

NASA Aeronautics

April 2025
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Monthly STEM Newsletter

INSIDE

—
World Pilot's Day

—
NASA Fall Internships

—
USRC, Flight Log &
More!



NASA test pilots Nils Larson (left) and Jim "Clue" Less (right), and Lockheed Martin test pilot Dan "Dog" Canin pose with the newly painted X-59 as it sits on the ramp at Lockheed Martin Skunk Works in Palmdale, California.

Image Credit: NASA

April 2025

This month, NASA celebrates Earth as no one else can, including the cutting-edge work our aeronautics team is doing to help combat wildland fires through aviation and technology. We are also highlighting NASA pilots for World Pilot's Day. Meet our Aero Crew Highlight, April Lanotte, the creator of this newsletter and the STEM Integration Lead for NASA Aeronautics. NEW internship opportunities have been added for Fall 2025, with deadlines already approaching. Check them out along with other opportunities **including a chance for you, our planet's educators, to be highlighted in our 4th anniversary May edition.** Did you miss the recent flight log opportunity with NASA's ACERO Project? Be sure to head to NASA's Flight Log webpage so you don't miss another chance to get your name on the next flight.

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. Not subscribed yourself? [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.

World Pilot's Day

April 26th

Happy World Pilot's Day! On April 26th, we celebrate pilots everywhere, especially the dedicated NASA pilots pioneering the way for the future of aviation. NASA research pilots are the highly skilled in flying experimental aircraft and conducting research as they flight test new technology, refine computer models, and gather data in all areas of scientific understanding. They are vital to missions all over NASA, not just in aeronautics.

When NASA first began sending astronauts to space, they first had to experience flying jet aircraft. Scientist-astronauts who did not have military training attended Undergraduate Pilot Training with the Air Force and became military-qualified jet pilots when they completed the program. Today, being a pilot is no longer required to become an astronaut, but becoming a NASA research pilot would give you the opportunity to test out some cool new technology like the X-59, our quiet supersonic research aircraft.

Pilot understand the best flight-ready conditions for testing new technology and aircrafts that have never existed before. Their expertise is vital to missions such as the Quesst Mission and its goal of flying at supersonic speeds without producing the loud sonic boom using the X-59 quiet supersonic research aircraft. NASA research pilots, Nils Larsen and Jim Less, will be the lead pilots collecting data on quiet supersonic flight. Read more [HERE](#) about how these pilots and their colleagues are helping to create the safest conditions as possible while testing new aviation technology.

NASA research pilots also fly drones. Red Jensen was a pioneer of drone technology when it first came to NASA. Share the [Red Jensen leveled reader](#) with students so they can learn about his career and the research he conducted with uncrewed aerial vehicles (UAVs). Watch more about current drone careers with [Kathryn Chapman's Surprisingly STEM](#) video. Kathryn and her team are testing drones to help fight wildland fires.

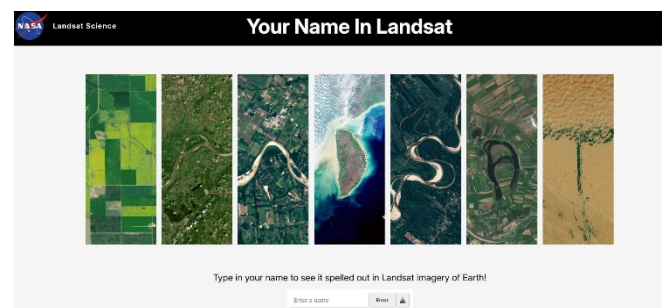
Learn more about the flight research pilots stationed at NASA's Armstrong Flight Research Center on the [Armstrong People page](#). Head to the [NASA Aeronautics STEM page](#) to explore STEM activities about aeronautics science and browse the aeronautics career section to get inspired for your future! No matter the task, NASA Aeronautics depends on the entire crew to get the mission done. Explore [the X-59 Quiet Crew series](#) to get to know some of the pilots and crew who help with the research of new aircraft and technology.

Happy Earth Day!

