



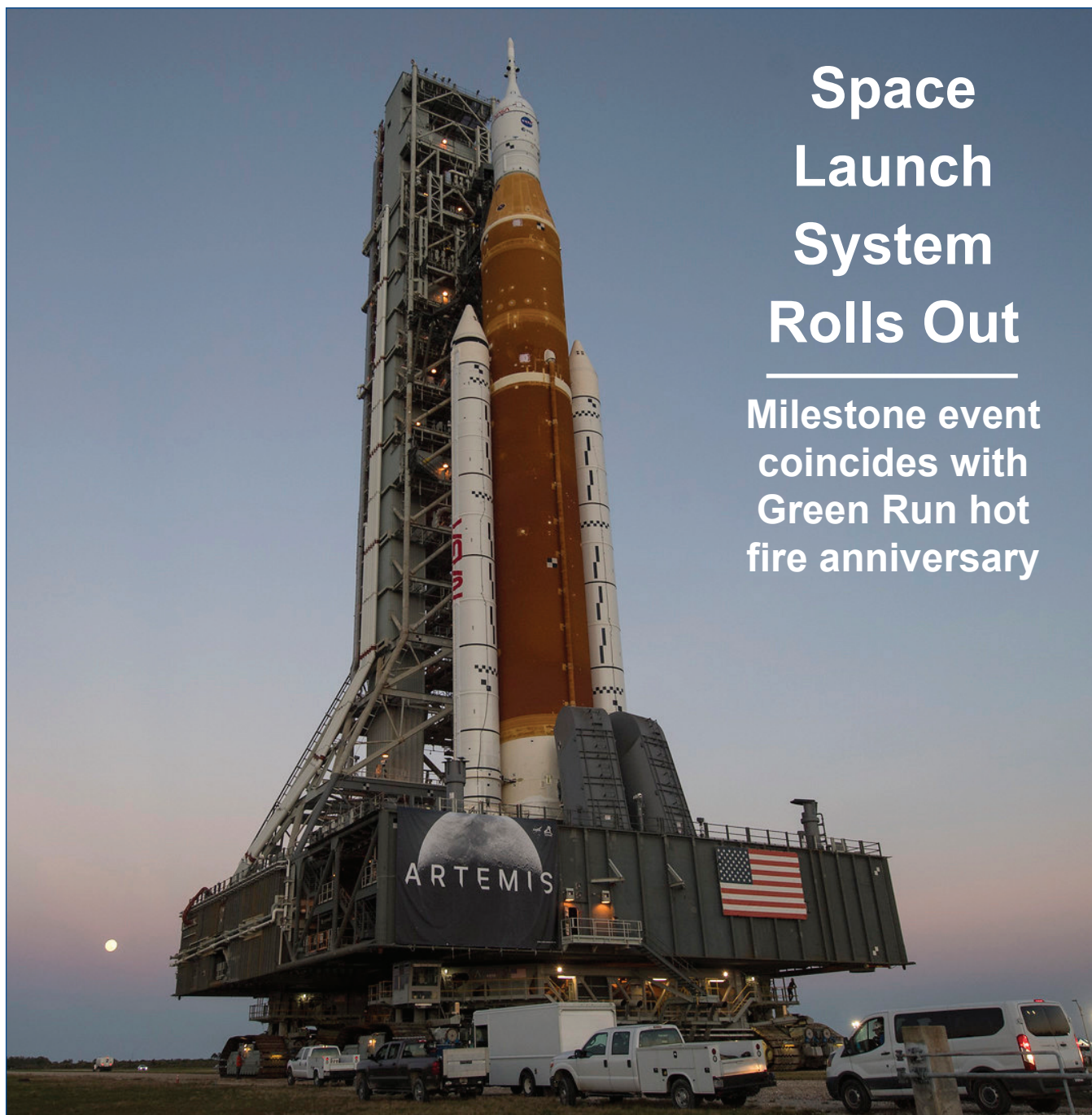
# LAGNIAPPE

John C. Stennis Space Center

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March 2022



## Space Launch System Rolls Out

Milestone event  
coincides with  
Green Run hot  
fire anniversary

NASA's Space Launch System (SLS) rocket rolls out to Launchpad 39B at Kennedy Space Center in Florida on April 17-18, marking a major milestone in the Artemis program to return humans, including the first woman and the first person of color, to the Moon. Following a wet dress rehearsal test at the launchpad, the SLS rocket will be prepared for launch of the Artemis I mission. Fittingly, rollout of the rocket coincided with a visible full Moon and the one-year anniversary of the hot fire that marked culmination of a rigorous Green Run series of tests of the Artemis I core stage and its integrated systems at Stennis Space Center. The successful, hot fire of the stage's four RS-25 engines was conducted March 18, 2021. See page 3 coverage.

March will forever remind folk at Stennis of the Space Launch System (SLS) core stage Green Run test series. It was one year ago this month that Stennis conducted a hot fire test of the SLS core stage that will launch the upcoming Artemis I mission. However, March is also Women's History month, a time to reflect on the impact women are having across NASA as an agency.

NASA picked a powerful name for its new missions to the Moon. The name bears testament to the contributions women have made throughout NASA's history. NASA's Artemis program gets its name from the Greek goddess of the Moon. Artemis, in Greek mythology, is the twin sister to Apollo. It is appropriate that in the Artemis program, the first woman in history will set foot upon the Moon. The name inspires the next generation of women to realize their efforts are making all of NASA stronger.

Women's History Month program this month have featured agency leaders discussing the impact and contributions of women to the world. The stories included experiences of the women and the challenges faced throughout their careers. NASA seeks to educate its workforce in all aspects of diversity and inclusion, and the discussions this month brought new respect for the accomplishments and stamina exemplified by the women of NASA. In the same way, NASA is

determined to help the new Artemis generation realize that there are no limits to its potential.

I found myself in deep thought about these things while taking a walk with Momma Gator around the yard. She pointed out different leaf buds and flowers on her fruit trees, then explained the efforts she puts in to make those trees magnificent. I thought of the experiences she must have had growing up and how much those experiences influenced her. Like that, America is invested in something amazing with Artemis, and in this difficult time, the world could use a little "amazing."

As the leaves start to reappear and the woods come back to life, there is one thing I do not miss – mosquitoes. I thought they were coming out early this year when I heard a buzzing over my shoulder. What I was not expecting to see was a drone hovering like a hummingbird, with the center body perfectly still and the four little propellers spinning so fast they appear transparent. I am glad that was not a mosquito, because it would have been a "whopper." Ark.

While watching the last of my fireplace fires for this year, I marvel at the statement NASA is making by sending a woman and a person of color to the Moon on future Artemis missions. It is a profound national statement supporting equality and inclusion.



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# Green Run: One Year Later

On March 18, 2021, one year to the date of this Lagniappe publication, NASA conducted the most powerful propulsion test in more than 40 years at Stennis Space Center. A successful, full-duration hot fire test of the first Space Launch System core stage – and its four RS-25 engines – culminated a year-long series of integrated tests of the stage and its sophisticated systems. Some 200 agency leaders and guests gathered in a COVID-19-restricted setting to witness the climactic hot fire.

In addition to the pandemic, operators and test teams weathered a record hurricane season that featured multiple tropical systems and hurricanes. Following the hot fire, Stennis teams removed the core stage from the B-2 Test Stand for transport to Kennedy Space Center, where it will help launch the upcoming Artemis I mission. Team members then gathered to recount the Green Run experiences. Some of their thoughts are captured in the following pages.



## ‘Everybody had that same understanding that ... failure is not an option’

*One of the most important lessons that I learned from my experiences (on the Green Run team) is it just comes down to how we approach solving problems.*

*It's easy to become flustered and frustrated when something isn't working, and you don't have any immediate answer as to why. I learned pretty early on that the best method of action is just to keep calm, keep a level head, and be very methodical when you're troubleshooting. – Gage Haas, NASA Electrical Test Operations Engineer*

*A senior controls engineer ... told me one time he didn't know that he could hold his breath for 500 seconds until the first time a piece of his software ran during a space shuttle main engine test. It was the same kind of feeling during the Space Launch System hot fire, just going over everything that I had done in my mind 20 and 30 times to look for anything that I forgot about, anything that I missed. ... It was a really intense time, ... but in the end of it, it was pride just being part of that effort and knowing that in years to come, I can say I was part of it. – Alex Elliott, NASA Software Subject Matter Expert*

*The diversity of opinions and experience coming into this test really benefited us. ... We actually had a case in training the new engineers on how we developed the control system software for shuttle (that) their immediate response was, “There has to be a better way.” And we were able to support them in finding a better way to develop the software and were able to save a considerable amount of time and improve our verifications using those new techniques. – Mark Turowski, NASA Lead Electrical Engineer*



A close-up photo offers a view of four RS-25 engines firing simultaneously during the Green run hot fire test of NASA's Space Launch System core stage at Stennis Space Center on April 18, 2021. The hot fire test one year ago culminated a series of Green Run tests of the core stage and its sophisticated systems. The stage now is being readied to help launch the Artemis I mission to the Moon.

*The Korean military have a term called “pil sung.” Loosely translated, it means “united for certain victory.” And I think when you get incredibly talented people who are dedicated and committed, and you have a unifying mission like the Green Run core stage (testing), it creates ... a band of brothers and sisters who will be able to run into each other years from now and will have this thing that connects us, you know? We're all part of this piece of history. – Mike Pannell, NASA Occupational Health Officer*

*I think it was a real historic test, and I'm thankful to have been a part of it. ... But what's really going to make it historically meaningful is the use of the Space Launch System rocket in returning humans to the Moon, sending humans deeper and deeper into space, potentially going on to Mars in the future eventually. ... I'm looking forward to seeing that (happen). – Tristan Mooney, NASA Instrumentation Engineer*

*I think adversity tends to cause a team to gel very effectively. But I also have to give credit to our leadership here at Stennis, both in safety and mission assurance and also at the project level. Those folks always listened to us, and they created a culture where opinions were solicited and respected, and appreciation was expressed for everybody's contribution. ... It created a climate where we were all working together to make this project as successful as we possibly could. – Elizabeth Calantoni, NASA B-2 Test Stand Safety and Mission Assurance Engineer*

*We had confidence, you know. Anytime we experienced a setback, we knew that the right people were involved. ... They're phenomenal – our technicians, our engineers, all the support personnel, ... just everybody. Everybody had that same understanding that we have our mission in front of us and failure is not an option. Your only option is to overcome the setback, understand the problem, create the solution, and move on. – Casey Wheeler, NASA Lifting Devices and Equipment Manager*



## 'It (hot fire) is a full-body experience. You feel it internally. The ground's shaking'

*It was an honor and a privilege to be part of (the Green Run test project). I've always wanted to touch space. Since I will not be able to (do so), by being part of this Green Run, I can help someone who can touch space. ... Every day that I drive through that (Stennis) gate, I say to myself, "I have one of the coolest jobs in the world." And working on this stage, all I could think about was, "I wish I could fly with it."* – **Curtis Lockwood, Syncom Space Services B-2 Test Stand Electrical Engineer**

*On a project this big, you just can't have one group or one person. You need to have all skills from every aspect and experience level. ... You're going to get problems that certain groups have never seen before or that some people are more familiar with, and you're going to get ways to address problems, and just to run a test in different ways, depending on somebody's skill or experience level. ... That's really important – and I don't think we would have pulled off this test if it wasn't that way.* – **Andrew Henken, NASA Mechanical Test Operations Engineer**

*If I had to describe (the core stage hot fire) in one word, I would probably call it epic. ... Every day (that) we came to work, we were writing another page in the history of the NASA Space Launch System Program. ... It's just sort of awe-inspiring to be part of that chunk of history – in the nation's history, NASA's history, and mankind's history – as we propel ourselves further into space.* – **Briou Bourgeois, NASA Mechanical Operations Engineer**

*I think a lot of the motivation (for the Green Run project) came from ... wanting to do right by your teammates and other people working on it, just knowing and assuming responsibility that probably the task that you're working on in this project at that moment, only you are the person who can do that. And so, if you don't do it, then that's not going to get done. ... So, (it's) just wanting to do right by everyone around me and by the country in general by making sure the project gets done.* – **Jasper Cook – NASA Electrical Design Engineer**



Then-Acting NASA Administrator Steve Jurczyk (l) and Stennis Space Center Director Rick Gilbrech high five following a second hot fire test of the first Space Launch System core stage on the B-2 Test Stand at Stennis on March 18, 2021. The four RS-25 engines fired for the full-duration of 8 minutes during the test and generated 1.6 million pounds of thrust. (Photo Credit: (NASA/Robert Markowitz)

*I'll describe (my work on the Green Run test project) as the best night shift I ever worked. ... It was the first project I've ever been on since the beginning ... (when) I was not being transplanted anywhere else. It's going to hold a unique place in my heart, and hopefully, when I have grandkids, (I will be able) to point up at a mock-up (of the Space Launch System) down the road, maybe the Smithsonian or somewhere and say, "I worked on that."* – **Robert Simmers – NASA B-2 Test Stand Safety and Mission Assurance Engineer and Explosive Safety Officer**

*I think Stennis has definitely cemented its place in history, especially with this historic Green Run testing. And I'm most excited to see us go to Mars. I wasn't around during the Apollo missions, but now, I get to be a part of the Artemis generation. And it is just exciting to be a part of something so unique and so awesome.* – **Shannon Sharkey, NASA Attorney-Advisor**

