



NASA Aeronautics

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Monthly STEM Newsletter

INSIDE

—
**Career & Technical
Education Month**

—
**NEW Career Technical
and Aviation event**

—
**NASA's Neurodiversity
Network, Internships,
USRC & More!**



The X-59, our Quesst mission's quiet supersonic research plane, conducts afterburner engine tests at Lockheed Martin's Skunk Works facility in Palmdale, CA. Image Credit: Lockheed Martin

February 2025

Love is in the air for aero! The X-59 is passing milestones and making its way towards first flight. This month we give recognition to Career & Technical Education programs and all they do to prepare students for the workforce and higher education. Read about our Aeronautics Crew Highlight, Carimanda Cephas. Check out new student and educator opportunities plus an upcoming event at NASA's Glenn Research Center to learn all about career and technical education programs with aviation. Head to the NASA Aeronautics STEM webpage to learn more about careers and education in aviation through the NASA Aeronautics Career Resources section. And don't forget to sign-up for Flight Log so you don't miss the opportunity to send you and your students' names on the first flight of the X-59 and other research flights coming soon.

Do you need to see more of something or have a new idea for upcoming newsletters? Let us know! Do you know someone else who needs this monthly update? Share the good news and [sign up for our monthly STEM newsletter](#). Have questions or want to be removed from the list? Send an email to april.a.lanotte@nasa.gov or holly.o.gutierrez@nasa.gov.

Career & Technical Education Month

February

Career and Technical Education (CTE) programs help students develop the skills and knowledge needed for a variety of careers including aviation. This month let's raise awareness for CTE programs and their role in preparing students for careers and higher education.

Career and technical education, once known as vocational education, has US federal roots in the early 1900's with the Smith-Hughes National Vocational Education Act of 1917. Named after two democratic lawmakers from Georgia, Hoke Smith and Dudley Hughes, this marked the first federal investment in CTE.

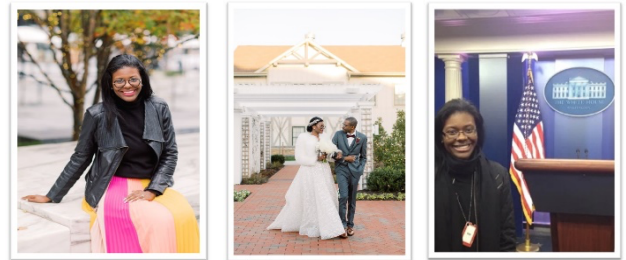
Through the years vocational education has expanded and evolved as new technologies and opportunities have become available for students. In the US it began with education in agriculture, home-making, and various skilled trades. Later, legislation added nursing, fishery, and more. Today there are numerous programs that support aerospace education associated with air traffic management, maintenance of aircraft, mechanical and structural engineering and others that mirror the ever-changing needs of society. With a focus on helping students become workforce-ready, states and programs have the ability to offer what best matches their locale. Here at NASA, no matter what NASA Center or what Mission Directorate, specialized trades and skills are always needed.

Explore the wide variety of career options when you navigate to the [NASA Aeronautics STEM webpage](#) and check out the **newly added** Aeronautics Career Resources section. Watch videos about NASA professionals and careers that support all aspects of aviation. Learn about the opportunities NASA has to offer and various pathways to get there.

For those of you in Ohio, join NASA's Glenn Research Center to explore some of these aerospace careers during their Career Technical Education and Aviation event on **March 11th, 2025**, open to all middle and

high school educators! Prepare to ignite your students' curiosity and passion for the world of aviation and Career Technical Education (CTE). To apply, click [HERE](#). Registration closes **February 11th, 2025**, so apply today! Classrooms will participate in a dynamic, hands-on experience at Glenn Research Center's cutting-edge research facilities that highlight career technical possibilities in aviation and space. This experience will provide selected classrooms a unique opportunity to learn more about CTE Pathways at Glenn Research Center. From aircraft maintenance to engineering and technology, students will gain insight into the wide array of technical careers that are shaping the aviation sector. This experience will include a live Q&A panel with NASA experts. Students can ask questions, learn about career paths, and get valuable advice from experts who are passionate about their work.

Aeronautics Crew Highlight Carimanda Cephas, NASA External Stakeholder Integration Lead with the Integration and Management Office (IMO)



Meet Carimanda Cephas (*pronounced Cara-man-da See-Phas*), the external stakeholder integration lead for NASA Aeronautics. She supports communication and collaboration with NASA Aeronautics external stakeholders including fulfilling requests from Congress. Read on to learn more about Carimanda's job duties with NASA.

"Greetings! I am a graduate of Washington College, in Chestertown, Md. (Bachelor of Arts in Sociology) and hold master's degrees from American University, in Washington D.C. (Master of Arts in Public Sociology), the National Intelligence University, in Washington D.C. (Master of Science in Strategic Intelligence), and Georgetown University, in

Washington D.C. (Master of Professional Studies in Public Relations & Corporate Communications).

