who received the Presidential Early Career Awards for Scientists and Engineers (PECASE) Sept. 9 at the White House.

Del Castillo, an aerospace technician with the Applied Sciences Directorate at NASA Stennis Space Center, will soon

complete a one-year assignment with NASA's Ocean Biology and Biogeochemistry Program in Washington, D.C.

He received the award for his research proposal, "Carbon Transport by the Mississippi River Plume."

The National Science and Technology Council (NSTC) awards represent the highest honor bestowed by the U.S. government on scientists and engineers beginning their independent careers. They recognize recipients' exceptional potential for leadership at the frontiers of scientific knowledge. The NSTC only bestows the PECASE award to an individual once during his or her career.

"NASA is honored to have such promising researchers among our ranks of pioneers," said NASA Administrator Sean O'Keefe. "It is the work of these talented individuals and others that will propel us

forward to carry out our exploration of Earth and the universe beyond."

The PECASE awards were created to foster innovative and far-reaching developments in science and technology, increase awareness of careers in science and engineering, give recognition to the scientific missions of participating agencies, enhance connections between fundamental research and national goals, and to highlight the importance of science and technology for the nation's future. The recipients receive funding for their projects.

For information about the PECASE awards on the Internet, visit:

<http://www.ostp.gov/html/pecase2002.html>

For information about NASA and photos of the award ceremony on the Internet, visit:

<http://www.nasa.gov>

A view from above . . .



From 230 miles above Earth, Hurricane Ivan was photographed from the International Space Station, a portion of which is visible in the upper right corner. Astronaut Mike Fincke snapped the photo as Ivan churned in the Gulf of Mexico on Sept. 14. At the time, Ivan was a Category 4 hurricane with winds of 140 mph. Fincke, the NASA Station Science Officer, and Station Commander Gennady Padalka completed a six-month mission aboard the space station in October.



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