*(The Space Launch System core stage) hot fire was one of the most exhilarating and most exciting activities that most of the personnel at Stennis have experienced. I've been here 30 years, and it's right up there at the top ... of events that I've attended. It was phenomenal, the work that went into it, the activities that supported it, the people who supported it, the integration and collaboration of the teams. ... It was an extremely, extremely satisfying and exhilarating project to work on ... Successful test. Successful data. Projecting to be a successful launch. ... So, kudos to the team. Kudos to everyone who supported that effort.* – **Barry Robinson, B-2 Test Stand Space Launch System Green Run Project Manager**

*I was at the viewing area ... (for the second hot fire test), and the amount of shock that you get from that initial fire of the engine, it's astounding. ... You experience the rumble and the noise, and it is a full-body experience. You feel it internally. The ground's shaking. Your ears are ringing, even with ear plugs in. It's just an awe-inspiring event.* – **Kevin Stiede, NASA Project Manager**



## ‘It is just an incredible job that everyone (did), all the sacrifice and hard work’

*There’s a statement that is published on some NASA paraphernalia that reads, “Failure is not an option.” ... I believe that this statement is more than words for NASA, but a deep belief in the heart of the NASA workforce. – Veronica Causey, Space Launch System Senior Management and Program Analyst*

*The motivation for almost everybody on the test team was the desire to see that rocket fire. Everyone was working to the same end goal, and that’s what kept us going. – Lester Langford, NASA Electrical Design Engineer*

*We have people from all diverse backgrounds who work at Stennis and who also came to Stennis to work the Space Launch System (Green Run test project). Open communications and teamwork were the key (to the project’s success). There was a lot of listening, a lot of talking. We also had to forget about who we work for and work towards the mission of getting the Space Launch System tested. – Pablo Gomez, NASA Deputy Chief of the Stennis electrical Operations Branch*

*When an airplane takes off, there’s thousands of things that can go wrong, hundreds of thousands. And in this event (of test firing the Space Launch System core stage), there’s probably millions of things that could have went wrong. So, it’s very, very detailed work, and ... it is just an incredible job that everyone (did), all the sacrifice and hard work. – Jason Peterson, NASA Range and Aviation Operations Manager*

*Congratulations to ... everybody out there that made this (Green Run test series) possible. And I’d like to just say to my children and to my children’s generation that it’s going to be you guys who are going to be boots on the ground on Mars in the future ... It’s you guys who are in school right now. ... You probably aren’t thinking past when’s lunch at the moment, but it will be you guys that will be doing amazing things in the future. Even if you don’t think that you can, you absolutely can. ... There’s nothing you cannot do. – Matt Ladner, NASA Project Manager for Facilities Design and Construction*



The first Space Launch System core stage hangs suspended from the B-2 Test Stand crane at Stennis space Center on the morning of April 20, 2021. Stennis teams removed the core stage during overnight operations before lowering to the test stand tarmac and loading it onto NASA’s Pegasus barge for transport to Kennedy Space Center. Removal of the stage followed completion of the Green Run series of tests on the stage and its integrated systems. The stage now is being readied for the upcoming launch of the Artemis I mission to the Moon. Photo Credit: (NASA/Danny Nowlin)

*For me, the pandemic was the biggest challenge. We had to sit down and work through ... a way to keep our employees safe while they continued to work and support the mission, to give them an environment that was the most helpful that we could do with the information we had at the time. (The challenge was to) provide them that space that they felt safe to come to work every day and to do their job ... and stay focused on the task at hand. – Christina Zeringue, NASA Chief Safety Officer*

*I watched the (Green Run) hot fire test at the house with my wife. We were actually running outside (because we could actually bear it, the rumbling, from where we lived. ... I have seen a lot of tests with just one engine and often wondered what it would be like to see four like they did 40 years ago. So, it was a lot of pride hearing that thing rumble. – Jason Edge, NASA Contracting Officer*

*(Viewing the Green Run hot fire) was a once-in-a-lifetime experience, just being ... with everybody who worked through this whole experience. You could feel the power of those engines, the rumble, the explosion of the cheers. It was – it was amazing. – Melissa Wagner, NASA Contracting Officer*

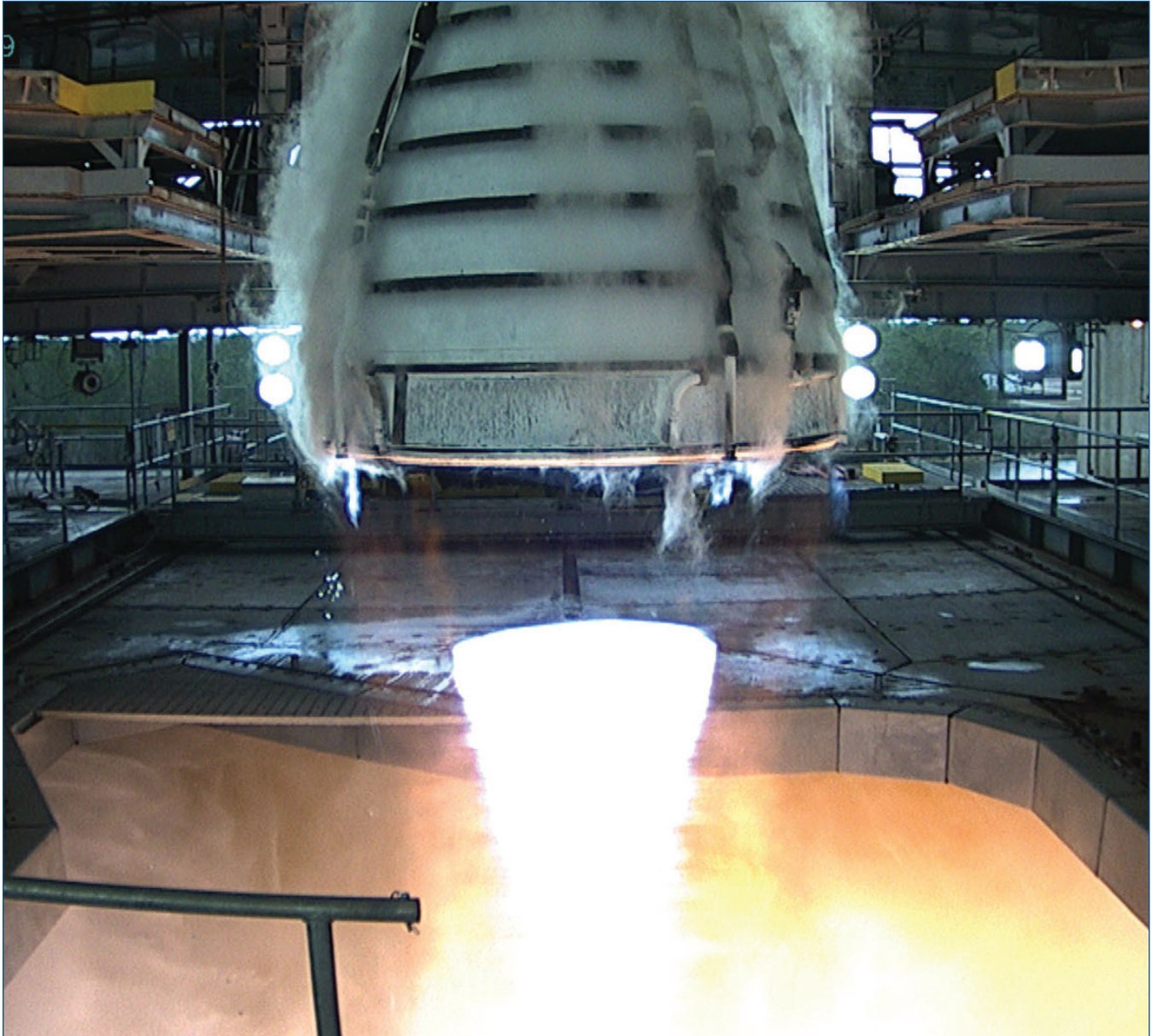
*This is a work in progress, and we can all take pride in what has already transpired, but the future remains. We all know what the goal is. It’s to go back to the Moon. It’s ultimately to go to Mars. ... We need to keep our eye on the prize – and when we do land on the Moon and on Mars, we’ll be able to say, we were a small part of it, or a large part of it actually here at Stennis. – Jeffrey Renshaw, NASA Deputy General Counsel*

*I’m excited for the next step. I’m ready to see America send astronauts into space on a NASA vehicle. I’m excited to watch a launch with my family and friends and just be able to say, “Hey, I helped with that. You know, me and my coworkers, we did that.” – Kim Drievergen – NASA Lead Management and Program Analyst*



## NASA's MOON to MARS MISSION

## NASA Powers Up RS-25 Engine Testing for Deep Space Launches



NASA powered up its third RS-25 engine hot fire test of the new year Feb. 24, on the Fred Haise Test Stand at Stennis Space Center. Operators fired the engine past recent testing at the 111% power level up to 113% for a period of time. NASA is testing RS-25 engines to help power the agency's Space Launch System (SLS) rocket on future deep space missions. Initial SLS missions will send the agency's Orion spacecraft to the Moon as part of NASA's Artemis program. Work is underway inside the Vehicle Assembly Building at NASA's Kennedy Space Center in Florida to prepare the first SLS for the upcoming launch of the uncrewed Artemis I mission, which will pave the way for future flights with astronauts to explore the lunar surface and prepare for missions to Mars. Artemis missions will land the first woman and first person of color on the lunar surface. SLS will be the world's most powerful rocket and the only one capable of sending the Orion, astronauts, and supplies to the Moon in a single mission. Four RS-25 engines, firing simultaneously, will generate a combined 2 million pounds of thrust to help power SLS's ascent. The RS-25 engines for the first four SLS flights are upgraded space shuttle main engines and have completed certification testing. RS-25 engines for subsequent missions will fire at 111% of their original power level to help launch SLS. Testing at 113% power level at Stennis demonstrates a margin of safety for operating the engine at the higher thrust. Each engine test in the current series at Stennis provides valuable operational data to NASA's lead contractor, Aerojet Rocketdyne, on new components manufactured with state-of-the-art fabrication techniques as the company begins production on new RS-25 engines. The testing is part of NASA and Aerojet Rocketdyne's effort to use advanced manufacturing methods, significantly reducing the cost and time needed to build new engines. For NASA's Feb. 24 test, engineers fired the RS-25 developmental engine for a full duration of about eight-and-a-half minutes (500 seconds), the same amount of time the engines must operate to help send SLS to space. SLS, Orion, commercial human landing systems, and Gateway outpost in orbit around the Moon are NASA's backbone for deep space exploration. RS-25 tests at Stennis are conducted by a combined team of NASA, Aerojet Rocketdyne, and Syncom Space Services operators. Syncom Space Services is the prime contractor for Stennis facilities and operations.



## NASA's MOON to MARS MISSION

# Stennis Calls on Students to Help Keep Astronauts Fit in Flight

If astronauts were to do 100 push-ups a day on Earth as part of an exercise, how many would they need to do on Mars, where gravity is about 38% of that of the home planet, to maintain an equivalent level of physical fitness? These are the types of questions researchers at Stennis Space Center are hoping to answer with the help of university students.

With NASA's plans to return astronauts to the Moon through [Artemis](#) missions and eventually support future crewed missions to Mars, sustaining crew members' health through exercise during long-duration flight is a critical task. Measuring and assessing the data from those activities to get a complete picture of crew wellness is a vitally important function.

As a partner and collaborator with higher education institutions, Stennis is calling on university students to develop innovative approaches to astronaut fitness through its "Intelligent Devices/Equipment/ Instruments for Enabling Crew Health and Performance on Mars" project. The project is a part of the National Space Grant Foundation's Moon to Mars Exploration Systems and Habitation ([M2M X-Hab](#)) [2023 Academic Innovation Challenge](#).

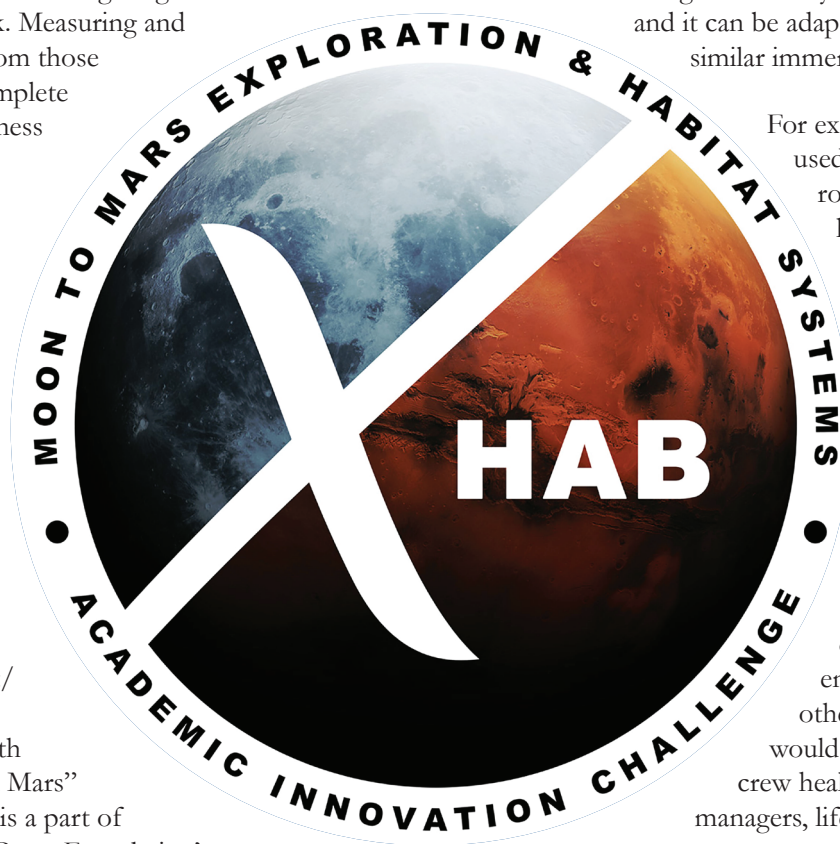
Stennis' [Autonomous Systems Lab](#), which pioneered the [NASA Platform for Autonomous Systems](#) (NPAS), is serving as the challenge sponsor. NASA's [Advanced Exploration Systems](#) (AES) Exploration Capabilities Program will provide \$13,000 to \$50,000 awards to teams of undergraduate and graduate students, mentored by engineering faculty members, to develop studies or functioning crew health and performance prototypes. The deadline for proposals is April 22, 2022.

