



LAGNIAPPE

John C. Stennis Space Center

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SLS Green Run hot fire targeted for March 18

NASA is targeting Thursday, March 18 for the second hot fire of the [Space Launch System \(SLS\)](#) rocket's core stage at Stennis Space Center.

After performing tests to demonstrate that a recently repaired liquid oxygen pre-valve is working, the team continued to prepare the core stage, its four RS-25 engines, and the [B-2 Test Stand](#) for the second hot fire at Stennis. Late

last week, the team powered up the core stage and conducted a final check of all its systems. On March 16, two days before the targeted test, they will power up the stage once again, starting the clock for the second hot fire of the stage's four [RS-25 engines](#).

The hot fire is the last test before the Artemis I core stage is shipped

to the agency's Kennedy Space Center for assembly and integration with the rest of the rocket's major elements and the [Orion spacecraft](#).

Exploration Ground Systems teams at Kennedy have stacked all parts of the solid rocket boosters for Artemis I in the Vehicle Assembly Building (see page 4) and are

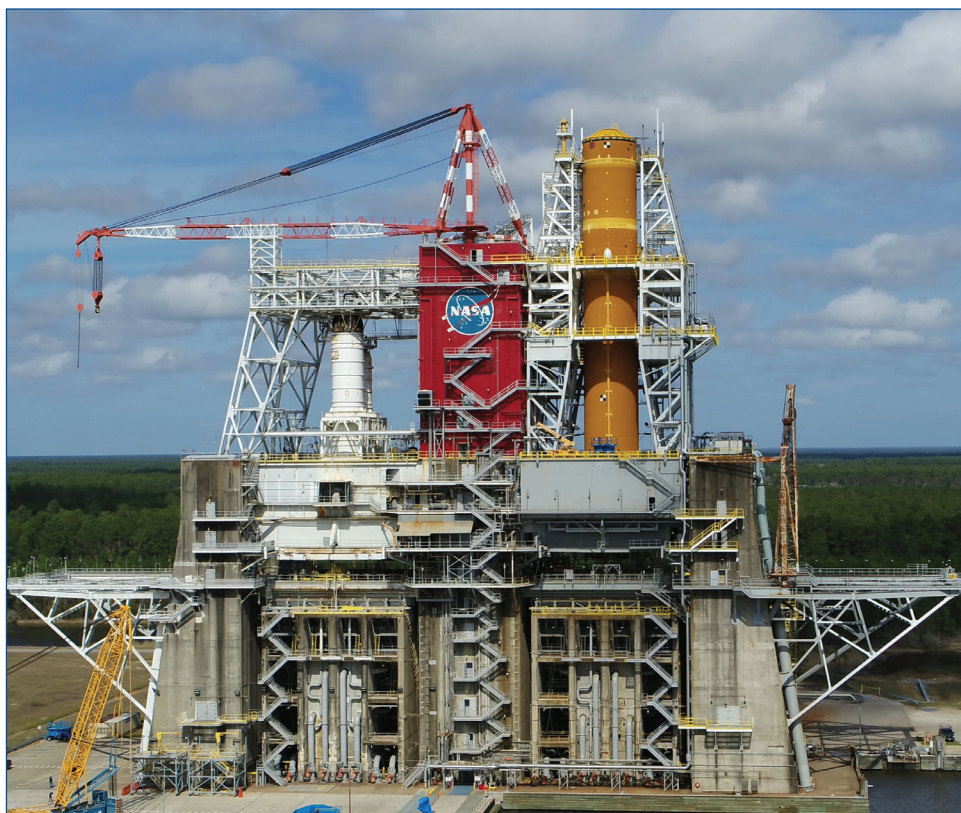
finishing up booster assembly. After the core stage arrives, it will be lifted and placed between the two boosters and attached at the core stage engine and intertank sections. Other parts of the rocket and the Orion spacecraft are also at Kennedy and are being prepared for final assembly and integration.

NASA's SLS rocket is the most powerful rocket in the

world, built to send both astronauts aboard Orion and supplies on missions to the Moon and beyond. The [Green Run](#) is a comprehensive test of the SLS core stage, a complex new rocket stage that not only includes four RS-25 engines and enormous propellant tanks that hold more than 700,000 gallons of super cold propellant, but also flight computers

and avionics that control the first eight minutes of flight. The Green Run test series will help validate that the SLS core stage is ready for its first flight on Artemis I and subsequent missions.

For more information about SLS Green Run, visit <https://www.nasa.gov/artemisprogram/greenrun>



The Space Launch System core stage is seen installed on the B-2 Test Stand at Stennis Space Center, where it is undergoing a comprehensive test of its integrated systems prior to use on the Artemis I mission.

You ever play that “Where were you when ...” game? You know, like where were you when 9/11 happened? Where were you when Princess Diana died? Where were you when the Saints won the Superbowl? WHO DAT! WHO DAT!!

Here is a new one for you – Where were you Aug. 16, 2012? Ol’ Gator remembers the day well. It was one of those “cool” August days on the Gulf Coast – high of about 86 degrees and humidity just below 90 percent. It felt a little like a late Deep South fall. Ark!