Since college, my interest in emergency management and crisis preparedness has grown. During my sophomore year of college, I changed my major from Pre-Med to Sociology (with a focus on the Sociology of Disaster discipline) after becoming fascinated by the media coverage surrounding Hurricane Katrina and the lasting societal impacts often related to natural disasters. Several years later, my passion for crisis preparedness continues as I serve as an adjunct lecturer at Johns Hopkins University teaching a self-designed course related to organizational readiness. Unbeknownst to me, being forward thinking with a knack for crisis preparedness proved beneficial when planning my wedding in 2019. Held in 2020, my wedding was a mere weeks before the pandemic and the world going virtual!

I started my federal career in 2011 with the Department of Homeland Security (DHS) serving in various emergency management, national security, and strategic planning roles often with a nexus to public affairs and Congressional engagement. In addition to DHS, I previously worked at the Department of Veterans Affairs and the Department of State.

When thinking about what led me to NASA and my current position, I was interested in applying for roles that leveraged my professional background in crisis preparedness while also intertwining opportunities for Congressional engagement and strategic planning. As the External Stakeholder Integration Lead, I regularly collaborate with the Office of Legislative and Intergovernmental Affairs (OLIA) and the Office of the Chief Financial Officer (OCFO) coordinating the Aeronautics Research Mission Directorate's (ARMD) efforts to support Questions for the Record (QFR), Legislative Referral Memorandum (LRM) review requests, Congressional testimonies and budget briefing preparations, internal and interagency actions, and various Congressional engagement forums. In addition, my role often expands to spearheading projects that support communication and strategic priorities in collaboration with a wide range of stakeholders.

Having a background in crisis preparedness has proved beneficial in my current role as this often lends to anticipating potential stakeholder concerns to include handling time sensitive Congressional requests.

Since joining NASA in 2022, no day has been the same which has been both exciting and sometimes quite busy. While there have been many memorable moments (thus far), attending the Glenn Research Center's (GRC) "AeroDayz" event was a notable highlight and a valuable learning opportunity. Not only was the event well planned and informative, but it was my first time visiting GRC. This event served as an optimal forum to learn more about the critical work of GRC, specifically ongoing advancements in aeronautics that may be of potential interest to Congressional stakeholders. During the visit I toured the Center's library's which was a "one stop shop" filled with information about the agency's vast history.

A native of Maryland, I am a classically trained ballerina, former flute and trumpet player, an occasional sports fan with a keen focus on the Washington Commanders and the Washington Capitals and an avid news watcher which proves helpful in keeping up with the ever-changing and fast paced Congressional landscape."

Student Opportunities

High School Student Opportunity!

2025 Aviation Concept Design Experience



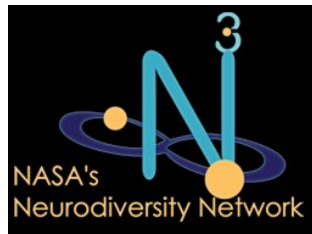
High School students are invited to join NASA Ames Research Center and the Aviation Systems Division this summer to gain experience working with NASA engineers on aviation concepts.

Get your application in by **February 4th, 2025**, so don't wait! Register and submit your application on [NASA STEM Gateway](#) and don't forget the supplemental form found [HERE](#). Learn more about this summer opportunity on the [Aviation Systems](#)

[Division Concept Design Experience for High School Students webpage.](#)

Apply Today! NASA's Neurodiversity Network (N3)

Are you a neurodivergent learner in high school looking to get real-world experience with real professionals? Check out this summer internship with NASA's Neurodiversity Network (N3) working on projects with NASA scientists and engineers in various STEM fields. Learn more [HERE](#) and get your application in by **February 18, 2025**, to gain real-world experience with NASA experts this summer.



Deadline This Month! NASA Internships



Don't miss a summer working with NASA experts on real-world missions. Get your internship application in today before this month's deadline. Explore [Internship](#) opportunities and apply by **February 28th, 2025**. Students 16 years and older are eligible to apply. There are also educator internships, too!

Our Aeronautics Research Mission Directorate has an opening for a [summer educator](#) so take a look to see if you are a good fit!!

Notice of Funding Opportunity! NASA's Minority University Research and Education Project (MUREP)

MSIs submit your proposals today to team up with the Aeronautics Community & Environment Impact Research (ACEIR) team. The ACEIR team is on a mission to research the environmental and societal impacts of future air transportation technology and infrastructure on overburdened communities through development of practices and radical innovation. Do you have an innovative idea, but need help putting it together? Partner with the MUREP ACEIR team and head to [NASA NSPIRES](#) to submit your proposal by **March 3, 2025**.



Proposals Due Soon! University Student Research Challenge (USRC)

The NASA Aeronautics Research Institute's (NARI) University Student Research



Challenge for post-secondary students challenges them to think like an entrepreneur and contribute to new and improved aviation systems. Head to the [NARI website](#) for more information, and submit your proposal by **March 13, 2025**.