The Stennis project will award up to \$30,000 for teams to research and develop a prototype of one or more intelligent devices/equipment/instruments that could be used by a crew living on Mars for extended periods of time, or longer than one Earth year. However, the challenge comes with a twist.

Teams have to model their prototypes, which must operate autonomously, after equipment used on Earth to train for hanging and rock climbing activities. This type of exercise is of interest because it optimizes the muscle strength necessary for bodily self-control, and it can be adapted for virtual reality or similar immersive applications.

For example, a typical device used for hanging and rock climbing is the hangboard, a compact fitness tool that increases a user's finger strength. An autonomous, intelligent iteration of this tool would generate and report metrics about the exercise activity it is used for, such as forces on fingers, kinetics, energy expenditure, and other factors. This data would then be conveyed to crew health and performance managers, life support systems, and resource management systems to provide complete, real-time information about a crew's health and performance. Likewise, the autonomous tool should be able to identify and report faults, signal maintenance needs, and be capable of monitoring and evaluating its own performance.

Student teams will benefit from participation of members representing diverse disciplines, including engineering, computer science, autonomous systems, intelligent systems, exercise science, graphical user interfaces, and others. For more information, prospective participants may view the [M2M X-Hab challenge solicitation](#) or visit the [program website](#).





# NASA's Stennis Space Center Employs Drones as New Go-To Resource

Piloting Unmanned Aircraft Systems, commonly called drones, are not just for fun any longer. At NASA's Stennis Space Center, drones are becoming a go-to resource for use on difficult and potentially dangerous jobs, helping to save time and costs.

One might encounter drone technology as a toy. Small four-propeller drones entertain in households, crashing into assorted items and performing aerial stunts under the remote piloting skill of children. However, NASA's trained drone pilots are imagining new ways to make small remote aircraft like these useful.

"Stennis is using drone technology to cut costs, increase productivity, and most importantly, reduce risk exposure to personnel," said Jason Peterson, NASA's range and aviation operations manager at Stennis.

"Drone technology has multiple capabilities and applications. A drone is a tool in your toolkit, and just like every other tool, it has a purpose and limitations, but drones are proving very advantageous in many situations."

Given modern lightweight cameras and other sensors, drones become highly innovative and versatile flying tools. NASA is using drone technology for a variety of reasons, such as aerial imagery, inspections, and mapping.

At Stennis, drone flights recently recorded imagery of the RS-25's latest test on Feb. 24. The drone captured live stream video of the test event and the liquid oxygen ground disbursement. Information gleaned from the video is instrumental in future test planning by showing how the oxygen behaves at maximum discharge.

Drones at Stennis also track construction progress and record data for historical purposes. The imagery from the aerial cameras provides a high-quality digital record with time marks. For instance, last year, a drone captured the only 4K imagery of the historic hot fire test of NASA's Space Launch System core stage on the B-2 Test Stand. The hot fire was the most powerful test at Stennis in more than 40 years, and the drone's 4K imagery provided four times the resolution of high-definition ground cameras.

Drones at Stennis Space Center and NASA's Michoud Assembly Facility in nearby New Orleans also captured imagery of damaged site roofs following Hurricanes Zeta and Ida last year. The aerial imagery captured by the drones gave center leadership the ability quickly to assess the rooftop damage and relay that information to NASA Headquarters in Washington. Using drones to conduct inspections of such hard-to-reach places significantly reduces inspection times.

Safety is another significant advantage of drone usage. Drones offer unique capabilities to get close views of potentially life-threatening situations.

"We had an issue with one of the arrays located on our high-frequency antenna," Peterson said. "The array was damaged and presented a safety issue for personnel on the ground. With the drone, we were able to safely inspect the antenna, figure out the issue, and order a part. This drone footage resulted in cost savings of approximately \$10,000, eliminated the exposure risk of personnel climbing the tower, and reduced downtime."

NASA is not the only organization using drones at Stennis. Currently, NASA and Innovative

Imaging and Research have drones that frequently fly the Stennis sky. Depending on each drone's payload, software, and data collected, drones supply unique, easily deployed vantage points.

"I see drones taking on a larger operations and maintenance role as the technology continues to grow and we expand our program," Peterson said. "We are looking into expanding payloads and moving towards electro-optical/infra-red operations that will allow us to inspect buildings, critical infrastructures, and utilities such as power lines and substations."

As NASA integrates drone mapping operations into existing software, future scanning is expected to allow the creation of 2D or 3D real-time maps and models. Each could be able to reach accuracies down to two centimeters. This capability can reduce time and cost compared to traditional surveying.



A Stennis Space Center drone captures high quality images and live stream video of an RS-25 test and its associated liquid oxygen ground disbursement on Feb. 24, 2022.



A drone photo shows NASA's Pegasus barge as it passes through the lock system at Stennis Space Center on April 23, 2021. The barge was beginning transport of the first Space Launch System core stage to Kennedy Space Center, following completion of a Green Run test series on the B-2 Test Stand (seen in background).



Stennis Space Center operators use drone images to safely inspect damage to an on-site high-frequency antenna Aug. 13, 2019, also reducing cost and saving time on repairs.



A drone captures high quality images Dec. 15, 2021, of an ongoing project to replace high-pressure industrial water lines in the A Test Complex at Stennis Space Center.





Following the completion of critical mirror alignment steps, as illustrated by the above image, NASA's James Webb Space Telescope team expects that Webb's optical performance will be able to meet or exceed the science goals the observatory was built to achieve. On March 11, the Webb team completed the stage of alignment known as "fine phasing." At this key stage, every optical parameter that has been checked and tested is performing at, or above, expectations. The team also found no critical issues and no measurable contamination or blockages to Webb's optical path. While the purpose of the above image was to focus on the bright star at the center for alignment evaluation, Webb's optics and camera are so sensitive that the galaxies and stars seen in the background show up. Although there are months to go before Webb ultimately delivers its new view of the cosmos, achieving this milestone means the team is confident that Webb's first-of-its-kind optical system is working as well as possible. For more, [click here](#).

## NASA in the News

### Tiny Star Unleashes Gargantuan Beam of Matter, Anti-Matter

Astronomers have imaged a beam of matter and antimatter that is 40 trillion miles long with NASA's Chandra X-ray Observatory. The record-breaking beam is powered by a pulsar, a rapidly rotating collapsed star with a strong magnetic field. With its tremendous scale, this beam may help explain the surprisingly large numbers of positrons, the antimatter counterparts to electrons, throughout the Milky Way galaxy. Astronomers first discovered the beam, or filament, in 2020, but they did not know its full length because it extended beyond the edge of the Chandra detector. New Chandra observations by the same pair of researchers taken in February and November 2021 show the filament is about three times as long as originally seen. The filament spans about half the diameter of the full Moon on the sky, making it the longest one from a pulsar as seen from Earth. For more information on Chandra's pulsar image, [click here](#).

### Space Station Helps Scientists Understand the Early Universe

Research conducted aboard the [International Space Station](#) is helping scientists answer questions about the formation of the universe and origins of life on Earth. During its 21 years of operation, the orbiting lab has hosted more than 3,000 scientific experiments aimed at helping improve life back on Earth and enabling exploration farther into the solar system. Thousands of scientific papers have been published from this work. Several recent publications shed light on early formation of planets, expand our understanding of black holes, and demonstrate that early forms of life could have survived space travel. Amino acids are molecules that combine to form proteins, the building blocks of life. Complex amino acids have been discovered in molecular clouds, nearby young stars, and inside meteorites and cosmic dust, which supports the panspermia theory. But the theory only holds if these life forms could survive in space. For more, [click here](#).

# 2022 NASA Honor Awards

Stennis Space Center presented annual NASA Honor Awards to Stennis employees during a virtual ceremony Feb. 23.

Eight Stennis employees received NASA's Exceptional Service Medal. This medal is awarded to government employees for sustained performance that embodies multiple contributions to NASA projects, programs, or initiatives.

## Henry 'John' Baker

received the NASA Exceptional Service Medal for significant, sustained contributions to the human space flight program to ensure flight safety and mission success throughout his 15-year career at Stennis. He has been instrumental in developing operational improvements to increase the reliability, efficiency, and performance of the critical infrastructure that supports rocket propulsion testing.



## Gregory C. Carmouche

received the NASA Exceptional Service Medal for his outstanding effort to ensure the support areas, in particular the High Pressure Gas Facility, were prepared for the Green Run hot fire test of the Artemis core stage.



**David J. Coote** received the NASA Exceptional Service Medal for sustained exceptional technical leadership in the area of rocket propulsion testing. His career work has had a substantial, positive impact on rocket propulsion testing. During

more than 20 years at Stennis, Coote substantially contributed to the continued operation and growth of the Stennis Engineering and Test Directorate through his engineering skills and leadership.



## Christopher A. Mulkey

received the NASA Exceptional Service Medal for outstanding performance in propulsion test operations and for helping lead the center into the future. After 21 years at Stennis, he demonstrates an ability to balance the conflicting priorities of his customers, hardware failures, and ever-changing schedules to successfully lead his team to deliver quality test data.



## Ronald D. Rigney

received the NASA Exceptional Service Medal for outstanding sustained exceptional technical excellence in the area of rocket propulsion testing. During 30 years of service, his leadership and contributions to major propulsion test programs have proven instrumental to NASA's mission success.



**Steven A. Taylor** received the NASA Exceptional Service Medal for sustained and exceptional achievements in advancing NASA's rocket

propulsion test program's mission. Over the last 20 years, his technical capability and leadership has enabled NASA to achieve its strategic goals and maintain a reputation for technical competence, sound judgement, and strong leadership.



## Nyla S. Trumbach

received the NASA Exceptional Service Medal for dedication, leadership, and achievements to the Fred Haise Test Stand mechanical operations team in meeting mission success for the RS-25 test project. She has made substantial contributions to NASA by testing and leading operations safely and efficiently as the test stand mechanical operations lead.



## Karen L. Vander

received the NASA Exceptional Service Medal for exceptional service in support of multiple safety and mission assurance initiatives critical to the mission of the Stennis. As a civil servant for 29 years, she has exhibited distinguished leadership during the Covid-19 pandemic by serving in key roles to ensure Stennis policies and requirements provided for a safe and healthy environment for all employees, contractors, and tenants.





## AWARDS

Continued from Page 11

One Stennis employee received NASA's Exceptional Public Service Medal. This medal is awarded to any non-government individual or to an individual who was not a government employee during the period in which the service was performed for sustained performance that embodies multiple contributions on NASA projects, programs, or initiatives.

**Donald R. St. Germain** received the Exceptional Public Achievement Medal for his dedication to successfully



transition on-site information technology (IT) support to a remote support environment. He has exhibited exemplary customer service; outstanding professionalism; and a concern for NASA, his team, and the end-user community of Stennis. His concerted efforts during the COVID-19 pandemic maintained the quality of IT services during a rapid transition to remote work.

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Three Stennis employees received NASA's Exceptional Achievement Medal. This medal is awarded to government employees for a significant specific achievement or substantial improvement in operations, efficiency, service, financial savings, science or technology that contributes to the mission of NASA.

**Matthew R. Scott** received the NASA Exceptional Achievement Medal for his commitment and significant



contributions to the Stennis facility safety program. Over the last five years, he has developed and implemented process improvements to the Facility Safety Program that has led to over 70% of the Safety, Health, Environmental tracking system findings being addressed appropriately, resolved, and closed.

**Lladro A. Sylvester** received the NASA Exceptional Achievement Medal for exceptional contributions to the oversight of Stennis' infrastructure through leadership in facility maintenance and modernization projects. For over 20 years, he has simultaneously and successfully managed multiple infrastructure projects, demonstrating a flexibility and breadth of expertise critical to the Stennis Center Operations Directorate.

**Ramona E. Travis** received the NASA Exceptional Achievement Medal for exceptional achievement in support of small business innovation research and small business technology transfer programs critical to the mission of Stennis. Her leadership helped to strengthen Stennis' connection with stakeholders and served as a catalyst in developing long-term cooperation.




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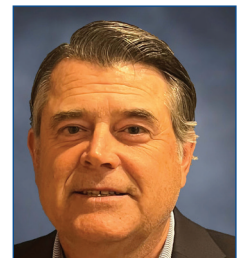
Two Stennis employees received NASA's Exceptional Public Service Medal. This medal is awarded to individuals who are not government employees but have made exceptional contributions to the mission of NASA.

**Artie J. Johnston** received the NASA Exceptional Public Service Medal for his sustained support

in leading the NASA Integrated Communications Services team at Stennis and providing excellent

communications support for the Green Run and pandemic response. His priority focus on health and welfare during the pandemic resulted in protection for the workforce while continuing to provide support to his NASA customers throughout the mandatory telework period.

**Rowe S. Crowder** received the NASA Exceptional Public Service Medal for outstanding medical leadership and commitment in support of Stennis' engine test and federal city missions. Throughout the COVID-19 pandemic, he worked tirelessly in keeping the center safe for the on-site work of mission-essential workers, both for NASA and site tenants, and disseminating information to those working off site to help all employees stay safe and to limit the spread of the virus.




