



# NASA Aeronautics

## Monthly STEM Newsletter

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Gateways to Blue Skies 2025 announcement

NASA Artifacts, NASA Engages, & more opportunities!



Orville Wright is at the controls in this photo of the first successful sustained powered

Credit: Library of Congress

## August 2024

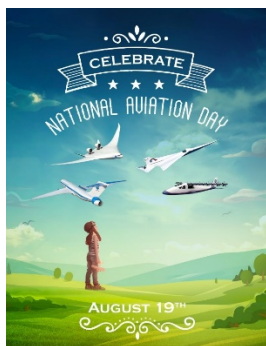
The summer has just flown by, Aeronauts! Where to even start? This month we celebrate Back-to-School events and National Aviation Day, not to mention Orville Wright’s birthday! NASA Aeronautics kicks off the new school year with some NEW STEM activities coming soon and the 2025 Gateways to Blue Skies student challenge announcement! Don’t miss internship and other application deadlines for students, plus new funding opportunities and others open to educators. Our Aero Crew Highlight, Danielle Koch, an Aerospace Engineer in the Acoustics Branch at NASA’s Glenn Research Center, shares her journey to NASA as we celebrate her award from the Girl Scouts of North East Ohio. Join Flight Log today to ensure you stay up to date with all things NASA Aeronautics.

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](mailto:april.a.lanotte@nasa.gov) or [holly.o.gutierrez@nasa.gov](mailto:holly.o.gutierrez@nasa.gov).

## National Aviation Day

August 19

In 1939, President Franklin D. Roosevelt proclaimed Orville Wright's birthday as [National Aviation Day](#), the day to encourage the people to take interest and participate in activities that are aviation focused. Every year we celebrate this excitement on August 19<sup>th</sup>. What are you going to do with your students to inspire them? Looking for something quick that students can do at home? Try our [Aeronautics@Home](#) activities. We've also been preparing new ways to excite the younger learners and middle schoolers as well—stay tuned for the release of **two fun, new activities** that will be released August 19<sup>th</sup>!!! We'll give you one hint...Orville D. Squirrel will definitely help you dance to celebrate the holiday!!



## Back-to-School Social Takeover!

August

Join NASA's Back-to-School digital campaign for August 2024! Join in on the fun on the [NASA STEM](#) Facebook page and elsewhere for fun content August 5-9<sup>th</sup>!

But we're not done yet—if you're looking for Aero-focused STEM content, join the Aeronautics for Educators Facebook page to get a month of back-to-school fun, with weekly updates highlighting a new letter of STEM each week. Don't miss it!

## Student Opportunities

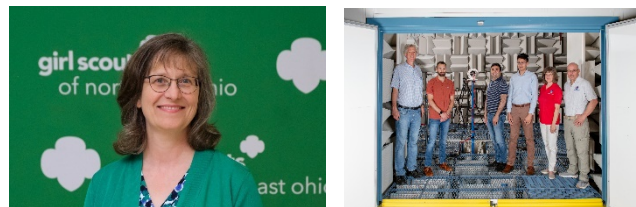
### **NEW!** Gateways to BlueSkies 2025 Announced



The Gateways to BlueSkies competition is a college initiative that focuses on climate-friendly technologies and applications. The 2025 theme has been announced:

## Aeronautics Intern Crew Highlight

**Danielle Koch**, NASA Aerospace Engineer in the Acoustics Branch



Danielle Koch is an Aerospace Engineer at NASA Glenn Research Center. She wants to bring peace to the world in both her work and her philanthropy. Read on to learn about Danielle's journey to NASA.

“ I work as an Aerospace Engineer in the Acoustics Branch at the NASA Glenn Research Center (NASA GRC). I have spent my 34-year career trying to increase the peace and quiet in the world by researching ways to improve the aerodynamic and acoustic performance of aircraft engines and spacecraft ventilation systems. Quiet and efficient motor-driven fans are needed for more sustainable aircraft featuring hybrid-electric and electric engines. High-performance fans are also needed for ventilation systems onboard spacecraft for ambitious long-duration human space exploration missions.

I lead creative multidisciplinary teams to conceive, plan, and conduct experiments to predict and measure the performance of these fan systems. Inspired by nature, I also lead a team of inventors developing novel broadband acoustic absorbers that resemble bundles of natural reeds which might be useful in a variety of noise control applications. I work closely with the NASA Technology Transfer Office and support NASA's Small Business Innovation Research (SBIR) Program, since this research benefits the public in many ways. I have authored over 50 publications and have been awarded three patents.

