



# NASA Aeronautics

November 2022  
No. 19

## Monthly STEM Newsletter

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*NASA is working with Boeing and their ecoDemonstrator, a 777-200ER aircraft that has been modified to test technologies that will improve sustainability and safety for the aerospace industry. Join [Flight Log](#) to fly your name on a flight this month. Photo credit: April Lanotte*

## November 2022

With some of you thinking ahead to turkey and the late fall/winter holidays, you may have missed that November is Aviation History Month. We challenge you to ask your students what they think three of the most significant developments in aviation have been. What do you think? Take a look later in the newsletter for some interesting historical aviation facts for November.

We've also added a new Career Highlights section to the newsletter. Each month we will showcase a different person in NASA Aeronautics, introducing a bit about their career and how they got where they are. And be sure to sign up asap to fly your name and your classroom on NASA's research mission on the Boeing ecoDemonstrator with our [Flight Log](#) program, where we'll be testing a new type of vortex generator that could reduce drag and allow aircraft to use less fuel.

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? [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).

Let's Fly!

## Newly Released STEM Items:

**New!** [Join Orville D. Squirrel and fly your name on the Boeing ecoDemonstrator](#)



NASA is working with Boeing to flight test a SMART vortex generator that extends and retracts using a shape memory alloy. Orville D. Squirrel will fly student, educator, and the public's names with him on a flight this month, so sign up now! **COMING SOON:** a complementary K-12 STEM activity using nitinol, a shape memory alloy. A short video of how the shape memory alloy will work with the vortex generator can be seen [here](#).



**New!** [The Quiet Crew: Jessica Arreola](#)

In this episode meet Public and Digital Engagement Lead Jessica Arreola. Learn about her role on the Quesst mission, including her ability to bring the X-59 to the Spanish-speaking community.

Hablas español? Visita [aquí](#) aprender mas sobre la mision Quesst.

**New! Student Opportunity–Virtual Classroom Connection: Taking Flight**

NASA's Next Gen STEM (NGS) team will select up to three middle school groups to actively engage in this event on **Nov. 10<sup>th</sup> at 1pm EST**; all other applicants will be invited to join as spectators and can submit questions via the chat. Applications are due **Nov. 2, 2022**. To [apply](#), you need a [NASA STEM Gateway account](#).

## Professional Development:

**November 5-7, 2022 (in person):**  
[Science Teachers Association of NY State \(STANYS\) Conference](#)

Join Dr. Barbie Buckner on Nov. 5<sup>th</sup> at 11am for a workshop on "NASA's X-57 All Electric Plane, the Maker Movement, and Circuits."

**November 9, 2022 (in person):**  
[Science Teachers Association of Texas CAST Conference](#)

Come and find NASA if you are at the TX CAST Conference.

**[Educator Professional Development Collaborative \(EPDC\)](#):** We know you're back in the classroom, but that doesn't mean you can't learn, too! Join NASA's EPDC team for free, virtual professional development to give you some great ideas for new lessons and activities tied to aeronautics. November virtual professional development includes: [Explore Flight: Using Bernoulli's Principle](#), on Oct. 13<sup>th</sup>, [Aeronaut-X: Efectos del Sonido y Sensibilidades del Sonido](#) on October 18<sup>th</sup>, and others. Sessions are free, but registration is required.

**New! Career Highlights**



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## **New! [Advanced Air Mobility Playbook: Ride Quality](#)**

Who wants a noisy, bumpy ride? No one! This includes what passengers on future eVTOL aircraft will want. If you have a minute (1:57 to be exact), share this short video about research NASA and industry are conducting to address passenger expectations on future flights.

## **Funding and Internship Opportunities:**

**Deadline Extended!** The [NASA Teams Engaging Affiliated Museums and Informal Institutions TEAM II Community Anchor Awards Notice of Funding Opportunity](#) is now open. **Full proposals are due Nov. 14, 2022**, with individual awards ranging from \$35K-40K.

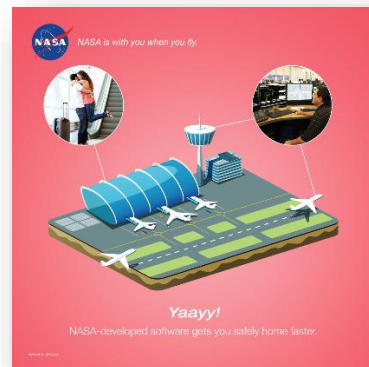
[Aeronautics Research Mission Directorate University Student Research Challenge \(USRC\)](#): USRC challenges students to propose new ideas/concepts that are relevant to NASA Aeronautics. USRC will provide students from accredited US colleges or universities with grants for their projects. **Submission deadline is November 10, 2022.**

[Spring 2022 Internship applications](#) are now open. The deadline for Spring internships is **Nov. 11, 2022**, with the spring session beginning **Jan. 17<sup>th</sup>, 2023**. *Please note that NASA Internships has recently migrated to a new application system. Previous applicants need to renew their passwords and update profiles before applying for an opportunity.*



In this newly added section we will highlight a new career and/or person at NASA. This month we share the story of Jim Ross, an Aerial Photographer at NASA's Armstrong Flight Research Center. The following [video](#) highlights his career and path to get where he is today. Like many career options at NASA, his unique skillset is not one of an astronaut, pilot, or engineer, but is equally crucial to what we do.

## **Did you know??**



Nov. 2, 1929: The "99s Club" female aviation organization was officially formed. At the time, 99 of the 117 licensed American women pilots signed up as charter members of the group, which is how it got its name.

Nov. 5, 1908: Wilbur Wright receives the Grand Gold Medal of the Aero Club of France for advances in aviation.

Nov. 13, 1907: The first piloted helicopter rises vertically in free flight in France.

November 1911: Matilde Moisant, the second woman in the US to earn a pilot's license, defeats Harriet Quimby and Helene Dutrieu to win the Rodman Wanamaker altitude trophy for flying her 50 hp Moisant monoplane to 4,000 ft. in altitude.

## NASA Aeronautics Monthly STEM Newsletter

### 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!" Some materials are available in English and Spanish.

[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.

[NASA Educator Professional Development Collaborative](#): (K-12 educators) Where do you go for ongoing, free NASA educator professional development opportunities? To EPDC! Take a look at webinars, digital badging and CEU opportunities, STEM teaching tips, videos, and so much more.

[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 STEM Stars](#): (students ages 13+) NASA STEM Stars is a compiled library of webchats that connect students ages 13+ with NASA experts of all types. Each chat introduces a STEM career, addresses a STEM topic, and highlights a NASA mission.