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Three Stennis employees received the NASA Early Career Achievement Medal. This medal is awarded to a government employee for unusual and significant performance during the first 10 years of an individual's early career in support of the agency.

**Joshua L. Greiner** received the NASA Early Career Achievement Medal for outstanding performance in support of propulsion testing

See **AWARDS**, Page 13



## AWARDS

Continued from Page 12

efforts at Stennis, particularly in support of NASA's Space Launch System (SLS) mission. A member of

the Stennis mechanical operations team, he led a B-2 Test Stand team of technicians and others during critical preparations for the SLS Green Run core stage test series.



**Andrew J. Henken** received the NASA Early Career Achievement Medal for outstanding contributions



to the Space Launch System core stage test project. At such an early phase of his career, he performed at the very highest level, providing flawless liquid hydrogen console operations throughout the activation and testing phases for core stage. In addition, Henken provided support daily to meet the demands of the test crew and test customers.

**Tristan T. Mooney** received the NASA Early Career Achievement Medal for outstanding work performed



while serving as a high-speed instrumentation engineer supporting Space Launch System (SLS) core stage and RS-25 engine test projects. As a result of Mooney's hard work, dedication, and attention to detail, he successfully recorded high-speed test data during the SLS core stage Green Run test program and later

during the restart of the RS-25 testing program on the A-1 Test Stand.

Four Stennis employees and two groups received the NASA Silver Achievement Medal. This medal is awarded by NASA center directors to individuals or teams for a stellar achievements that support one or more of NASA's core values.

**Juan "Pablo" Gomez** received the Silver Achievement Medal for outstanding work while



serving as operations electrical supervisor and data engineer on the B-2 Test Stand during the Space Launch System (SLS) core stage Green Run test series. His numerous contributions and achievements were key in the successful refurbishment, activation, and hot fire testing of the SLS core stage.

**Darrel G. Varner** received the Silver Achievement Medal for outstanding support to the



Space Launch System core stage work and testing at Stennis. He provided day-to-day expert level guidance to the on-stand team associated with facility operations, including hydraulic, pneumatic, and environmental control systems.

**Burnley T. Wigley** received the Silver Achievement Medal for exceptional achievement



as the electrical lead and data acquisition system engineer on the B-2 Test Stand during the Space Launch System (SLS) core stage Green Run test series. His expertise and achievements were key in preparation for, and execution of, the SLS core stage test series on the B-2 Test Stand.

**The Stennis Space Launch System (SLS) Core Stage Green Run Hot Fire Test Event Team** received

the Silver Achievement Award for managing and coordinating all guest operation details related to the SLS core stage hot fire tests on Jan. 16, 2021, and March 18, 2021. In addition to normal day-to-day duties, team members planned both viewing events in the midst of an ongoing pandemic and constant changes. The team's can-do attitude and collaborative work led to two successful viewing activities and drew accolades from participants across the agency.

Team members included:

### NASA

Apolonia Acker  
Elizabeth Beech  
Sallie Bilbo  
Baylee Bourque  
Trevor Brownlow  
Valerie Buckingham  
Christopher Carmichael  
Dinna Cottrell  
Pamela Covington  
Dawn Davis  
Scot Gressaffa  
Charles Hallal  
Tessa Keating  
Allecia Kimble  
William Miltier  
Mansour Muhsin  
Milford Olinger  
Bonita Oliver  
Debra Rushing  
John Stealey  
Kevin Stiede  
Calvin Thompson  
Maury Vander  
Ian Walters

See **AWARDS**, Page 14



## AWARDS

Continued from Page 13

Lavaniel Ward  
Ladarian Wilson

### Support Team

Jack Allen  
Artie Johnston  
Joanna Lee  
Wendy Lesieur  
Donald St. Germain  
Samuel Sumwalt

### The Stennis COVID-19

**Response Team** received the Silver Achievement Medal for exceptional selfless dedication and outstanding service to the Stennis senior leadership and workforce during the COVID-19 pandemic. They implemented proactive measures to protect the SSC workforce and provided sound recommendations to Stennis senior leadership. The team developed and implemented guidance reflecting the latest data and policies from the Centers for Disease Control and Prevention, and Head Quarters NASA.

Team members included:

#### NASA

Robert Gargiulo  
Daniel Jones  
David Lorance  
Stephen O'Neill  
Michael Pannell  
John Schreck  
Shannon Sharkey  
Neil Toupin  
Kenneth Volante  
Christina Zeringue

### Support Team

Rowe Crowder  
William Ritchie

### The Stennis Information Technology Pandemic Response Team

received the Silver Achievement Medal for outstanding support of the NASA workforce during the COVID-19 telework environment. From day one of

the pandemic, this team designed critical outreach to keep the user community up to date on the use of the current tools, as well as the numerous updates being pushed. This began with ensuring proper tracking and accounting of end-user assets for employees moving to a home office environment and quickly spread to authoring of supporting documentation published in a variety of mediums. The team also was responsible for the rapid deployment of new collaborative tools, such as when the NASA large file service was decommissioned due to security concerns.

Team members included:

#### NASA

Elizabeth Beech  
Baylee Bourque  
Christopher Carmichael  
Dinna Cottrell  
Scot Gressaffa  
Charles Hallal  
Artie Johnston  
Allecia Kimble  
William Miltier  
Mansour Muhsin  
Bonita Oliver  
Debra Rushing  
Ian Walters

### Support Team

Donald St. Germain  
Samuel Sumwalt

In addition to medal recipients, various Stennis individuals and groups were recognized for years of service and other noteworthy contributions.

### Length of Service Awards

#### 40 Years

Laurence De Quay  
Melissa Ferguson

#### 35 Years

Curtis Armstrong  
Cheryl Cuevas  
Diana Heberling

#### 30 Years

Gregg De Felicibus  
Kay Doane  
Reginald Ellis  
Richard Gilbrech  
Douglas McNair  
Bradley Messer  
Vincent Pachel  
Christine Powell  
Ronald Rigney  
Gary Taylor

#### 25 Years

Crystal Balentine  
Michael Pannell  
David Roberts  
Harry Ryan  
Karma Snyder  
Andrew Valente

### Group Achievement Award

#### Space Launch System Core Stage Green Run Hot Fire Test Event

#### NASA

Apolonia Acker  
Rae Anderson  
Duane Armstrong  
John Bakker  
Jeffrey Barros  
Michele Beisler  
Sallie Bilbo  
Trevor Brownlow  
Valerie Buckingham  
Mary Byrd  
Kevin Camp  
Christopher Carmichael  
Hugh Carr  
Thomas Carroll  
Veronica Causey  
Andrew Clarke  
Christopher Copelan  
Pamela Covington  
Dawn Davis  
Desiree Davis  
Freddie Douglas  
Kimberly Driebergen  
William Driebergen  
Donna Dubuisson  
Chip Ellis  
David Failla  
Fernando Figueroa  
Darryl Gaines

See **AWARDS**, Page 15



**AWARDS**

Continued from Page 14

Robert Gargiulo  
 Dan Goad  
 Aaron Head  
 Bridget Jones  
 Tessa Keating  
 Allecia Kimble  
 Sharlene Kodrin  
 Mitch Krell  
 Angela Ladner  
 Sandra Ladner  
 Gina Ladner  
 Matthew Ladner  
 Jeffrey Lott  
 Aaron Mannion  
 Travis Martin  
 Kelly Martin-Rivers  
 Rodney McKellip  
 Ryan McKibben  
 William Miltier  
 Bridget Moody  
 Adam Murrah  
 Gerald Norris  
 Deborah Norton  
 Milford Olinger  
 Stephen O'Neill  
 Michael Pannell  
 Karen Patton  
 Anne Peek  
 Jason Peterson  
 Benjamin Powell  
 Christine Powell  
 Michael Rewis  
 Thomas Rich  
 Ryan Roberts  
 Debra Rushing  
 Claude Sanders  
 Matthew Scott  
 Shannon Sharkey  
 Justin Smith  
 Karma Snyder  
 Tom Stanley  
 John Stealey  
 Kevin Stiede  
 Calvin Thompson  
 Ramona Travis  
 Lauren Underwood  
 Maury Vander  
 Kenneth Volante  
 Melissa Wagner  
 Lavaniel Ward  
 Casey Wheeler  
 Patricia White  
 Ladarian Wilson

Christina Zeringue

**Support Team**

Arilyn Acker  
 Jack Allen  
 Holley Argus  
 Joanne Armstrong  
 Mark Ashley  
 Dirk Bachmann  
 Michael Badon  
 Austin Beasley  
 Vicki Bess  
 Billy Bonney  
 Tanya Booth  
 Zackary Borley  
 Mike Bounds  
 Jon Eric Bounds  
 David Bowman  
 Carolyn Burcham  
 Brendan Burns  
 Paul Byrd  
 Brian Byrd  
 Blaine Cochran  
 Justin Cooper  
 Shane Corr  
 Eugene Courteaux  
 Austin Creel  
 Eric Creel  
 Tim Critzer  
 Rowe Crowder  
 Andrew Davis  
 Sheila Davis  
 Michael Dedeaux  
 Tanner Dickerson  
 Ben Dolan  
 Jeena Drummond  
 Daniel Dryden  
 Leeanna Dunnigan  
 Robin Ezell  
 Chauncey Felix  
 Dennis Finn  
 Kristie Foster  
 Skyler Fraleigh  
 Traci Frizzell  
 Philip Geraci  
 Leesa Gill  
 David Glasenapp  
 Brandon Goss  
 Colin Groom  
 Katie Habisreitering  
 Michael Haralson  
 Sandra Harris  
 Thomas Hartwell  
 Samuel Hayes  
 Tasia Henton  
 Moses Hill  
 Barry Hoda

Arie Holloway  
 Ross Hooge  
 Jacob Howard  
 Yolanda Huderson  
 Curtis Hyatt  
 Linsey Isaacs  
 Morgan Ivy  
 Darryel Jackson  
 Kenta Janet  
 Curtis Johnson  
 Artie Johnston  
 Ricky Jones  
 Darionne Jones  
 James Jordan  
 Jarrod Joyner  
 Janet Keys  
 Latisha Ladner  
 Darryl Ladner  
 Ryan Ladner  
 Connie Ladner  
 Brandy Ladner  
 Sonia Ladner  
 Joanna Lee  
 Gary Lee  
 Tracy Lee  
 Wendy Lesieur  
 Eunice Lichtenstein  
 Ben Lilly  
 Kristina Lloyd  
 Shelly Lunsford  
 Breanna Lyons  
 Kenneth Mabou  
 Hayleigh McCardle  
 Joseph McDonald  
 Brice McGowan  
 Jennifer Melton  
 Nicholas Middleton  
 Jerry Miller  
 Keegan Miller  
 Jim Mirandy  
 John Mitchell  
 Bernice Montgomery  
 James Nabors  
 Dominick Namias  
 Caroline Ncaise  
 Charles Nowlin  
 Ronny O'Dell  
 David Oakes  
 Christy Oneal  
 Ashley Parker  
 Louie Paull  
 Titus Perkins  
 Wanda Peterson  
 Vince Pham  
 Nick Pitalo  
 Anthony Ponceti

See **AWARDS**, Page 16



**AWARDS**

Continued from Page 15

Thomas Populus  
 Jessikah Price-Conway  
 Janene Raboteau  
 Jonathon Ragan  
 Ernest Robertson  
 Candy Robinson  
 Shelby Russell  
 Frank Russo  
 Vickie Schmersahl  
 Chelsea Schoonmaker  
 Tina Schultz  
 Rebecca Sciarabba  
 Robert Seymour  
 Matt Shaw  
 Chris Sherman  
 Rodney Shiyou  
 John Clayton Smith  
 Curtis Smith  
 Lynn Smith  
 Daryl Smith  
 Joseph Spence  
 Erin Spencer  
 Rodney Spiers  
 Donald St. Germaine  
 Hamp Stewart  
 William Stewart  
 Evan Taylor  
 Melvin Taylor  
 Edgar Waguespack  
 Roger Walters  
 Roger Walters, Jr.  
 Essie Washington  
 Karl Wilcox  
 Kevin Wingate  
 Samuel Wood  
 Denise Woods  
 Daniel Zinc

**Fred Haise Test Stand**  
**RS-25 Retrofit-2 Group**  
**Achievement Award**

**NASA**  
 Daniel Allgood  
 David Armbruster  
 Thomas Carroll  
 David Carver  
 Veronica Causey  
 Craig Chandler  
 Howard Conyers  
 Reginald Ellis  
 Jared Grover  
 Jeffery Henderson

Michael Holmes  
 John Horner  
 Lester Langford  
 Hooper Lavigne  
 Ricky Lyons  
 James Mitchell  
 Kristopher Mobbs  
 Ke Nguyen  
 Jason Richard  
 Mark Robinson  
 Ryan Seals  
 Neil Toupin  
 Nyla Trumbach  
 Casey Wheeler  
 Robert Williams  
 Derek Zacher

**Support Team**

Acy Adams  
 David Adams  
 Mathew Adams  
 Richard Aguillard  
 Louis Arceneaux  
 William Averill  
 Joseph Barletta  
 Jeffrey Barros  
 Jesse Bilbo  
 Allen Blow  
 David Bogdan  
 Michael Carr  
 Brandon Carver  
 Samuel Clay  
 Blaine Cochran  
 Christopher Coogan  
 Brian Corr  
 Mark Corr  
 Eric Cranford  
 Emma Daniels  
 Heather Davis  
 William Davis  
 Sierra Dean  
 Robert Delcuze  
 Bradley Denmark  
 Larry Deschamp  
 Paul Dodd  
 Leland English  
 Anthony Fleming  
 Blake Ford  
 Frank Ford  
 Bryce Fowler  
 William Fowler  
 Gregory Fredenthal  
 Wayne Fucich  
 Andrew Graves  
 Brienne Guillot  
 Lee Hall  
 Kenneth Hancock