It also felt like history in the making at Stennis Space Center. The nation’s largest propulsion test site marked a trio of historic milestones that day – the first J-2X engine test at Stennis conducted by a female engineer, the first two large-engine tests conducted simultaneously by Stennis teams and the first instance of two female engineers conducting tests on the same day.

It has been a long time since high school math, but 294,000 pounds of thrust for the J-2X engine plus 340,000 pounds of thrust for the AJ26 engine adds up to uh, uh – well, we can just say it totals a whole lot of Girl Power. Ark!

The history-making day at Stennis is just one instance of the prominence of women in NASA. There are others to note for Women’s History Month 2021 – a recent *60 Minutes* segment that highlighted two women leaders in NASA; the naming of the NASA Headquarters Building for the first African American female engineer in NASA; and the agency commitment to send the first women to the Moon on the Artemis III mission. Stennis has added to the list as well – recently naming the first woman to its front office team.

There is work to do, but women are making strides. Since Sally Ride became the first American woman to fly to space in 1983, 62 more females have made the journey. Forty-eight have been American women.

Not so many years since women were routinely told they had no place in “a man’s world” of science and space, they are making their place within that very world. It reminds me of what my Grannygator used to say, “Just tell me what a man can do that a woman can’t do,” she would challenge. “Go ahead – I’m waiting.”

Well, Grannygator may be waiting – but women certainly are not. They are definitely on the move.



NASA is planning to send the first women and next man to the Moon as part of the Artemis program, named for the twin sister of Apollo and the goddess of the Moon and the hunt. next man walk on the Moon. These NASA images portray the Greek goddess and highlight the central role women will play in the new program. To download the mobile and background images, visit online here.

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Access monthly copies at: www.nasa.gov/centers/stennis/news/publications/index.html

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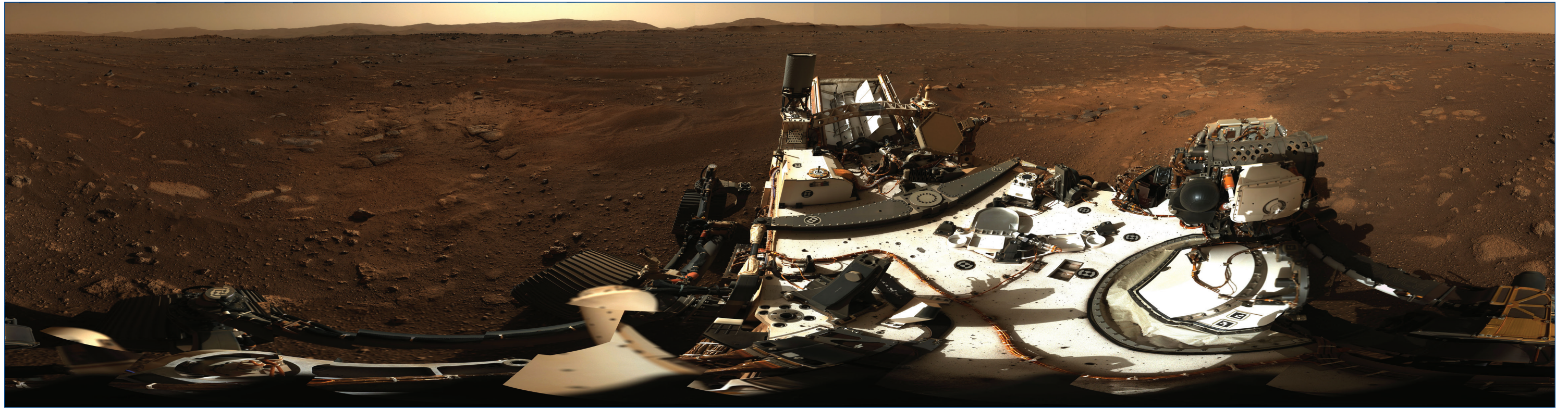
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This image was captured while NASA's Perseverance rover drove on Mars for the first time on March 4, 2021. One of Perseverance's Hazard Avoidance Cameras (Hazcams) captured this image as the rover completed a short traverse and turn from its landing site in Jezero Crater.

NASA Perseverance lands, transmits high-definition panoramic view of landing site

The largest, most advanced rover NASA has sent to another world touched down on Mars on Feb. 18, after a 203-day journey traversing 293 million miles. Confirmation of the successful touchdown was announced in mission control at NASA's Jet Propulsion Laboratory in Southern California at 2:55 p.m. CST.

NASA named the landing site of the rover "Octavia E. Butler Landing," after the science fiction author Octavia E. Butler.

Packed with groundbreaking technology, the [Mars 2020](#) mission launched July 30, 2020, from Cape Canaveral Space Force Station in Florida. The Perseverance rover mission marks an ambitious first step in the effort to collect Mars samples and return them to Earth.

"This landing is one of those pivotal moments for NASA, the United States, and space exploration globally – when we know we are on the cusp of discovery and sharpening our pencils, so to speak, to rewrite the textbooks," acting NASA Administrator Steve Jurczyk said. "The Mars 2020 Perseverance mission embodies our nation's spirit of persevering even in the most challenging of situations, inspiring, and advancing science and exploration. The mission itself personifies the human ideal of persevering toward the future and will help us prepare for human exploration of the Red Planet."