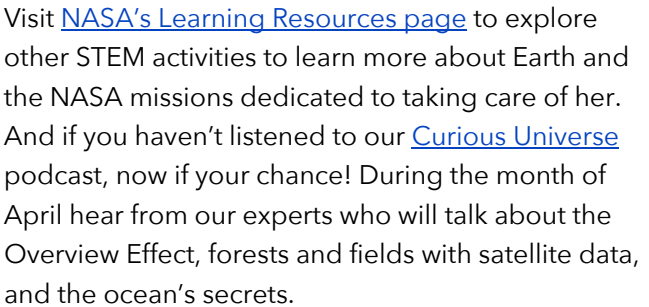
April 22nd

NASA sees our home planet like no one else. We have been observing our planet for more than 60 years. In that time, innovative scientific observations from air and space have revolutionized our understanding of Earth and how it works. NASA data and innovative tools are vital for enabling federal, state, local, and international governments as they monitor and manage the food we eat, the air we breathe, and the challenges faced by communities in the line of severe weather.

There are lots of ways to engage students in Earth Day this year and every day, with a few ideas listed here. Have students written their names with [Landsat?](#) Give it a try!



Make your own [Tornado in a Bottle](#) to understand how they form and their impact on flying aircraft. Explore real-world, real-time NASA data to see where active wildland fires are around the globe with our [FIRMS](#) tool.



For the month of April, we felt we just *had* to highlight **April** Lanotte. As a part of her job, April started this newsletter almost four years ago and works with teams within NASA aeronautics, with other mission directorates and programs at NASA, and with external organizations, educators, and students to connect the work we're doing in aeronautics with students and educators everywhere.

"As someone who grew up in a small town in Pennsylvania (Mars, PA to be precise!), I never imagined I would ever work for NASA even though that's always what I wanted to do. Like many of us, my path was not linear; I started my education career as a middle school English teacher. I've always been interested in a million different things—astronomy, poetry, nature and the outdoors, music, art, engines

and technology—you name it, I've probably been interested in it. One connector for me was always writing. No matter what I've been passionate about, I've always found ways to write about it and that's what brought me to NASA.

As a part of our Strategic Communications team, education is another way of communicating and I spend much of my time working with my amazing team to find ways to communicate our exciting and sometimes complicated work to educators and students so that they, too, can get excited about our work and perhaps find their way to NASA or into aeronautics.

When I'm not at work people will probably find me in my garden, hiking, or hanging out with my family, pretending I'm good at fishing. I am also working on my doctorate in Aviation Education from Oklahoma State University so you might also find me neck deep in research."

Be the Next Aeronautics Crew Highlight!

For the May edition of the NASA Aeronautics Monthly STEM Newsletter—our 48th edition--we are honoring the noble profession of educators. If you would like to be featured, please send us an email with *"May - Aero Crew Highlight"* in the subject line to aerostem@nasa.onmicrosoft.com with the following information:

- First Name
- Last Initial
- City, State (where you teach)
- Grade Level(s) and Subject(s) you teach
- How you use aeronautics as an educator?
- What inspired / inspires you as an educator?
- 150 - 200 words

We look forward to hearing your stories and honoring the gift you give every day as a teacher. Happy flying!

STEM Opportunities

***NEW Opportunity!* NASA Aeronautics STEM**

Get the 101 on NASA Aeronautics with NASA expert Dave Berger! Learn about new missions and how you can use them in the classroom to teach about

conceptual engineering, career pathways, and more. Meetings will be the fourth Wednesday of each month via Teams, with the first session being held on Wednesday, April 23rd at 6pm ET. No need to sign up, just join us! [Join the meeting now](#) Meeting ID: 252 856 825 018, Passcode: Hc3md7wh

NEW Application Cycle Opening Soon! University Student Research Challenge (USRC)

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



Challenge is ready for new proposals from post-secondary students. Think like an entrepreneur and contribute to new and improved aviation systems with your ideas. Head to the [NARI website](#) for more information and get ready for the next submission window opening **May 2025** to submit your proposal by **June 26, 2025**.