Michael Haralson  
 Charles Hariel  
 Scott Hariel  
 Aaron Hart  
 Henry Hartley  
 Louis Hathcock  
 Tamika Hawkins  
 Steven Helmstetter  
 Robert Herrin  
 Allan Hoggard  
 Jeret Howard  
 William Ivey  
 Edward Johnson  
 Michael Johnston  
 Clara Jones  
 Ricky Jones  
 Tamika Jones  
 Clarence Kennedy  
 Robert Kenny  
 Hope Ladner Shaw  
 Dustin Ladner  
 Malcolm Ladner  
 Roger Ladner  
 Wendell Ladner  
 Connor Lambert  
 Thomas Lawler  
 Dion Lee  
 Jonathan Lee  
 Kimberley Lee  
 Tracy Lee  
 Joseph Lizana  
 Cade Malley  
 Michael Marodis  
 Gary Marshall  
 Ethan Martin  
 Thomas Martin  
 Todd Mason  
 Joshua Matthews  
 Kevin McCaleb  
 Jacob McKinley  
 William Mitchell  
 Kent Morris  
 Nicole Narvaez  
 Don Necaize  
 Douglas Necaize  
 Robert Necaize  
 Chad Northrop  
 Lynne Oshiro  
 Bernie Parker  
 Kevin Parker  
 Louie Paull  
 Todd Pearson  
 Chadley Perkins  
 Mark Porter  
 Ernest Robertson

See **AWARDS**, Page 17



**AWARDS**

Continued from Page 16

Stephen Rose  
 Timothy Roson  
 Elizabeth Rydzewski  
 Mounir Sabbagh  
 Addison Saucier  
 Clinton Saucier  
 Larry Saucier  
 Raymond Seymour  
 Grant Shaw  
 Matthew Shaw  
 Robert Sheaffer  
 Michael Slade  
 Richard Smith  
 Ronald Snyder  
 Joseph Spence  
 Richard Spooner  
 Darrin Steber  
 Stephen Steelman  
 Jeffrey Strickland  
 Jonathan Strickland  
 David Thomas  
 Gillion Thompson  
 Stephen Thoms  
 William Vaughn  
 Karmela Wahl  
 Winston Wedgeworth  
 Rolland Wichterich  
 James Williams  
 Shelbie Williams  
 Daymond Wood  
 Samuel Wright  
 Robert Zar

**Fred Haise Test Stand**  
**RS-25 Thrust Vector Control**  
**System Test Project**

**NASA**  
 Rae Anderson  
 Angelica Baker  
 Cory Beckmeyer  
 Thomas Carroll  
 David Carver  
 Howard Conyers  
 Ralph Gonzales  
 Jeffery Henderson  
 Hooper Lavigne  
 Ryan Mckibben  
 Ryan Seals  
 Robert Simmers  
 Neil Toupin  
 Nyla Trumbach  
 Derek Zacher

**Support Team**  
 Mathew Adams  
 Louis Arceneaux  
 Robert Delcuze  
 Jonathan Drysdale  
 Leland English  
 Blake Ford  
 Murray Forsman  
 William Fowler  
 Steven Helmstetter  
 Robert Herrin  
 Clarence Kennedy  
 Dustin Ladner  
 Cade Malley  
 Todd Pearson  
 Stephen Rose  
 Addison Saucier  
 Larry Saucier  
 Michael Slade  
 Richard Smith

**B-2 Test Stand Core Stage**  
**Operational Readiness**  
**Assessment Team**

**NASA**  
 Rea Anderson  
 Clifton Arnold  
 John Bailey  
 Henry Bakker  
 Christoffer Barnett-Woods  
 Gary Benton  
 Mary Byrd  
 Ronald Byrd  
 James Cannon  
 Andrew Clarke  
 Laurence Dequay  
 Freddie Douglas  
 David Failla  
 Robert Gargiulo  
 Ralph Gonzales  
 Marguerite Jones  
 Joseph Lacher  
 Matthew Ladner  
 Truc Le  
 Justin Lucas  
 Michael Mims  
 Michael Nichols  
 Rodney Phillips  
 Christine Powell  
 Richard Rauch  
 Christopher Riley  
 Delton Rodriguez  
 Claude Sanders  
 Joseph Schuyler  
 Kamili Shaw  
 John Stealey  
 Steven Taylor

**Support Team**  
 Robert Bauer  
 Tammy Castiglione  
 Casey Hepting  
 Michael Kersanac  
 Jared Sass

**Retired**  
 Randy Galloway  
 Preston Jones

**B-2 Test Stand Space Launch**  
**System Core Stage 1 Removal**  
**and Shipping Team**

**NASA**  
 Matthew Archer  
 David Armbruster  
 Travis Bellant  
 Eugene Bice  
 Kevin BoBo  
 John Bourgeois  
 Elizabeth Calantoni  
 Veronica Causey  
 Jack Conley  
 John Daly  
 Gregg Eldridge  
 Juan Gomez  
 Ralph Gonzalez  
 Keith Gray  
 Andrew Henken  
 Alan Joynt  
 Steven Jung  
 Count Kately  
 Matthew Ladner  
 Aaron Mannion  
 Ryan McKibben  
 Timothy Milke  
 Sheldon Murphy  
 Nicholas Nugent  
 Jason Peterson  
 Terry Pettit  
 Billy Rester  
 David Roberts  
 Ryan Roberts  
 Kamili Shaw  
 Robert Simmers  
 Sidney Smith  
 Karma Snyder  
 Neil Toupin  
 Richard Turner  
 Darrel Varner  
 Kenneth Volante  
 Casey Wheeler

See **AWARDS**, Page 18



**AWARDS**

Continued from Page 17

Timothy White  
Burnley Wigley  
Christina Zeringue

**Support Team**

Jack Allen  
Kenneth Bean  
Andy Buehler  
Terrence Burrell  
Brian Byrd  
Brent Carver  
Cody Cuevas  
Billy Davis  
William Davis  
Randy Dedeaux  
Jason Evans  
Bradley Farve  
Jack Feigel  
Brandon Fleming  
Frank Ford  
Robert French  
Tyler Fricke  
Drew Fucich  
Brandon Goss  
Lacy Green  
Richard Grimstead  
Patrick Guidry  
Rocky Henley  
Gerald Howard  
Micah Jones  
Byron Ladner  
Chadwick Ladner  
Michael Ladner  
Rinty Ladner  
Terrell Ladner  
Tony Ladner  
Jeffrey Lawson  
Harlie Lee  
Joseph LeSieur  
Keith Lizana  
Derek Martin  
Frank Martin  
Bruce Matthews  
Jennifer Melton  
Thomas Mitchell  
Clay Necaie  
Kyle Necaie  
Chad Nichols  
Charles Nowlin  
Alan Peterson  
William Ritchie  
Rachael Ryerson

Carl Saucier  
Craig Shaw  
Robert Sheaffer  
Jared Spiers  
Joseph Spiers  
Darrin Steber  
Thomas Stockstill  
Jonathan Strickland  
Matthew Terry  
Bryan Vieages  
Furman Ward  
Jason Wheat  
Rolland Wichterich  
Karl Wilcox  
Stephen Wisher

**High-Pressure Gas Facility****Phase II Team****NASA**

Gregory Carmouche  
Jonathan Dickey  
Donna Dubuisson  
John Hornor  
Jeffrey Lott  
Justin Lucas  
John Pazos  
Thomas Rich  
Ryan Roberts  
Peter Tran  
Nyla Trumbach  
Derek Zacher

**Support Team**

Anita Anthony  
Ronald Dartez  
Billy Davis  
Tessa Davis  
Paul Dodd  
Mark Even  
Kristie Foster  
Eric Goller  
Denise Johnson  
Richard Ladner  
Chad Langner  
William Lee  
Frank Lorusso  
Joi Lott  
Benjamin McGrath  
James Necaie  
Henry Nowacki  
Lance Nowacki  
Julie Shroeder  
Donald Smith  
Thomas Smith  
Francis Songy

Robert Vittorelli

**Simulated Artemis Cislunar  
Autonomous Operations****NASA**

Brendan Cheng  
Jorge Figueroa  
Aaron Head  
Landon Tyne  
Lauren Underwood  
Jacqueline Wall

**Support Team**

Joshua Broberg  
Rane Brown  
Daniel Carrejo  
Cory Kennedy  
Jon Morris  
Quentin Oswald  
Federico Piatti  
Brian Rey  
Michael Rosenberg  
Mark Walker  
Michael Walker

**Launcher Inc. Thrust Chamber  
Assembly And Liquid Oxygen  
Turbopump Test Projects****NASA**

Christoffer Barnett-Woods  
Kimberly Driebergen  
Lorrie Gibson  
Melissa Huggins  
Truc Le  
Christopher Mulkey  
Peyton Pinson  
Robbie Randall  
Richard Rauch  
David Roberts  
Richard Wear

**Support Team**

David Blansett  
Van Bolden  
Byron Bordelon  
Roger Bridges  
Jesse Crawford  
Susan Fendley  
Dan Fillette  
Anthony Fleming  
Adam Fulks  
Kenneth Hancock  
Charles Hariel

See **AWARDS**, Page 19



**AWARDS**

Continued from Page 18

Rubin Herrin  
 Petter Hobgood  
 Kurt Jarrell  
 Tamika Jones  
 Lesli Jordan  
 Jody Ladner  
 Eric Lichtenstein  
 Joseph Lizana  
 Paul Lusich  
 Jacob Mckinley  
 Kevin Parker  
 Kenneth Powe  
 Raymond Seymour  
 Grant Shaw  
 Joshua Spence  
 Terry Wactor  
 Karmela Wahl  
 Raymond Williams

**Virgin Orbit 75K  
 Thrust Chamber Assembly  
 Injector Tuning Test Project**

**NASA**  
 Christoffer Barnett-Woods  
 Kimberly Dribergen  
 James Hamilton

Melissa Huggins  
 Truc Le  
 Christopher Mulkey  
 Kevin Oramous  
 Peyton Pinson  
 Benjamin Powell  
 Robbie Randall  
 Stephen Rawls  
 David Roberts  
 Paul Rydeen

**Support Team**

David Blansett  
 Van Bolden  
 Byron Bordelon  
 Roger Bridges  
 Jesse Crawford  
 Joni Dumas  
 Susan Fendley  
 Dan Fillette  
 Anthony Fleming  
 Adam Fulks  
 Kenneth Hancock  
 Charles Hariel  
 Robert Herrin  
 Petter Hobgood  
 Kurt Jarrell  
 Tamika Jones  
 Jody Ladner  
 Eric Lichtenstein  
 Joseph Lizana

Paul Lusich  
 Jacob Mckinley  
 Carley Odom  
 Kevin Parker  
 Kenneth Powe  
 Raymond Seymour  
 Grant Shaw  
 Joshua Spence  
 Terry Wactor  
 Karmela Wahl  
 Raymond Williams

**Stennis Space Center  
 Health Services/Contact  
 Trace Team**

**NASA**  
 Michael Pannell

**Support Team**  
 Dana Brown  
 Rowe Crowder  
 Cammie Cuevas  
 Yonn Dean  
 Heather Fullilove  
 Tasia Henton  
 Hayleigh McCardle  
 Christy Oneal  
 Porter Pryor  
 Gayle Smith  
 Lacie Walters

## Flashback: 1999

NASA conducts its third test of a 250,000-pound-thrust hybrid motor on the E-1 Test Stand at Stennis Space Center on Sept. 9, 1999. NASA tested a pair of hybrid motors at Stennis in the late 1990s. Hybrid motors are comparable to solid rocket motors like those used as rocket boosters. Both burn solid fuel, but the combustion rate of hybrid motors can be controlled, unlike with solid rocket motors.



## Hail & Farewell

**NASA welcomes the following:**

Anna Lizana  
 Carla Guttry

Environmental Protection Specialist  
 Financial Management Specialist

Center Operations Directorate  
 Office of the Chief Financial Officer

# Stennis Hosts NASA Day at the Capitol Activities



(Top photo) Stennis Space Center leaders meet with members of the Mississippi Development Authority (MDA) on March 3 during NASA Day at the Capitol activities in Jackson, Mississippi. Participants included (beginning left, clockwise): Stennis Director Rick Gilbrech, MDA Project Manager Sara Doss, Stennis Associate Director Rodney McKellip, Stennis Legislative Liaison Affairs Officer Troy Frisbie, MDA Chief Operations Officer Jaime Miller, Director of the Governor's Office of Military Affairs PJ Waldrop, Mississippi Enterprise for Technology Chief Executive Office Davis Pace, Stennis Strategic Business Development Office Manager Duane Armstrong, and Stennis Deputy Director John Bailey.

(Bottom photo) Tessa Keating (l) and Samone Wilson, public affairs specialists in the Stennis Space Center Office of Communications, share NASA information and materials with exhibit visitors during NASA Day at the Capitol activities in Jackson, Mississippi, on March 3.