I am a graduate of Case Western Reserve University (CWRU), a Professional Engineer in Ohio, an active member of the American Institute of Aeronautics and Astronautics (AIAA) and the Institute of Noise Control Engineering (INCE) and was a member of the student chapter of the

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*AgAir - Aviation Solutions for Agriculture.* Collegiate student teams will create aviation related systems that can be applied to agriculture by 2035 or sooner with the goal of improving production, efficiency, environmental impact, and extreme weather/climate resilience. Full details about the 2025 student competition will be available **August 6, 2024**. Here more from some of the participants, and "[Just try it out.](#)"

### **Applications DUE! NASA Internships**

The Spring 2025 deadline is coming this month on **August 23<sup>rd</sup>, 2024**. Check out NEW projects including some opportunities for students starting at 16 years old. Learn more [HERE](#) about available STEM and non-STEM projects at various NASA centers that offer in-person, virtual, and hybrid internship opportunities.



Think you may not have the "STEM" experience NASA is looking for? Join the NASA Internship team in a talk about the kinds of non-STEM majors NASA needs! **Thursday, August 8, 2024, 4-5 pm EST**. Sign up [HERE](#). Whatever students are interested in studying, NASA has a place for them!

### **NEW Challenge! NASA TechRise Student Challenge**



The NASA TechRise Student Challenge is for students in grades 6-12. Student teams are challenged with submitting their ideas for experiments to test high-altitude balloon flight with exposure to Earth's atmosphere and views of our planet. Entries are due by **November 1<sup>st</sup>, 2024**, and selected teams will start building their projects in January 2025. Head to the [TechRise webpage](#) to learn more about this student challenge.

Society of Women Engineers at CWRU. As a member of the AIAA Aeroacoustics Technical Committee, I work with professionals across the world to recruit and include a more diverse aerospace workforce. At NASA, I advocated for and graduated from the NASA GRC Women in STEM Leadership Development Pilot Program in 2016, which was subsequently offered to women across the Agency in 2018.

Passionate about creative and diverse engineering teams, I have interacted with thousands of students, pre-K to PhD. Working with experts in the NASA Speakers Bureau and NASA's Office of STEM Engagement I have supported a variety of NASA's outreach activities such as the High School Shadowing Program, Educator Workshops, Internship Programs, High School Capstone and Engineering Design Challenges, NASA Sparx Virtual Connections, and the NASA Leveled Readers series. I have served as a tutor for NASA via the Cleveland Federal Executive Board Tutoring Program since 2007 and as a volunteer Engineer Mentor for the DiscoverE Future City Competition since 2011.

I have been recognized for excellence in engineering and educational outreach, including a NASA Invention Award (2000), the Cleveland Federal Executive Board Wings of Excellence Award (2017), the NASA Glenn Federal Women's Program Award (2017), the NASA Glenn Research Center Diversity and Inclusion Award (2019), and most recently named as one of the 2024 Women of Distinction by the Girl Scouts of North East Ohio.

One fun fact about me is how I discovered engineering while attending a week-long summer camp as a junior in high school at St. Vincent College in Latrobe, PA. In a classroom, a private pilot instructor began to teach how an airplane fly. We had a few flight lessons in a small airplane, since the Arnold Palmer airport was across the street from the College. After camp, I decided to be an aerospace engineer. Literally, it was a week that changed my whole life. Getting experiences as a young student can be so pivotal, and there are lots of STEM camps for high school students to try. My husband and I are grateful parents of three children who are now in college. ”

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## NASA in the Classroom & Educator Opportunities

### Invite NASA to your classroom, school, or event! NASA Engages

NASA engages is a new program for NASA to share their missions and content at educational, professional, civic, and other public venues. K-12 to post-secondary entities, libraries, museums, professional and technical organizations, community groups and others can submit a request for a NASA Expert to attend their event. Learn about submitting a request [HERE](#).

### New application window STARTS this Month!! NASA Artifacts

The NASA Artifacts Office gives educators an opportunity to have real items from NASA missions in their classrooms, schools, or other approved locations. These items include astronaut training clothing, space shuttle tiles, and more. As you can imagine, these items are unique and limited in quantities, so don't hit the snooze button. The next screening period for applications will be open from **August 26 to October 7, 2024**, a perfect way to kick off your school year! Get your application in early and get an authentic NASA mission artifact for your classroom! Check out the [NASA Artifacts webpage](#) to learn more, including how to apply, who qualifies, and more.