CONGRATULATIONS, Finalists! 2025 Gateways to Blue Skies Competition



The Gateways to Blue Skies Competition is for post-secondary students to present new innovative technologies in aeronautics. This year's theme: AgAir (Aviation Solutions for Agriculture) asked student

teams to improve agriculture through aviation. Congratulations to the 8 finalist teams who will present their innovative ideas to a panel of NASA judges.

- Auburn University, Alabama
- Boston University, Massachusetts
- Columbia University, New York
- Embry-Riddle Aeronautical University, Florida
- Houston Community College, Texas
- South Dakota State University, Brookings, SD
- University of California, Davis, CA
- University of Tulsa, Oklahoma

Read more about the final selections [HERE](#). Stay tuned for the announcement of the winning team. Want to join the competition? Check out the [Gateways to Blue Skies Competition page](#) for more information about next year's challenge.

NEW Fall Opportunities Added! NASA Internships

NASA Internships are now fully in-person, so find a center near you with new opportunities now available for fall 2025. Explore [NASA Centers and Facilities](#) around the country to learn which locations fit your future career! Search [HERE](#) for internship opportunities in a variety of career fields and apply by **May 16th, 2025**. Students 16 years and older are



eligible to apply. Don't let a NASA opportunity pass you by, apply today!

Join the NASA Internship webinar on **Thursday, May 1, 2025, 4-5 pm EST** to explore internship opportunities, learn about eligibility and application requirements, and discover how to apply. Learn firsthand experiences from current interns and tips to make your application stand out. Whether you're a high school or college student, this session will guide you through everything you need to know to kickstart your NASA journey. Q&A included! Register on [NASA STEM Gateway](#) to join the call.

Sign-up Today! NASA Aeronautics Flight Log



Let's fly in 2025! NASA Flight Log just launched the first UAV flight opportunity with the ACERO mission doing research using uncrewed aircraft

systems to assist during wildfire disaster situations. Don't miss another flight when you head to [Flight Log](#) to sign up today! Coming soon, the X-59 will make her first flight doing research on quiet supersonic flight. Join as an individual or a group, complete activities or attend a NASA Aeronautics event to collect endorsement stamps and earn virtual mission patches. Get notified about new

opportunities when you join the [contact list](#). We can't wait to fly with you!

Are you interested in other STEM connections with NASA? Create a new account to join [NASA's STEM Gateway](#) to find opportunities that interest you. Check out [NASA Engages](#), a program that connects NASA experts with the community to share NASA missions and content to inspire students to pursue a career in STEM!

Did you know?

April 16th is Wilbur Wright's birthday! Wilbur and his younger brother Orville Wright flew the first powered aircraft in Kitty Hawk, NC in 1903. Their invention inspired the creation of the NACA (National Advisory Committee for Aeronautics), later incorporating space exploration becoming NASA, which has been doing aeronautics research for more than 100 years and became NASA in 1915 when government added space exploration to the mission. What kind of inventions can you dream up? The [Aeronautics @ Home page](#) has lots of STEM activities to explore your engineering dreams and problem solving skills.

April 26th is Drone Safety Day. NASA Aeronautics conducts research with [ACERO](#) (Advanced Capabilities for Emergency Response Operations Project) and UAVs (uncrewed aerial vehicles) to equip them to be useful to emergency personnel during wildfire disasters. Learn about safety and the proper use of drones when you develop your own safety poster with the [Drone Safety Poster activity](#). Check out the [Drones to the Rescue STEM activity](#) to code and navigate your own UAV through a simulated wildfire.

April 26, 2007 marks the first test flight of SOFIA, the Stratospheric Observatory for Infrared Astronomy. An amazing aircraft, SOFIA carried a reflecting telescope with other technology that allowed researchers to study the solar system and Earth from an innovative perspective flying all over the world traveling as high as the stratosphere. Aeronautical innovations have helped improve aviation and study our planet and the galaxy beyond. Learn more about SOFIA [HERE](#), then head to the [Aeronautics STEM page](#) to start learning the science behind aeronautical concepts and explore career pathways.

Links to our Aeronautics STEM Resources:

[Aeronautics Research STEM 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.

National Aeronautics and Space Administration

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