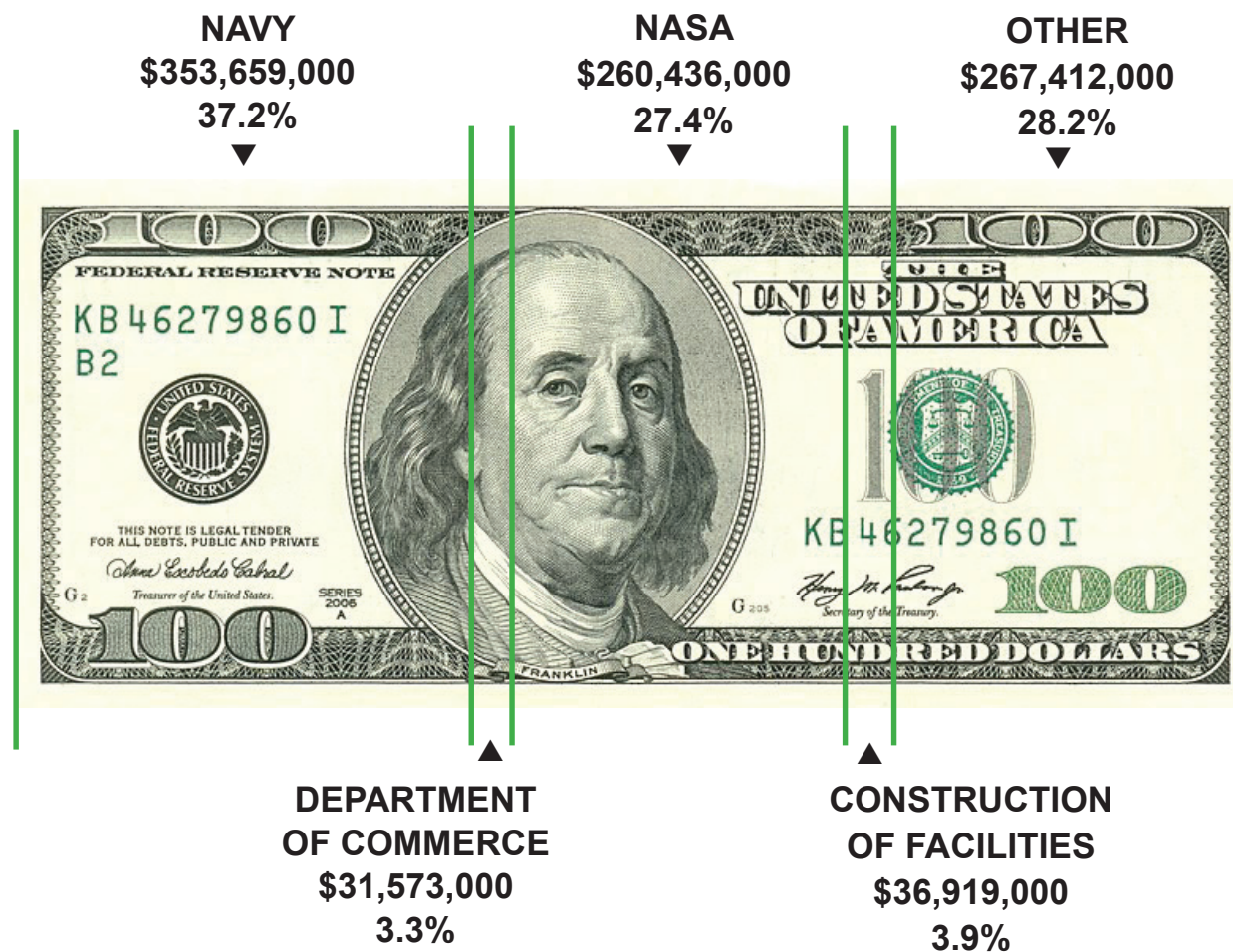




# Numbers Reflect Significant Economic Impact of Stennis Space Center

# \$949,999,000

## Direct Global Impact



# \$754,294,000

## Direct 50-Mile Radius Impact

# 5,000+ site employees

- NASA Civil Servants – 455
  - NASA Contractors – 1,357
  - Department of Navy and Contractors – 2,018
  - Department of Commerce and Contractors – 213
  - Other Resident Agencies – 996
- (totals as of Sept. 30, 2021)*

- Doctorates – 180
- Masters – 716
- Bachelors – 1,749
- Associates – 598
- Some College – 589
- High School Diploma – 1,156
- Other – 51

- Scientific/Engineering – 1,500
- Business/Professional – 1,216
- Technical Crafts/Production – 1,269
- Clerical – 343
- Other – 711

**Average salary  
with benefits  
\$105,000**



## Residential Distribution of Stennis Employees

- Mississippi**
  - Pearl River County 1,204 (23.9%)
  - Hancock County 975 (19.3%)
  - Harrison County 927 (18.4%)
  - Other Counties 265 (5.3%)
- Louisiana**
  - St. Tammany Parish 1,203 (23.9%)
  - Other Parishes 268 (5.3%)
- Other**
  - Other States 197 (3.9%)

## ASTRO CAMP Announces 2022 Community Opportunities

NASA opened new enrollment opportunities for the 2022 NASA ASTRO CAMP Collaborative Community Partner Program (ACCP) for youth-serving organizations March 1, 2022. The NASA ACCP Program enables communities to offer [NASA science](#) curricula, activities, and opportunities to children and families, making NASA science available to all.

Through the program, NASA collaborates with universities, schools, museums, libraries, and youth service organizations to provide NASA's unique science, technology, engineering, and mathematics (STEM) engagement activities and experiences to youth, families, and educators in their own communities.

The program's STEM activities align to Next Generation Science standards and include NASA's unique opportunities, engineering challenges, and resources. ACCP supports trained community educators and facilitators for all students to access authentic NASA science experiences, ACCP methodology, and NASA science mission experts. Resources are particularly focused on reaching learners in under-served, under-represented, and rural communities with direct instructions and unique scaffolding designs for program facilitators.

ASTRO CAMP activities offer real-world opportunities for every student to join in, and contribute to, NASA science missions and enhance scientific understanding while inspiring lifelong learners and explorers. The ACCP Program highlights current and past NASA missions while using hands-on activities to expand STEM interest through focused activities in astrophysics, Earth science, heliophysics, biological, and planetary science missions. The approach seeks to teach camp participants to work collaboratively to complete missions, using methodology developed during 30 years of ASTRO CAMP sessions held at Stennis Space Center.

The theme for this year's collaborative effort is "We Go ... Bringing NASA Science Home Together!" The program highlights the Artemis generation, with [NASA's Next Gen STEM](#) modules and various science collaboration opportunities, such as the R.O.A.D.S. (Rover Observation and Drone Survey) on Icy Worlds Challenge hosted by NASA science activation cross-collaborator Northwest Earth & Space Sciences Pipeline,

Central Washington University, Ellensburg, Washington.

This year, NASA science activation cross-collaboration materials include the NASA eClips resources, STEM activities, and adaptive STEM materials provided through NASA Neurodiversity Network of Sonoma State University, Rohnert Park, California, and Planetary Learning that Advances the Nexus of Engineering, Technology, and Science of Northern Arizona University, Flagstaff, Arizona.

NASA provides collaborators with professional development, the 2022 ASTRO CAMP Facilitators Guide, activity supply list, online resources, NASA printable resources, and templates, with continued online support of education specialists. In addition, all training and program materials become virtually available in the monthly training with no cost to programs or facilitators.



Partner collaborators provide the program leader/facilitator, support staff, facilities, supplies, and management for their site. Program leaders and facilitators participate in a one-day ACCP professional development workshop led by NASA education specialists. After the workshop, the program receives accreditation and listing as an official NASA 2022 ASTRO CAMP Collaborative Community Partner.

Monthly ASTRO CAMP facilitator tag-ups and the NASA ASTRO CAMP Collaborative Community Partner newsletters encourage continued communication between ACCP and facilitators, supporting the long-term relationship with NASA.

For more information about becoming a NASA ASTRO CAMP Collaborative Community Partner, contact:

Kelly Martin-Rivers, [kelly.e.martin-rivers@nasa.gov](mailto:kelly.e.martin-rivers@nasa.gov) or 228-688-1500

Maria Lott at [maria.l.lott@nasa.gov](mailto:maria.l.lott@nasa.gov) or 228-688-1776

For more information on the ASTRO CAMP Collaborative Community Partner Program, visit: <https://science.nasa.gov/science-activation-team/astro-camp>



## NASA Invests in Tech Development from Small Businesses

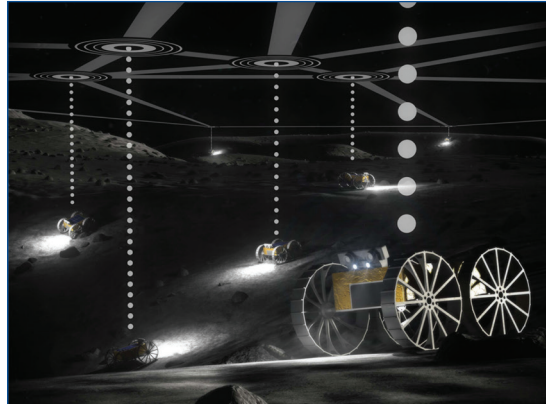
NASA's Small Business Technology Transfer (STTR) program has awarded \$15 million to U.S. small businesses and research institutions to continue developing technologies in areas ranging from aeronautics to science and space exploration.

The selections include a project managed by Stennis Space Center.

"NASA is proud to work with all the awarded small businesses and their partnering research institutions, bringing fresh ideas from the industry and labs across the country into the agency's missions and commercial marketplace," said Jenn Gustetic, director of early-stage innovation and partnerships for NASA's Space Technology Mission Directorate in Washington. "Teaming up with small businesses allows us to benefit from the diverse mindsets and skill sets that underpin our nation's economy."

NASA's STTR program provides early-stage funding and other non-monetary support to small businesses, who must partner with a U.S. research institution on their proposals. In this round, 20 proposals from 19 companies have been chosen for Phase II awards. They

are all NASA STTR Phase I recipients, originally selected in June 2020, that successfully established the feasibility of their technologies. As Phase II awardees, each small business team will now receive up to \$750,000 to develop, demonstrate, and deliver their technologies to NASA over 24 months.



The STTR project selected for a Phase II award and to be managed by Stennis is "Intelligent Sensor System for Rocket Propulsion Testing," proposed by Physical Sciences Inc. in Andover, Massachusetts, and Auburn University in Auburn, Alabama.

The smart sensor module is an electronics interface designed to enable wireless sensing capabilities in rocket propulsion systems. The new interface will connect to existing sensors, allowing them to provide real-time data. The new wireless approach is expected to help eliminate labor-intensive tasks, such as routing and securing cables, and improve sensor accessibility in hard-to-reach locations. The module could have significant application for NASA ground testing and flight missions. It also could be used for commercial and military space projects, as well as by energy industries. For more, click [here](#).

## City Dedicates Statue to Commemorate Astronaut Fred Haise



Apollo 13 astronaut Fred Haise (l) visits with former Stennis Space Center Director Jerry Hlass following the Fred Haise statue dedication ceremony in Biloxi, Mississippi, on Feb. 13, 2022. Hlass served as Stennis' director from 1976 to 1989, and was in charge of spaceflight facilities nationwide for NASA prior to assuming that leadership role. He joined about 500 others Feb. 13 to celebrate the life and accomplishments of Haise, a Biloxi native. During the day's activities, Haise was escorted in a parade to the Biloxi Lighthouse, where a six-foot statue modeled in his likeness was unveiled in his honor by city of Biloxi officials. The base of the statue resembles the core stage of a Saturn V rocket used to launch Apollo Program missions to the Moon. Haise served as lunar module pilot of the 1970 Apollo 13 mission, which experienced an in-flight explosion and a perilous return trip to Earth. Although the Apollo 13 lunar landing had to be aborted, Haise is one of only 24 people to fly to the Moon. A recording of the city of Biloxi dedication ceremony is available [here](#).  
*Image credit: Myron Webb*

# Stennis News

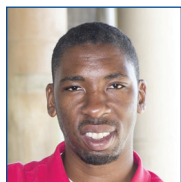
## Cryogenics Demonstrated at INFINITY Science Center



Stennis Space Center engineering Project Manager Megan Martinez conducts a cryogenic liquid demonstration for students from Coast Episcopal School in Long Beach, Mississippi, at the INFINITY Science Center on Feb. 18.

## NASA Recognizes Stennis Space Center Employees

To mark progress in NASA's Artemis program that will return humans, including the first woman and first person of color, to the Moon, the space agency has been recognizing Space Heroes performing necessary and critical work. Overall, 30 Stennis Space Center employees have been cited for their Artemis-related efforts. The latest are:



Howard Conyers was recognized for his outstanding contributions to RS-25 engine testing at Stennis. Conyers serves as the mechanical design lead on the Fred Haise Test Stand and is responsible for the

design and implementation of mechanical system packages that have enabled successful testing of the

RS-25 engine. Working diligently with a team of civil servants and contractors, he has ensured that designs comport with the technical and schedule requirements of NASA's Space Launch System Program.



Andrew Henken was recognized for his work as a test operations engineer on the B-2 Test Stand at Stennis. Henken was part of the team responsible for activation of the B-2 Test Stand and subsequent testing of the Space Launch System

core stage that will launch the upcoming Artemis I mission. His attention to detail and willingness to perform whatever role was necessary was invaluable for the test project.



## Office of Diversity and Equal Opportunity

### Celebrate Women Who Provide Healing and Promote Hope

March marks the celebration of Women's History Month. The first celebration of Women's History Month was organized in Sonoma, California, in 1978. The celebration included school presentations about women's contributions to culture, history, and society, as well as an essay contest for students. Women's History Month coincides with International Women's Day, which occurs on March 8. According to [History.com](#), "International Women's Day [is] a global celebration of the economic, political, and social achievements of women, [that] took place for the first time on March 8, 1911."

The National Women's History Alliance (NWHHA) announced "Women Providing Healing, Promoting Hope" as this year's theme. The theme is described as "a tribute to the ceaseless work of caregivers and frontline workers during this ongoing pandemic and also a recognition of the thousands of ways that women of all cultures have provided both healing and hope throughout history." Due to the ongoing presence of the pandemic, the NWHHA cited a desire to celebrate "the importance of healers and caregivers who are helping to promote and sustain hope for the future." NWHHA recognizes counselors, clerics, artists, teachers, doctors, nurses, mothers, and grandmothers, as well as women who have "historically led the way in mending divisions, healing wounds, and finding peaceful solutions."