### NOW Open! New TEAM II Grant Proposals AND a new funding category!!

NASA's Teams Engaging Affiliated Museums and Informal Institutions program ([TEAM II](#)) has opened their [solicitation portal](#) for the next round of funding for the Community Anchor Award and the **NEW STEM Innovator Award tier**.

Two tiers, two submission deadlines:

Submit a proposal for the "TEAM II Community Anchor" by **August 27, 2024**. The "Community Anchor" tier will continue to offer awards up to \$50,000. The Community Anchor tier opportunity will be offered each fiscal year, and the STEM Innovator and National Connector tiers will be offered in alternating years.

Proposals for the STEM Innovator are due by **September 26, 2024**. The new "STEM Innovator" tier will fund awards of approximately \$250,000. In addition, the highest tier award will be designated the "National Connector" award and fund initiatives up to \$900,000.

Danielle Koch, you are an inspiration to women, girls, and people everywhere. Congratulations and thank you for your contribution to the NASA mission. Read more about [Danille's Girl Scout award](#) and check out her [Leveled Reader](#). Happy Flying!

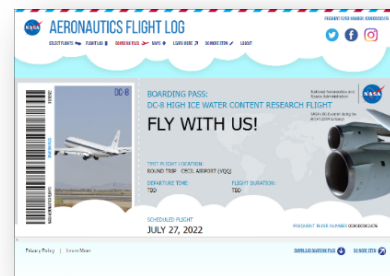
## Professional Development

**NASA CONNECTS:** Are you interested in other professional development opportunities? Create a new account or log into NASA's STEM Gateway to find a virtual session that interests you.

## Virtual Opportunities

### Sign Your Classroom Up Today! Flight Log

We just came back from Airventure with so many new Aero friends! Educators, did you know you can sign up whole classrooms and student groups?



Sign up your students today and start earning endorsement stamps and mission patches for completing STEM activities. Add your email to our [contact list](#) to stay up to date on upcoming flights and other opportunities. By the time you know it, we'll be flying on the X-59!

## Did you know?

**August** is National Traffic Awareness Month. Did you know traffic is not just on the ground? With more aircraft being implemented and used to connect the world, air traffic is a growing concern. NASA strives to help air mobility stay safe and coordinated while filling the air with more vehicles. Check out [SmartSkies: Line Up with Math](#) activities and simulator to get an insight into the work of an Air Traffic Controller.

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## AirVenture Re-Cap

It was great to see some of you at AirVenture 2024 just a short while ago! If you were able to join us in OshKosh, WI you were able to see:



Image Credit: EAA

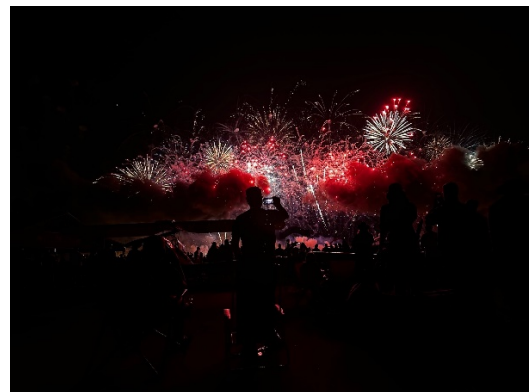
If you weren't able to join us, there is always next year!! NASA, the EAA, and other partner organizations are already planning new and great educator experiences, so stay tuned and mark your calendars for July 21-27, 2025 (and if you're interested, yes there is already a countdown on their site to the event!!!).

Here are a few pictures to help re-inspire your love of all-things aeronautics:



**August 19<sup>th</sup>** is Orville Wright's birthday. Orville was born in 1871 in Dayton, OH. He had an interest in all things mechanical. After owning a print shop with his brother, Orville and Wilbur did research in aerodynamics and studied aeronautics. In 1903, the Wright Brothers successfully flew the first engine-powered airplane. Flight has grown and evolved into amazing vehicles through the decades. Join [Aeronautics Flight Log](#) to learn more about aviation and virtually engage in new research flights with NASA test pilots!

**August 19<sup>th</sup> - 25<sup>th</sup>** is National Aviation Week. Aviation has connected people and places across the globe. This week we celebrate all things that fly: airplanes, helicopters, hot air balloons, drones, air taxis, and more! Try a different [Aeronautics activity](#) each day to learn different things about aviation.



## 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.

[Aeronaut-X](#): (K-12) Our Next Gen STEM: Aeronaut-X team provides new and exciting STEM activities that focus on cutting-edge aeronautics education and the future of flight.

[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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