About the size of a car, the 2,263-pound robotic geologist and

astrobiologist is scheduled to conduct a two-year science investigation of Mars' Jezero Crater. A fundamental part of its mission is astrobiology, including the search for signs of ancient microbial life. To that end, the Mars Sample Return campaign will allow scientists on Earth to study samples collected by Perseverance to search for definitive signs of past life, using instruments too large and complex to send to the Red Planet.

"Because of today's exciting events, the first pristine samples from carefully documented locations on another planet are another step closer to being returned to Earth, ..." said Thomas Zurbuchen, associate administrator for science at NASA. "We don't know what these pristine samples from Mars will tell us. But what they could tell us is monumental – including that life might have once existed beyond Earth."

Some 28 miles wide, Jezero Crater sits on the western edge of Isidis Planitia, a giant impact basin just north of the Martian equator. Scientists have determined that 3.5 billion years ago the crater had its own river delta and was filled with water.

Equipped with seven primary science instruments, the most cameras ever sent to Mars, and an exquisitely complex sample caching system – the first of its kind sent into space – Perseverance will scour the Jezero region for fossilized remains of ancient microscopic Martian life, taking samples along the way.

An onboard sensor suite collected data about Mars' atmo-

sphere during entry, and the craft's navigation system autonomously guided it during final descent. The data from both are expected to help future human missions land on other worlds more safely and with larger payloads.

On the surface of Mars, Perseverance's science instruments will have an opportunity to scientifically shine. These include zoomable science cameras to create high-resolution, color 3D panoramas of the Martian landscape, a pulsed laser to study the chemistry of rocks and sediment, and a microphone to help scientists better understand the property of the rocks, including their hardness.

The rover chassis is home to three science instruments as well, including the first ground-penetrating radar on the surface of Mars, which will be used to determine how different layers of the Martian surface formed over time. Another experiment will attempt to manufacture oxygen out of the Red Planet's tenuous and mostly carbon dioxide atmosphere. A third will provide key data about Martian weather, climate, and dust.

The diminutive Ingenuity Mars Helicopter also will attempt the first powered, controlled flight on another planet. Project engineers will spend the first month or two putting Perseverance and its various systems through a series of tests before deploying the helicopter for its own flight test phase. Once Ingenuity's test flights are complete, the rover's search for evidence of ancient microbial life will begin in earnest.

"Perseverance is more than a rover, and more than this amazing collection of men and women that built it and got us here," said John McNamee, project manager of the Mars 2020 Perseverance rover mission at JPL. "It is even more than the 10.9 million people who signed up to be part of our mission. This mission is about what humans can achieve when they persevere. We made it this far. Now, watch us go."

A primary objective for Perseverance's mission on Mars is astrobiology research, including the search for signs of ancient microbial life. The rover will characterize the planet's geology and past climate and be the first mission to collect and cache Martian rock and regolith, paving the way for human exploration of the Red Planet.

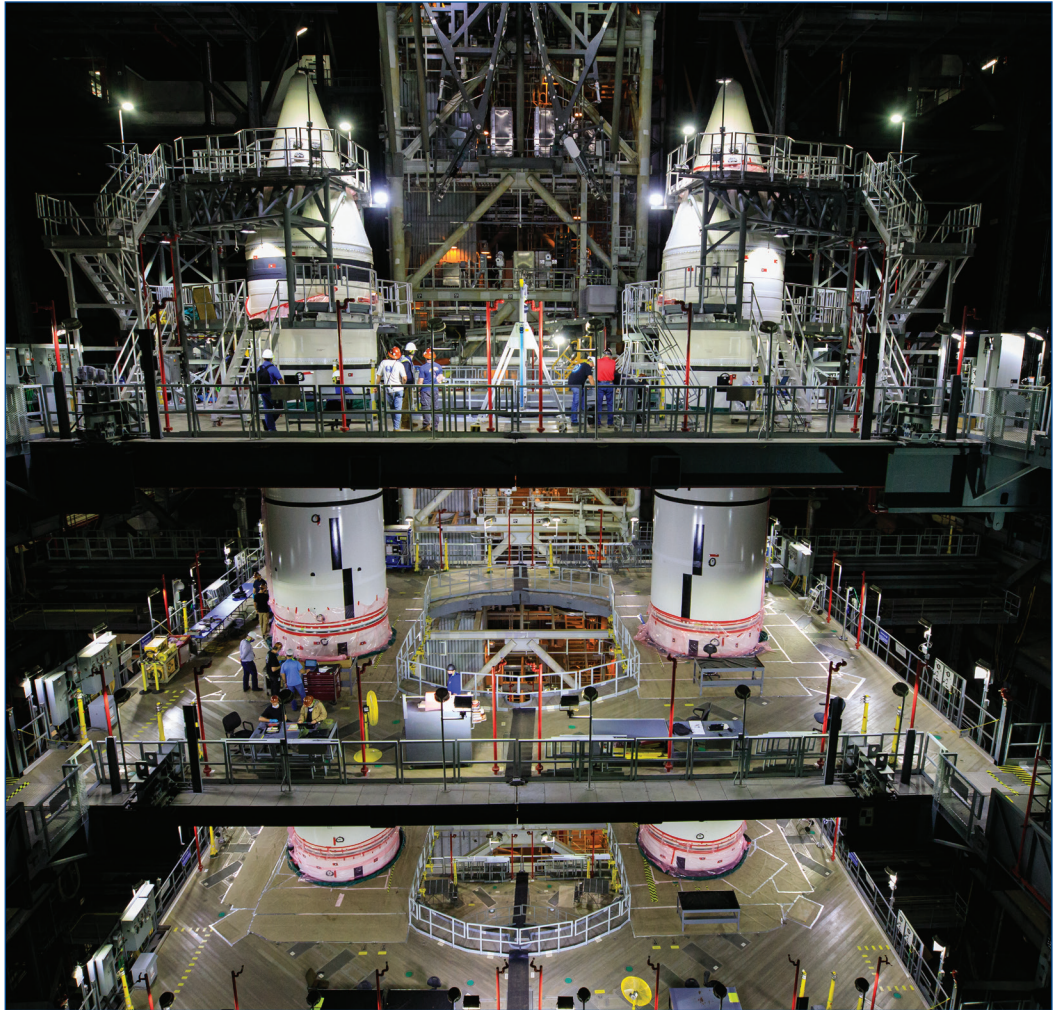
Subsequent NASA missions, in cooperation with ESA, will send spacecraft to Mars to collect these cached samples from the surface and return them to Earth for in-depth analysis.