In solidarity with the NWHHA, individuals are urged to take time to recognize the women below, and countless others, who have helped provide healing and promote hope throughout history.

- Elizabeth Blackwell paved the way for women entering the medical field by earning the first medical degree for a woman in 1848. On top of being the first woman to earn a medical degree, Blackwell also graduated first in her class at Geneva Medical College in Geneva, New York. Blackwell later opened the New York Infirmary for Women and Children with the goal of supplying positions for women physicians.
- In 1864, Rebecca Lee Crumpler became the first African American woman in the United States to earn a medical degree. After receiving her medical degree from New England Female Medical College

in Boston, Crumpler tended to formerly enslaved people in Richmond, Virginia, following the Civil War. In 1883, Crumpler published the Book of Medical Discourse which, according to the National Parks Service, "chronicles her experiences as a doctor and provides guidance on maternal and child health." [Dr. Rebecca Lee Crumpler \(U.S. National Park Service\) \(nps.gov\)](#)

- Mary Cassatt was an impressionist artist in Europe during the 1870s. Cassatt focused her art on the female experience by showcasing women and children. According to the Smithsonian American Art Museum, "as a woman in 19th-century Paris, she lacked opportunity to depict the diverse subject matter available to her male colleagues, such as, cafés, clubs, bordellos, and even the streets (that) were not comfortably accessible to genteel ladies. The domestic realm, with occasional forays into the theater, became her field of activity." Additionally, Cassatt was the first American artist to associate and exhibit with the French impressionists in Paris. [Mary Cassatt | Smithsonian American Art Museum \(si.edu\)](#)
- Mary McLeod Bethune became known as "The First Lady of the Struggle." Minds Matter shares that this was "because of her commitment to building better livelihoods for African Americans through education." Bethune served as a teacher in Florida during the late 19th century and early 20th century and even opened a boarding school in Daytona Beach, Florida, for African American girls. The school later became Bethune-Cookman University. Additionally, Bethune was appointed president of Franklin D. Roosevelt's "Black Cabinet," making her the first of several political changes to come. [Top Ten Most Influential Women in American Education \(mindsmatterco.org\)](#)

During March, persons are asked to pause to honor women who, in both public and private life, provide healing and promote hope for the betterment of all.

To learn more about Women's History Month, visit the links below:

[nationalwomenshistoryalliance.org](http://nationalwomenshistoryalliance.org)

[history.com/topics/holidays/women's-history](http://history.com/topics/holidays/women's-history)

*In commemoration of Women's History Month 2022, Lagniappe asked Stennis Space Center employees about women who inspired them, their hopes for women, and their best advice for balancing personal life and work. Their responses are featured on the following pages.*

# Women's History Month 2022

## My Greatest Hope for Women in the Future

*My greatest hope for women in the future is that they will finally find happiness in the hope of the future.* – Casa Compton, Alutiiq Essential Services, Quality Manager

*My greatest hope for women in the future is equality – being treated equally and paid equally.* – Lauren Underwood, NASA Engineering and Test Directorate, Technical Management

*My greatest hope for women in the future is that girls and young women right now will see no barrier to what they want to achieve.* – Kamili Shaw, NASA Safety and Mission Assurance Directorate, Operations Support Division Chief

*My greatest hope for women in the future is that they find the support, dedication, and confidence to be what they dream.* – Regina Newman, Syncom Space Services, Chief Financial Officer

*My greatest hope for women in the future is that we will no longer be viewed as so completely different from our co-workers or our counterparts and that diversity will truly be viewed as an organizational strength as we strive together to solve future challenges.* – Karma Snyder, NASA Safety and Mission Assurance Directorate, Range Safety Manager



*My greatest hope for women in the future is that we continue to build each other up, offer a seat next to you at the table, and speak up for those, not in the room.* – Adrienne Ragan, NASA Office of Procurement, Contract Specialist

*My greatest hope for women in the future is that women continue to enter the arena, be vocal, thrive, and not allow fear or failure to deter them from moving forward.* – Monica Ceruti, NASA Office of the General Counsel, Chief Counsel

*My greatest hope for women in the future is unconditional respect based on ability.* – Doug Lemere, NASA Office of the Chief Information Officer, Stennis Space Center/NASA Shared Services Center Records Manager

*Never limit yourself because of others' limited imagination;  
never limit others because of your own limited imagination.*

Mae Jemison

*I don't want to get to the end of my life  
and find that I lived just the length of it.  
I want to have lived the width of it as well.*

Diane Ackerman



# Women's History Month 2022

## The Woman Who Inspired Me

*The woman who inspired me was my chemistry teacher, Mrs. Kable, at Chopticon High School in St. Mary's County, Maryland. Mrs. Kable introduced me to engineering. She also encouraged me to join the two science clubs and participate in Physics Olympics, which was run by University of Maryland. She brought in engineers from the local Air Force base to help with projects. This was my first interaction with anyone in engineering. She showed me what was possible in a STEM career and played a huge role in my choosing to major in engineering.* – Kamili Shaw,

**NASA Safety and Mission Assurance Directorate, Operations Support Division Chief**

*The woman who inspired me was Sr. Mary Riordan, my 86-year-old walking partner – Doug Lemere, NASA Office of the Chief Information Officer, Stennis Space Center/NASA Shared Services Center Records Manager*

*The woman who inspired me was my science teacher in high school, Mrs. Worrel, who strongly encouraged me to go into engineering. I enjoyed science, especially physics. Mrs. Worrel has this amazing ability to make even the most mundane science fact interesting. She taught me that learning cannot only lead to discoveries in the subject you are studying but also can lead to discovering my own passion. I am fortunate to be able to say that Mrs. Worrel also has taught science to my children and has inspired their career choices.* – Karma Snyder, NASA Safety and Mission Assurance Directorate, Range Safety Manager

*The woman who inspired me was Wanda Williams, who inspired me to keep going in my career. In starting work with federal contracts and learning the differences, I met Ms. Williams. She has worked at Stennis for over 40 years. She was the first woman to graduate from her school in electronics and the first to be hired in electronics at Stennis. Being the first woman was not easy, but she remains humble, sharpens her skills, and continues to produce quality work in a high-performance job assignment.* – Casa Compton, Alutiiq Essential Services, Quality Manager

*The woman who inspired me was Amelia Earhart (1897 – 1937 disappeared), who was truly inspiring and revolutionary for her time. While she is most famous as being the first female to fly solo across the Atlantic Ocean, she also wrote best-selling books and was an early supporter of the Equal Rights Amendment. She joined the Aviation Department of Purdue University in 1935, when many woman did not have the opportunity to seek advanced degrees, much less teach at a university. She accomplished so much in her short life and truly*

*is an inspiration for women.* – Regina Newman, Syncom Space Services, Chief Financial Officer



**WOMEN**  
PROVIDING HEALING  
PROMOTING HOPE

*The woman who inspired me was Carmelita Scott, my sister, who passed unexpectedly last month. While formulating her obituary, we learned of the great impact she had, not only in our lives but the lives of others in the community. She made very little excuses and got the job done, despite the fact that she just had a baby, that a hurricane left a huge hole in her roof, and that she was dealing with heart issues. She wanted to be – and was – the bridge between lower-income individuals/ minority business owners to the elite and wanted all to share in a piece of the pie and have a seat at the table. She was the voice for those who were not in the room and fought to get them in the room*

*at every opportunity.* – Adrienne Ragan, NASA Office of Procurement, Contract Specialist

*The woman who inspired me was myself. I never accepted when someone treated me unfairly or discredited my intellect because I was female. All the challenges I faced throughout my early adulthood, in undergraduate and graduate school and even during my post-doc work, helped me become the strong woman that I am today.* – Lauren Underwood, NASA Engineering and Test Directorate, Technical Management

*The woman who inspired me was my mother, a stay-at-home mother. She always encouraged me and supported my goals; constantly told me I could be anything I wanted to be; and taught me to treat other people with kindness and respect, and to help those who were less fortunate.* – Monica Ceruti, NASA Office of the General Counsel, Chief Counsel

# Women's History Month 2022

## *The Best Advice I Received for Balancing Family, Personal Life, and Work*

*The best advice I received for balancing family, personal life, and work came from my grandmother, who managed a textile facility in the Southeast from the 1950s to the 1970s. She told me to do my best every day, but do not expect perfection or you will be disappointed. My advice for work/life balance: Build your team. A person can accomplish a task. A team can accomplish anything. Your team can be your family or your work family. –*

**Regina Newman, Syncom  
Space Services, Chief  
Financial Officer**

*The best advice I received for balancing family, personal life, and work is to take care of yourself, stay engaged, and do what you love. Over time, you will learn to balance family, personal life, and career. –*

**Monica Ceruti,  
NASA Office of the General  
Counsel, Chief Counsel**

*My best advice is to surround yourself with support, including management staff, understanding the complexity of parenthood, partnership, and employee. –*

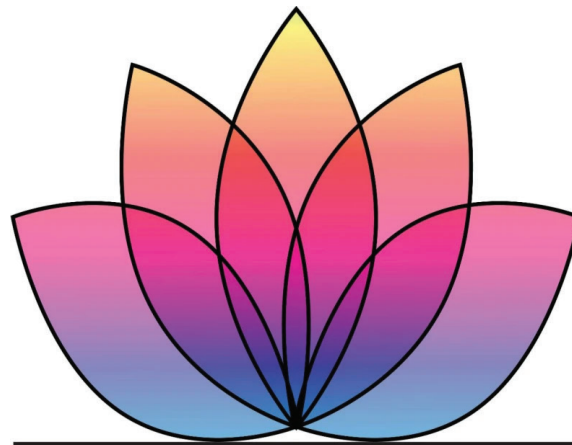
**Casa Compton, Alutiiq  
Essential Services, Quality  
Manager**

*The best advice I received for balancing family, personal life, and work is – do not compare your life with someone else's. Everyone has his/her own story to tell, and everyone's success story is different. Do what works best for your life, and balance it to what works best for you. There is never a perfect time to cut off work, but cut it off anyway and give your family some time and energy that you put toward your work day. There is*

*never a perfect time to leave and go on vacation, but go anyway so that your family sees you having fun and not always stressed out behind a computer. Take a step back, draw a circle and divide it – see where you are currently spending your time and, then, draw another circle and divide it to where you want the shift to change and make it happen. Do not wait until there is a family*

*emergency before you take leave – be intentional. Do not prioritize your schedule, but schedule your priorities. –*

**Adrianne  
Ragan, NASA Office of  
Procurement, Contract  
Specialist**



**WOMEN**  
PROVIDING HEALING  
PROMOTING HOPE

*The best lesson learned that I have is that it is not a choice between a career or family/personal life. There is a balance that can be obtained. The balance achieved is not always equally distributed between career and family/personal life and will depend on a person's situation. Understanding that balance is not always equal has helped me cope with different situations and challenges. The one piece of advice that has helped me the most is – do not be afraid to ask for help from family, friends, people you trust. –*

**Karma  
Snyder, NASA Safety and**

**Mission Assurance Directorate, Range Safety Manager**

*The best advice I received for balancing family, personal life, and work is to get an education first. Get advanced degrees – those cannot ever be taken away. If you do decide to take a break from the workforce, having those degrees makes it so much easier to go back. –*

**Lauren Underwood, NASA Engineering  
and Test Directorate, Technical Management**

*Life is not easy for any of us. But what of that?*

*We must have perseverance and above all confidence in ourselves.*

*We must believe that we are gifted for something and that this thing must be attained.*

**Marie Curie**



## Office of Diversity and Equal Opportunity

# Become an Ally on Transgender Day for Visibility

Rachel Crandall, a U.S.-based transgender activist, founded March 31 as Transgender Day of Visibility. The purpose of the day is to raise awareness about the discrimination faced by the transgender community. National Today shares, “Annually, we recognize and revere their [transgender people] contributions, successes, and relentless resilience in standing tall and strong in the face of injustice. Through this Day of Visibility, we hope to induce moral responsibility and tolerance and lift the restrictions on the rights of transgender people.” The Biden Administration has made advancing equity for LGBTQIA+ employees a priority for the federal government in his [Executive Order 14035](#) on advancing diversity, equity, inclusion, and accessibility.

One way to create equity is through education and awareness. When learning and discussing the transgender community, it is important to understand frequently discussed concepts. The Trevor Project, which is a suicide prevention and crisis intervention organization for LGBTQIA+ young people, has defined some keywords to help individuals understand the experience of the transgender community.

- Sex is the classification of a person as male, female, or intersex based on human anatomy.
- Gender describes the internal understanding and experience of one’s own gender identity.
- Cisgender people are people whose gender identity aligns with the sex they were assigned at birth.
- Transgender refers to people whose gender identity differs from the sex they were assigned at birth. Many transgender people will transition to align their gender expression with their gender identify; however, one does not have to transition to be transgender.
- Nonbinary refers to people who experience their gender identity and/or gender expression as outside of the male-female gender binary. Other words for identities outside the traditional categories of man and woman may be used, such as genderfluid, genderqueer, polygender, bigender, demigender, or agender.

These identities, while similar, are not necessarily interchangeable or synonymous. (Understanding Gender Identities – The Trevor Project)

- Two-Spirit is a term created by First Nations/ Native American/Indigenous peoples whose sexual orientation and/or gender/sex exists in ways that challenge colonial constructions of a gender binary. This term should not be appropriated to describe people who are not First Nations/Native American/Indigenous members.
- Gender expression describes the way in which individuals present or express their gender, which can include physical appearance, clothing, hairstyles, and behavior.