Professional Development

[NASA Space Exploration Educators Conference \(SEEC\): February 6-8, 2025, Houston, TX](#)

Join the NASA Aeronautics crew on Feb. 7th at the SEEC conference for our "Design Your Own X-Plane with NASA!" session. This 90-minute session will bring high- and low-tech together to show ways you can teach your students to design aircraft.

Are you interested in other professional development opportunities? Create a new account to join [NASA CONNECTS](#) or log into [NASA's STEM Gateway](#) to find a session that interests you. Check out [NASA Engages](#), a program that connects NASA experts with community engagements to share NASA missions and content.

NASA in Your Classroom

Registration Closing This Month! NASA SPARX



[Next Gen STEM SPARX](#) (Sparking Participation and Real-world eXperiences in STEM) emphasizes engineering to connect students to STEM through this virtual opportunity for K-12 teachers. Connect students with NASA missions through standards-aligned content and live virtual classroom connections with NASA scientists and engineers. Registration closes **February 10th, 2025**, so email us at SPARX@mail.nasa.gov to express interest today!

Sign-up Today! NASA Aeronautics Flight Log

As we celebrate the one-year anniversary of the world debut of the X-59, don't forget to join Flight Log to learn all about

NASA Aeronautics, its research aircrafts, pilots, crew, and new flights coming soon. Join individually or as a



group and complete activities or attend a NASA Aeronautics event to collect endorsement stamps and earn mission patches. Stay connected on our [contact list](#) so you don't miss a thing. Sign up and fly with us!

Did you know?

February 4th marks the first flight of the Douglas D-558-II "Skyrocket" in 1948 by NACA test pilot John Martin. Scott Crossfield, another NACA test pilot, was the first to fly faster than twice the speed of sound at Mach 2.005 with the D-558-II. Learn more about this historic mission [HERE](#). Today, NASA is on a mission to fly supersonic fast without the noise. Check out the Quesst mission [HERE](#) and get inspired with the [Quesst Supersonic STEM toolkit](#).

February 18th is the anniversary of the first aircraft to land on another world, our Ingenuity the Mars Helicopter. Ingenuity proved that aircraft could fly on other worlds. Exceeding all expectations, Ingenuity flew 72 times covering more than 10 miles of the Mars terrain during a three-year mission. Check out this NASA Aeronautics STEM activity, [Build Your Own Mars Helicopter Model](#) to learn about the parts of Ingenuity that make her special enough to fly on Mars.

[Links to our Aeronautics STEM Resources:](#)

[Aeronautics Research Resources:](#) (all ages) This link takes you to a wide variety of educator resources, Aeronautics@Home, ebooks, National Academies Reports, webinars, lithographs and mini posters, the NASA Aeronautics Research Institute, and more.

[Aeronautics@Home:](#) (K-12) This web page contains aeronautics-based activities, videos, games, and more that can be completed at home, in the classroom, or in any number of settings. Topic areas include: "Build It!" "Explore It!" "Watch It!" "Solve It!" "Color It!" and "Aero Educator Resources". Coming soon: "Read It!" and "Do It!"

[Aeronautics Innovations Challenges:](#) Keeping up with our many design challenges and opportunities for both post-secondary and K-12 can be tough. In response, we created a "one-stop shop" to pull them all together in one location.

[Flight Log Experience:](#) (K-12, post-secondary, general public) Sign up to send your name with NASA Aeronautics on X-planes, UAS flights, and more as you build your virtual NASA flight log. Earn virtual endorsement stamps and mission patches and access aeronautics STEM activities and resources. Educators can sign up their entire class.

[NASA Express Sign-Up:](#) (K-12, post-secondary) Have you signed up for NASA's NASA EXPRESS weekly newsletter? This newsletter contains the latest information for educators (K-12 and post-secondary) about new resources, design challenges, internships, and workshops. It is THE go-to for the latest STEM news.

[Space to Learn:](#) (K-12, post-secondary, educators, general public) Need more resources from a variety of contents? NASA has a page full of learning resources from all projects and programs at NASA.

[Museum and Informal Education Alliance:](#) (Informal Educators and Museums) Not in a classroom? Looking for informal education materials? Join NASA's Museum and Informal Education Alliance, where you have access to NASA resources—including aeronautics—for your program, organization, museum, science center, or library. Find out about events happening near you and in the virtual world, and let the MIE Alliance help you build your programs! Access to guest speakers, the latest announcements about grant programs, and an active community network allow you to connect with other like-minded people in a supportive, engaging, and aerospace-focused neighborhood.

[NASA Aeronautics for Educators Facebook Page:](#) (K-12, post-secondary) Join our NASA Aeronautics for Educators Facebook page, where the latest aeronautics updates, professional development opportunities, lessons and ideas are freely shared.

[NASA Connects:](#) (K-12, post-secondary) NASA Connects is a network of educators who come together to collaborate, share NASA resources, and create personal collections of materials that can then be shared with others. Members can join groups tailored to their specific interests.

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