The Mars 2020 Perseverance mission is part of NASA's [Moon to Mars](#) exploration approach, which includes Artemis missions to the Moon that will help prepare for human exploration of the Red Planet.

To view a video of Perseverance landing on the Martian surface, visit [here](#). To listen to recordings made by Perseverance, visit [here](#). For more about the rover and its mission, visit [here](#) and [here](#).

Artemis I booster stacking complete

Stacking is complete for the twin Space Launch System (SLS) solid rocket boosters for NASA's Artemis I mission. Over several weeks, workers used one of five massive cranes to place 10 booster segments and nose assemblies on the mobile launcher at NASA's Kennedy Space Center in Florida. The final nose assembly was placed on March 2. Prior to arrival of the core stage, the team will finish installing electrical instrumentation and pyrotechnics, then test the booster systems. When the SLS core stage arrives, technicians will stack it between the two boosters. Artemis I will be an uncrewed test of the Orion spacecraft and SLS rocket ahead of crewed flights to the Moon. Under the Artemis program, NASA aims to land the first woman and the next man on the Moon.



NASA in the News

Webb telescope completes milestone tests

February marked significant progress for NASA's James Webb Space Telescope, which completed its final functional performance tests at Northrop Grumman in Redondo Beach, California. Testing teams successfully completed two important milestones that confirmed the observatory's internal electronics are all functioning as intended, and that the spacecraft and its four scientific instruments can send and receive data properly through the same network they will use in space. These milestones move Webb closer to being ready to launch in October. The space telescope team is now preparing for the next series of technical milestones, which will include the final folding of the sunshield and deployment of the mirror, prior to shipment to the launch site. The [James Webb Space Telescope](#) will be the world's premier space science observatory when it launches later this year. The telescope will help solve mysteries of the solar system, look beyond to distant worlds around other stars, and probe the mysterious structures and origins of the universe and Earth's place in it.

Comets may have delivered carbon

In early 2016, an icy visitor from the edge of the solar system hurtled past Earth. It briefly became visible as Comet Catalina before it disappeared forevermore out of the solar system. Among the observatories that captured a view of the comet was the Stratospheric Observatory for Infrared Astronomy, NASA's telescope on an airplane. Using infrared instruments, [SOFIA](#) was able to pick out a familiar fingerprint within the dusty glow of the comet's tail – carbon. Now, it is becoming apparent comets like Catalina could have been an essential source of carbon on planets like Earth and Mars during the early formation of the solar system. "Carbon is key to learning about the origins of life," said Charles Woodward, an astrophysicist and professor of at the University of Minnesota's Minnesota Institute of Astrophysics and lead author of a new paper on the subject in the *Planetary Science* journal. "We're still not sure if Earth could have trapped enough carbon on its own during its formation, so carbon-rich comets could have been an important source delivering this essential element that led to life as we know it."

NASA names Headquarters for Hidden Figure

NASA celebrated the agency's first African American female engineer, Mary W. Jackson, with a Feb. 26 ceremony to formally name the agency's headquarters building in Washington in her honor.

Jackson began working at the National Advisory Committee for Aeronautics – the forerunner of NASA – in April 1951. From her initial role as a “human computer” within the segregated West Area Computing Unit of what would become NASA's Langley Research Center, to becoming an engineer, to managing Langley's Federal Women's Program and championing equal employment opportunity efforts at the center, Jackson's pioneering efforts and commitment to helping others have inspired generations – both at NASA and beyond.