One of the ways to participate in the Transgender Day of Visibility is to learn how to be an ally for the transgender community. GLADD, a dynamic media force that works to rewrite the script and narrative for LGBTQ acceptance, shares six ways to be a transgender ally:

1. Listen to transgender people.
2. State one’s pronouns.
3. When one messes up: Apologize and move forward.
4. Use gender-inclusive language.
5. Recognize that being transgender is not about what someone looks like.
6. Respect others’ identities and continue to educate oneself.

Follow the link to find more resources. [Transgender FAQ | GLAAD](#)

To learn more about Transgender Day of Visibility and how to be an ally, visit the links below:

[National Today – Transgender Day of Visibility](#)

[A Guide to Being an Ally to Transgender and Nonbinary Youth – The Trevor Project](#)

# NASA Internship Leads to Painting the Public Perception of Stennis

Sallie Bilbo grew up hearing the roar of engines being tested at NASA's Stennis Space Center while spending time in her backyard with friends and family. A native of Pearl River, Louisiana, Bilbo's elementary school teachers allowed her class to watch space shuttle launches, helping the children to feel as though they were part of history in the making. Little did she know then that she one day would play a role in telling the continuing story of her local NASA center.

After high school, Bilbo followed a path to becoming a business major at The University of Southern Mississippi in Hattiesburg, Mississippi. "I never thought I could work for NASA since I wasn't interested in pursuing a career in engineering or science that you typically associate with NASA," Bilbo said.

She did not know NASA looks for employees across a wide array of professions and offers internships to candidates from all sorts of college majors. However, when the opportunity presented itself, Bilbo applied for a Stennis internship at the end of her first year of college.

Bilbo was offered an intern position in the Stennis Public Affairs Office (now Office of Communications) and continued in that role while completing her Bachelor of Science in Business Administration. Bilbo then received a full-time position offer in the Public Affairs Office at Stennis, where she has served for almost 25 years, including her time as an intern.

Beginning full-time as a public affairs specialist in December 2001, Bilbo has worked every aspect of the office except the news chief position. In 2019, NASA selected Bilbo as the team lead for the Office of Communications. She currently serves as the acting director for the office, filling in for Director Pam Covington, who is on detail with NASA's Langley Research Center in Hampton, Virginia.

As acting director, Bilbo serves as a liaison between the center office and both the Office of Communications Enterprise leadership at NASA Headquarters in Washington and the Stennis leadership team. Ultimately, her goal is to ensure that the public knows the role Stennis plays in America's space program and that local residents are proud of the contributions Stennis makes to NASA's missions. Bilbo looks to share the story of NASA in an inspiring way. "Our challenge is to ensure the public knows what we are doing and is inspired by and supportive of it," she said. "We need support from stakeholders, employees, and the general public to back our missions. With a small office and shrinking budgets, we have to be creative in

the ways we tell our story."

Bilbo played a leading role in publicly communicating Stennis' role in the Green Run testing of the first Space Launch System (SLS) core stage on site. The testing concluded with a March 2021 hot fire of the core stage's four RS-25 engines,

big picture of the Artemis program gives me a great sense of pride."

Bilbo and her team worked to set up the limited viewing site, support the test broadcast on NASA Television, and keep media informed as the event took place, sharing the

moments in Bilbo's career. "There have been many instances throughout my career that I've been proud to be a part of NASA," she said. "Witnessing my first shuttle launch, STS-105, was my first, proudest moment. But each launch I attended afterward was an individually proud moment. Our team has hosted many large-scale events that make me proud to be a part of the NASA team as well."

For Bilbo, the best thing about her role at NASA is the people and Stennis' family-oriented culture. "I work with an amazing team," said Bilbo. "I spend a lot of my time with my 'work family,' and having such a great group of people to work with makes it easier and more enjoyable." Additionally, Bilbo said she really enjoys the diversity of her work. Having so many different projects, events, and site visits might be stressful to some, but it is one of the aspects of the office that keeps Bilbo interested.

Throughout her continued service, Bilbo has witnessed change as NASA and Stennis has worked to promote workplace diversity and inclusion. This emphasis has included a variety of efforts at Stennis, including lunch-and-learn sessions for employees, on-site diversity programs, and education opportunities designed to build awareness and broadened perspectives.

"There have been some difficult conversations over the past few years, but in Office of Communications, we feel that we can ask those hard questions or have a conversation about a difficult or uncomfortable topic with open minds and no judgement," Bilbo said.

NASA has recognized Bilbo for her efforts and professionalism. She recently was a part of the team who received a pair of group recognitions, including a Silver Achievement Award, for the Green Run guest operations effort. In addition, she has received several individual achievement awards throughout her career, including NASA's Space Flight Awareness Silver Snoopy and an agency Exceptional Achievement Medal.

Bilbo said she looks forward to the future of NASA and specifically the Artemis I mission. NASA's Artemis I launch marks the beginning of returning humans back to the Moon, and Artemis missions will see the first woman and the first person of color put boots on the Moon. Envisioning future work at Stennis, Bilbo also looks forward to how Stennis might support new commercial projects.

Still living in Pearl River, Bilbo enjoys spending her time off with family and her two goldendoodle dogs. She is active in her community, leading worship service for her sister and brother-in-law's new church in Diamondhead, Mississippi.



Stennis Space Center Public Affairs Specialist Sallie Bilbo uses her skills and 25 years of experience to share the story of NASA's premier propulsion test facility.

just as during an actual launch. The hot fire marked the most powerful test conducted at Stennis in more than 40 years.

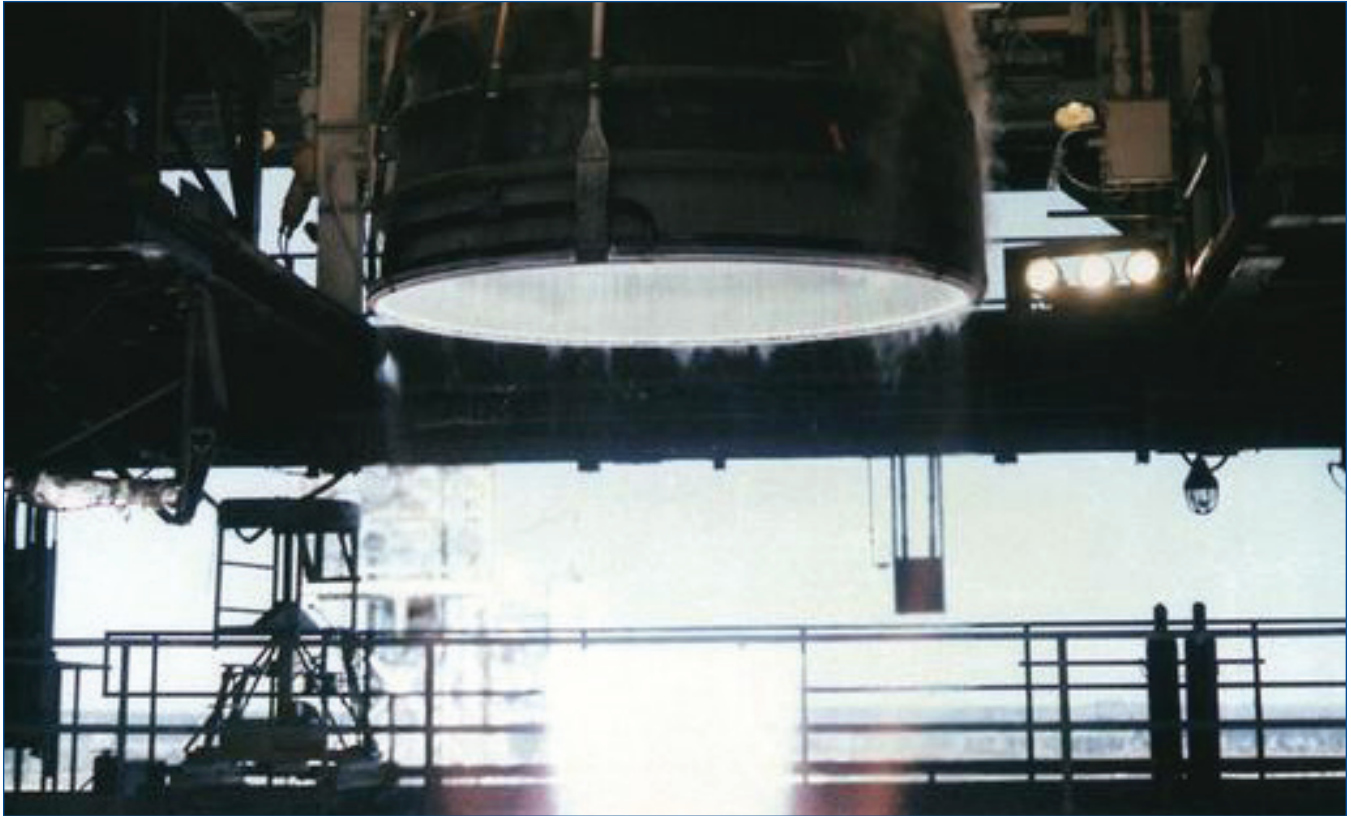
"Being involved in and witnessing the historic test was truly an honor," said Bilbo. "Due to the pandemic, we were not able to host as many people as we initially planned. I realized that being on site when the test occurred was an opportunity of a lifetime. And knowing that I am just a small pixel in the

experience with the public and stakeholders. The team accomplished their work twice – once for an initial hot fire test in January 2021 that experienced an early automatic shutdown and again for the follow-up full-duration hot fire in March. During both events, she coordinated and supervised several simultaneously moving parts.

The SLS Green Run testing was just one of the many proud



## Stennis Chosen as Best Fit for Space Shuttle Testing



NASA conducts a space shuttle main engine test at Stennis Space Center in 1979. The south Mississippi center was chosen to test the engines in 1971.

By the 1970s, the Apollo Program was ending. The Stennis Space Center workforce downsized as the site faced tough times. However, an engine test project was on the horizon – the space shuttle. NASA designed the space shuttle as a reusable vehicle to carry humans to low-Earth orbit following the Apollo Program.

Roy Estess, then working as an engineer, received an assignment to put together a presentation to convince NASA to select Stennis to perform tests on the space shuttle main engines. In December 1970, he had the presentation ready for NASA headquarters. Estess gave the presentation to a board of NASA managers. He spoke of the low cost of Stennis facility modifications needed for the space shuttle main engine tests, the test experience resulting from Stennis Apollo testing, and the local communities' willingness to support the program. Estess impressed the board with his knowledge of the program. One of the board members told him that his presentation was “the best we’ve had out of all three places” seeking the testing assignment.

Unknown to Estess, a now-familiar name to Stennis space Center also was campaigning for the site to conduct the space shuttle engine tests. Jerry Hlass was working on his master’s thesis at George Washington University. Hlass titled it “Search for a Role for a Large Government

Facility” with the focus on the Space Shuttle Program and the use of Stennis facilities. Hlass, who later led the Mississippi center as director, had the ear of the Site Evaluation Board. When asked his opinion, he gave his support for Stennis.

On March 1, 1971, NASA selected Stennis for the “sea-level testing of the rocket engines to power the space shuttle.” A lot happened at Stennis between the announcement in March 1971 and the first space shuttle main engine test in 1975. Jackson Balch led the way for full utilization of the site and for moving government and private agencies into the center.

On June 14, 1974, Stennis became an independent installation of NASA, reporting to NASA Headquarters. U.S. Sen. John C. Stennis of Mississippi said the “efforts to increase the use of Stennis by NASA and other federal agencies [would] now be more successful than ever before.” Balch expressed his delight with the changes, saying that “it will be kind of nice to be a member of the club.”

Just a year later, on June 24, 1975, a brief, but very important, event occurred at the newly independent site, the first ignition test of a space shuttle main engine. It marked the return to propulsion testing for Stennis and opened the door for testing projects to follow.

# Online Resources

**NASA Spinoff 2022**

**This is NASA 2022 video**

**I Am Stennis Facebook Videos**

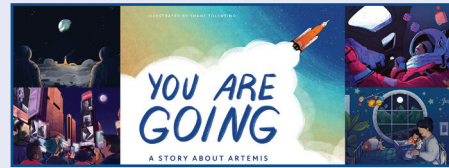
**Stennis Emergency Management**

**NASA Coronavirus Response**

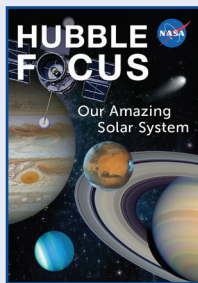
**Stennis Fact Sheets**



**First Woman Graphic Novel**



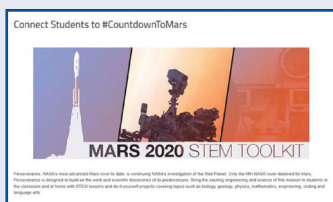
**You Are Going Children's Book**



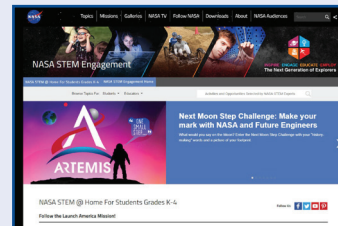
**NASA E-Book Downloads**



**Stennis Artemis Resources**



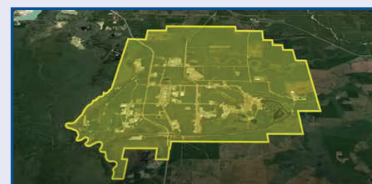
**MARS 2020 STEM Toolkit**



**NASA STEM@Home for Students**



**NASA at Home**



**Stennis Virtual Tour**