“With the official naming of the Mary W. Jackson NASA Headquarters today, we ensure that she is a hidden figure no longer,” acting NASA Administrator Steve Jurczyk said. “Jackson's story is one of incredible determination. She personified NASA's spirit of persevering against all odds, providing inspiration and advancing science and exploration.”

The work of Jackson and others in the West Area Computing Unit gained widespread attention, thanks the 2016 book “Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race” and subsequent movie. In 2019, Jackson and fellow “Hidden Figures” Katherine Johnson, Dorothy Vaughan, and Christine Darden were awarded the Congressional Gold Medal – the highest civilian award – for their work.

In addition to unveiling a building sign with Jackson's name, the Feb. 26 event featured video tributes about Jackson's career and legacy from a variety of individuals, including family and friends, current and former NASA. The event also featured a video of poet Nikki Giovanni

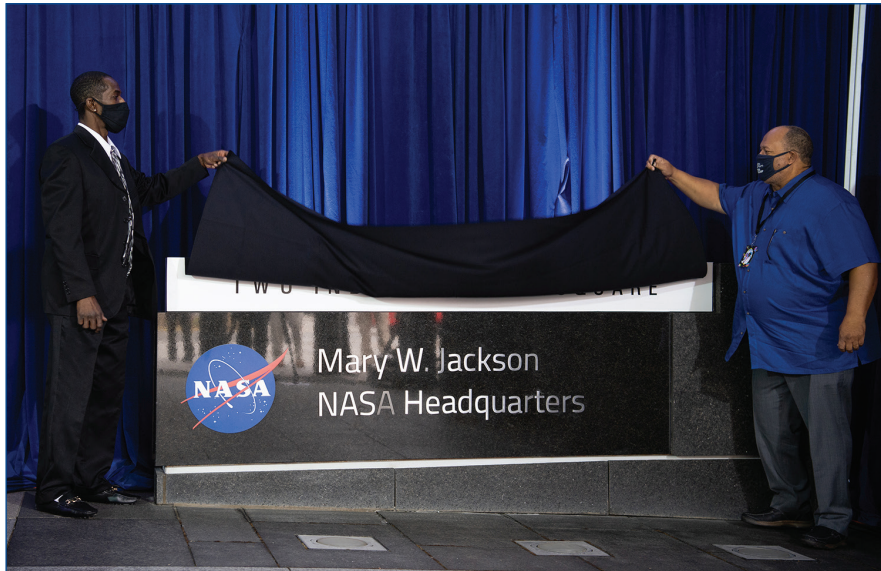
reading an excerpt from her poem “Quilting the Black-Eyed Pea” about space and civil rights.

“The recognition we celebrate today is appropriate because Mary Jackson remains an inspiration,” said Langley Director Clayton Turner. “Her perseverance, her empathy, her desire to lift us all – she inspired others to excel and to break through barriers. That is the spirit of NASA. Mary Jackson chose to lead by example and at NASA today we strive to emulate her vision, passion, and commitment.”

Born and raised in Hampton, Virginia, Jackson initially worked as a math teacher and also held jobs as a book-

keeper and as a U.S. Army secretary before beginning her aerospace career. In 1942, she received a Bachelor of Science degree in mathematics and physical science from Hampton Institute (now Hampton University).

After two years in the computing pool at Langley, Jackson received an offer to work in the Supersonic



Grandson Bryan Jackson (l) and son-in-law Raymond Lewis unveil the Mary W. Jackson NASA Headquarters sign during a ceremony officially naming the building, Feb. 26, 2021.

Pressure Tunnel. There, she received hands-on experience conducting experiments. Her supervisor eventually suggested she enter a training program that would allow Jackson to earn a promotion to engineer. Because the classes were held at then-segregated Hampton High School, Jackson needed special permission to join classes.

Jackson completed the courses and, in 1958, became NASA's first African American female engineer. In 1979, she joined Langley's Federal Women's Program, where she worked to address the hiring and promotion of the next generation of female mathematicians, engineers, and scientists. She retired from Langley in 1985 and passed away in Hampton on February 11, 2005, at the age of 83.

View photos from the naming event [here](#). Read a biography of Jackson [here](#). Learn more about NASA's Hidden and Modern Figures [here](#).

NASA engineer has found a true mission and home at Stennis Space Center

Bartt Hebert has worked as a NASA engineer for more than 34 years at [Stennis Space Center](#), the nation's largest rocket propulsion test site. He has served as a design engineer, test conductor, test operations chief, design engineering chief, and deputy director of the Stennis Engineering and Test Directorate.

For the past 18 years, he has worked as the Stennis chief engineer, responsible for all technical aspects regarding the stands and test support areas used to test large rocket stages and engines for space travel.

However, some of his most challenging questions arise not in the workplace but as he presents experiments at local elementary schools, hoping to inspire a new generation of engineers and scientists, questions like – Why doesn't NASA like Pluto (demoted to dwarf planet status in 2006)? Has an astronaut ever been sucked into a black hole? What would happen if a kid put his whole body in liquid nitrogen?

“It is amazing to hear the difficult questions a sixth grader can ask,” Hebert said.

When he is not responding to such queries, Hebert works to address technical issues in the Stennis test complexes. This includes supporting [Green Run](#) testing of the first core stage of NASA's [Space Launch System](#) (SLS) rocket on the B-2 Test Stand. Hebert and his team are on call to resolve technical issues that arise on the stand, where the core stage is undergoing a comprehensive test of its sophisticated systems prior to subsequent launch on the Artemis 1 mission around the Moon.

NASA is building SLS to return humans to deep space exploration, initially sending humans, including the first woman, to the Moon as part of the Artemis program. SLS also will power eventual missions to Mars.

A native of Lafayette, Louisiana, Hebert has held his current position for 18 years. However, he has worked at the south Mississippi site much longer, arriving as a Pan Am World Services design and operations engineer in 1987 before joining the NASA team two years later. Hebert initially worked in the oil industry following graduation with a mechanical engineering degree from the

University of Louisiana at Lafayette. When that work sector faltered, he responded to a Pan Am World Services newspaper ad seeking engineers.

Hebert served a couple of years at Marshall Space Flight Center in Huntsville, Alabama, but returned to Stennis as soon as an opportunity presented itself. He has spent the rest of his career in the Stennis propulsion test area and has worked on most of the site's test stands. This includes work as a design engineer for the smaller, more innovative E-1 and E-2 Test Stands, then subsequent work on larger, heritage stands in the site's A and B Test Complexes.

***Everyone here has
a common goal
to provide the best
rocket propulsion
testing services
for our ... customers.***

Stennis Chief Engineer Bartt Hebert

It has been a long journey for the south Louisiana native. “My earliest memory of the space program was watching the Apollo moon landing on TV as a child,” he said. “As a child I enjoyed building and flying control line airplanes with childhood friends.”

Years later, Hebert has found a true home at Stennis. “The best thing about working at Stennis is meeting, and building friendships with, the great people who work here,” Hebert said. “Many lifelong friendships have been made during my career. Several of our facilities are unique in the country and are national assets – and everyone here has a common goal to provide the best rocket propulsion testing services possible for our government and private industry customers.”

Hebert has received various awards for his work,

including NASA's Exceptional Achievement Medal and Outstanding Leadership Medal. However, he is most proud of being able to work with the dedicated personnel in the Chief Engineer's Office as they help make test projects, such as the SLS Green Run work, successful.

“Being involved in Green Run testing is a once-in-a-lifetime opportunity,” Hebert acknowledged. “The Stennis team has done an incredible job of supporting this high visibility project at every step along the way – including refurbishing the test stand, building the systems needed to support the core stage, activating the systems, and now operating the stand. It has really been an amazing team effort.”

There is much more to come as well, Hebert noted when asked what the future holds for the propulsion test site that tested rocket stages and engines for both the Apollo and Space Shuttle programs. “Stennis will continue to evolve to meet the propulsion testing needs of the United States government and private industry to further our exploration of space,” he said.

Hebert's commitment to the Stennis team and mission is evident when one considers the 180-mile round trip commute he routinely makes to the test site from his home in Walker, Louisiana, enough of a distance to tally 580,000 miles on an earlier vehicle and 300,000-plus on a current one.

“Luckily, I don't mind driving,” Hebert said, whose hobbies include working on classic cars, such as his 1956 Cadillac, and learning how they were designed. “We moved to Walker from Slidell in 1998 to allow my hearing impaired daughter to attend the Louisiana School for the Deaf in Baton Rouge. We originally planned to move back (to Slidell) after she graduated high school but just fell in love with the area.”

Now, Hebert's children and grandchildren live nearby and are ready companions for family camping trips at Little Black Creek in Lumberton, Mississippi. All in all, the getaways and lengthy commute provide Hebert time for reflection – not only on his notable NASA career but on those future sixth-grade queries about such things as planet status, the effects of liquid nitrogen on humans, and the dangers of black holes for astronauts out for a routine spacewalk.



(Top photo) Stennis Space Center Chief Engineer Bartt Hebert stands in front of the B-2 Test Stand, where the Space Launch System core stage is installed for Green Run testing prior to its Artemis I flight.
(Bottom photo) Bartt Hebert and his grandchildren stand with his classic 1956 Cadillac.

ASTRO CAMP[®] announces community opportunities

The NASA Southeast Regional Office of STEM Engagement and NASA Science Mission Directorate – Science Activation (Sci-Act) Program have announced community collaboration opportunities, open to all youth-serving organizations, for 2021 ASTRO CAMP[®] sessions.

NASA's ASTRO CAMP[®] Community Partners Program collaborates with universities, schools, museums, libraries, and youth service organizations to provide unique STEM (science, technology, engineering, and mathematics) engagement activities and experiences to youth, families, and educators in their own communities. Through the program, NASA works to provide trained community educators and facilitators for all students to have access to authentic NASA science experiences and resources, ASTRO CAMP[®] approaches, and STEM activities.

ASTRO CAMP[®] activities are aligned to Next Generation Science standards and include engineering challenges. Camp resources are particularly focused on reaching those learners in under-served and under-represented communities.

The collaboration offers real-world opportunities for every student to join in, and contribute to, NASA science missions, enhance science understanding, and build NASA connections, all with a goal of inspiring lifelong learners and explorers.

The collaboration also highlights current and past NASA missions, while using hands-on activities to expand STEM interest and activities in astrophysics, Earth science, heliophysics and planetary science. The approach seeks to teach camp participants to work together in order to complete missions, relying on methodology developed during 29 years of ASTRO CAMP[®] sessions held at Stennis Space Center.

The theme for this year's ASTRO CAMP[®] is "We Go ... Finding our Place in Space with NASA Science!" The program highlights the Artemis generation, with NASA Moon to Mars Next Gen STEM modules and various science collaboration opportunities, such as the R.O.A.D.S. (Rover Observation and Drone Survey) on Asteroids Challenge.

The R.O.A.D.S. on Asteroids challenge focuses on developing and executing a mission to the asteroid Vesta through the use of mapping skills, a robotic rover, and drone, while searching for signs of life. Additional resources include PLANETS, STEM activities from Northern Arizona University, and access to NASA subject matter experts.

ASTRO CAMP[®] provides collaborators with professional development, the 2021 ASTRO CAMP[®] Facilitators Guide, activity supply lists, on-line resources, NASA completion certificates templates, and the on-line support of education special-

ists (as needed).

Collaborating organizations must provide: 1) a program leader/facilitator, 2) support staff, 3) facilities, 4) supplies/materials and 5) program management for each camp site. Program leaders and facilitators must take part in a one-day Educational Professional Development workshop provided by NASA education specialists in order to be designated as an official NASA 2021 ASTRO CAMP[®] Community Partners Site.

For more information about becoming a community collaborator contact: Kelly Martin-Rivers, kelly.e.martin-rivers@nasa.gov or 228-688-1500 or Maria Lott maria.l.lott@nasa.gov or 228-688-1776.

For more information on the ASTRO CAMP[®] Community Partners Program, visit [here](#).



The beginning of Mississippi Test Facility

Note: NASA's John C. Stennis Space Center has played a pivotal role in the nation's space program. The following offers a glimpse into the history of the space program and the rocket engine test center. As the center celebrates its 60th anniversary later this fall, Lagniappe is looking back at the history of the site.

Capt. William Fortune met Dr. Wernher von Braun in Germany just after World War II. Fortune was in Germany as a representative of the U.S. Navy to advise on gunnery and explosive techniques. He designed the equipment for shipboard launch of rockets and was responsible for launching the first large missile ever from the deck of the U.S.S. Midway.

After von Braun came to the United States and became director of the Marshall Space Flight Center in Huntsville, Alabama, Fortune was called on to work with him directly in construction of a new rocket test facility in southern Mississippi, now known as Stennis Space Center. There was a need for a “sparsely settled area” to test new space rocket stages and engines.

Fortune explained that when preliminary tests were conducted at Marshall Space Flight Center, the walls of nearby buildings would vibrate and move from the power of the rocket engines. NASA engineers were concerned that nearby buildings could be structurally compromised or even destroyed just from testing the rockets. A remote location to test the massive stages and engines was needed, and the wooded, meagerly populated area of Hancock County in south Mississippi was perfect for the NASA facility.

The wildness of the site made it difficult for construction of such a site event to start. Fortune stated that on the first day he was at the site where the facility was going to be built, he and his men killed 78 poisonous snakes when they began to clear a work area. They even kept an exhibit of the different snakes that could be encountered on the site so workers could identify the poisonous ones.

Fortune also mentioned the swarms of mosquitos that workers encountered. The construction team had an

etymologist with them who had drawn a square on his shirt so he could count the number of mosquitos that landed on him. Fortune recalled counting 160 in that square at one point during their tour of the area – or 160 mosquitos per square foot of person.

The mosquitos were so numerous and bothersome that the workers threatened to walk off the job. Fortune called in the U.S. Air Force and asked them to spray the area to kill the mosquitos. The Air Force sprayed around the entire perimeter of where the facility was going to be built. The spraying made a dramatic difference, and work continued on clearing the land for the facility.



Capt. William Fortune (l to r), manager of Mississippi Test Operations, looks over construction plans with Dr. Wernher von Braun; Col. D.A. Raymond, district engineer for the Mobile Corps of Engineers; and engineer Charles Jackson during one of the many visits von Braun made to the facility while construction was underway.

Fortune said that being the first manager of the Mississippi Test Facility was the hardest job he had ever done. He had to deal with the problems with construction of the facility, political pressures, and the different beliefs and backgrounds of the local people. His job was a unique and hard position, but he led the construction project to completion and set Stennis Space Center up for its future success.

Hail & Farewell

NASA welcomes the following:

Kelly McCarthy

Education Program Specialist

Office of STEM Engagement

Office of Diversity and Equal Opportunity

Everyone benefits when women contribute

March is Women's History Month, a time set aside to commemorate and encourage the study, observance, and celebration of women's vital role in American history. The observance grew from a 1978 initiative by a California Education Task Force in 1978 to celebrate Women's History Week. In 1980, President Jimmy Carter issued the first presidential proclamation declaring a National Women's History Week. The next year, Congress established a national celebration. Six years later, the event was expanded to the entire month of March.

A Cornell University study found that men overestimate their abilities and performance, while women underestimate both. Of course, not all men ooze self-confidence, and not all women lack it. However, the "gender confidence gap" is real, and closing it is as much as the lynchpin to addressing gender inequity as the many other forces that have contributed to it. Interestingly, research finds this gap persists until age 40 when men's and women's confidence appear to equal out. Surprisingly, over the age of 60, male confidence declines while female confidence increases.

Another perspective comes from Catherine Tinsley of Georgetown University and Robin Ely of the Harvard Business School, whose extensive studies have found no discernable differences between women and men regarding confidence in the workplace. Their work points to workplace structure and unconscious bias as the real impediments to women's advancement.

Tinsley and Ely believe that women do not speak up because their ideas are scrutinized to a greater degree than men. Women need to be connected to information networks that give them the insights needed to navigate their careers. Biases that penalize women disproportionately for mistakes need to be corrected, and women need to be provided with specific and direct feedback that helps them develop.

Regardless of whether there are real differences in confidence levels between genders, women need strategies to trust themselves and their contributions, especially given the organizational barriers. Women can benefit greatly from these four strategies:

- **Cultivate an inner champion.** One influence women can control is the inner voice they heed. Everyone has an inner critic – a voice ready to say what one did wrong or why one is not good

enough. But women can also cultivate an inner champion – an encouraging voice to remind them of their accomplishments and all the challenges they have overcome, a voice that says, "Don't hold back. You have an important contribution to make." The first step is noticing when the inner critic shows up. Instead of believing whatever the voice says, examine whether there is anything useful in the message. If not, choose not to listen. Then foster an inner champion. Think about what one would tell a friend who needs encouragement, then apply these same kind words to oneself.

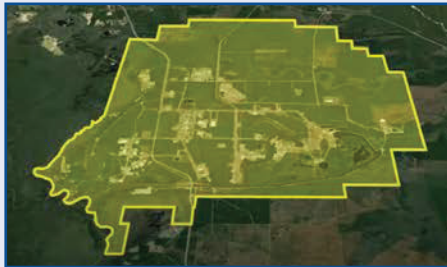
- **Take action.** Another effective strategy to build confidence is to get out of one's comfort zone and into the risk zone. Overcoming a challenge builds self-efficacy, which results in increased confidence. Challenge oneself to have difficult conversations, interact with higher leadership, and share opinions unequivocally in large meetings. When a woman overcomes fears and takes action, her view of her capabilities expands, and so does her confidence.
- **Let go of the need to be perfect.** Katty Kay and Claire Shipman, authors of *The Confidence Code*, explain, "Underqualified and underprepared men don't think twice about leaning in. Overqualified and overprepared, too many women still hold back. Women feel confident only when they are perfect. Or practically perfect." The problem is – perfectionism is unattainable, so linking confidence to that keeps women stuck. Instead, women need to permit themselves to be good enough. Caring less about every detail frees up mental space to make more strategic contributions.
- **Lean into values.** Getting clear about what really matters can provide the impetus to ensure those career goals are met. Harnessing values, such as being a role model for younger generations, can give women the courage to take a risk. Confidence will grow as results are realized.

Being aware of what is holding one back is the critical first step in reaching professional goals. Everyone benefits when women overcome systemic and internal barriers, resulting in enhanced contributions. When women own their value, businesses and careers thrive. During Women's History Month 2021, take time to reflect upon advances women have made over the last decade, such as increased earnings, education, fields of occupation, and longevity.

Information in this article came from [Forbes.com](https://www.forbes.com).

Online Resources

Stennis Emergency Management

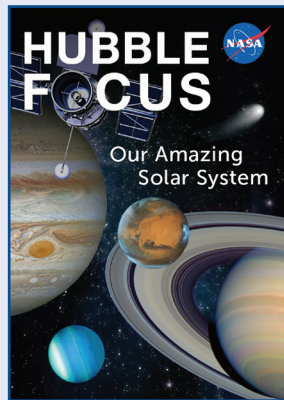


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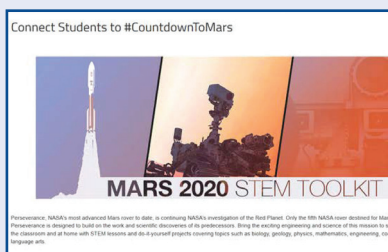
Stennis Fact Sheets



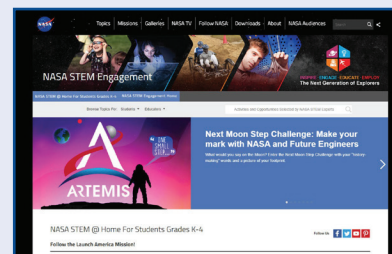
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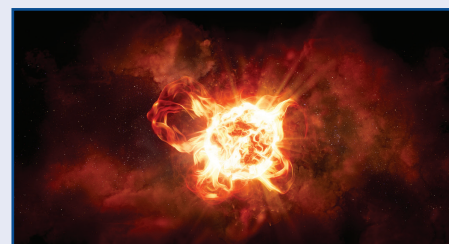
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NASA Image of the Day