NASA Aeronautics

February 2023
No. 21

Monthly STEM Newsletter

INSIDE

Artist concept of commercial aircraft families with a Transonic Truss-Braced Wing configuration from the Sustainable Flight Demonstrator (SFD) project. The new project was announced in January. ***Credits: Boeing***

February 2022

As we kick of Black History Month, we celebrate our many accomplishments here at NASA due in large part to a diverse workforce who have each contributed to our missions and programs. Be sure to take a few moments to find our more about Integration Manager for the Johnson Space Center OSTEM Office and NASA Community of Aerospace Scholars Activity Manager Dynae Fullwood and her great work. In addition, take a look at new STEM materials, others you may have missed, and upcoming opportunities for everyone from elementary through post-secondary.

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.

Let's Fly!

Newly Released Items:

NASA Aeronautics en Español

You might have noticed that NASA has been working hard to offer many STEM materials and other NASA resources in both English and Spanish. We are so excited to announce the debut of our Spanish-language web pages! Aero-related content, including STEM activities, can be found at https://www.nasa.gov/aeroes. If you also struggled to find what STEM materials we have in Spanish, we moved many of these resources to one location on our Aeronautics@Home page as well.

In Case You Missed It!

Winter Break STEM Activities (in English and Spanish)



Not just for the winter break, have some fun with craft-stick aircraft, X-59 snowflakes, personalized travel logbooks and more! Activities can also be found on Aeronautics@Home.

Wingin' It: Also available in English and in Spanish, this set of activities and accompanying video encourages students to explore the impact of aircraft design, weight, and weight distribution on flight distance by testing paper airplane designs.

Sensor Solutions

Designed for grade levels 5-8 and 9-12 shares activities for students to gain a better understanding of the types of sensors installed on drones, how sensors work, advantages and limitations, and more. Available in both English and Spanish.

Career Highlight: Dynae Fullwood

This month we are featuring Dr. Dynae Fullwood, the Integration Manager of the OSTEM Office at Johnson Space Center and the NASA Community College Aerospace Scholars (NCAS) Activity Manager. Dr. Fullwood has been a lifelong learner and a former high school educator with experience in robotics but also likes to learn French, is an author, and a busy mom. She grew up in Louisiana and played volleyball in high school, among her other talents.

Dr. Fullwood credits her lifetime of being of service to others to her parents and the impact they had on her and their community. Education was not necessarily what she first thought she would do for a career, but it didn't take too long for her to figure out what she wanted to do and how to excel at it. Not long after deciding to go into education she immersed herself in the profession and while continuing to learn more herself, found the chance to work *with* teachers through NASA.

Dynae has always wanted to effect change, and her career at NASA has allowed her to do that in the world of

Smart Skies Reinvigorated: Coming Soon!

Do you teach pre-algebra? Have you used NASA's Smart Skies hands-on math program? Smart Skies teaches students about distance-rate-time through air traffic control. The program has been around for quite a while and has been undergoing some much-needed renovations (think Quicktime and Windows 7!). Stay tuned for the new-and-improved Smart Skies webpages, coming in January. Access our lessons and activities, videos, and simulator that help teach some challenging topics.

2023 Dream with Us Design Challenge

Launching **March 1, 2023**, NASA Aeronautics and Aeronaut-X will present this year's "Dream with Us" design challenge for students in grades 6-12. We can't tell you the challenge topic and rules yet (stay tuned for details and the official announcement during the ImaginAviation 2023 virtual conference

ImaginAviation 2023

Sign up for ImaginAviation 2023. Educators, students, and anyone interested in learning more about the latest innovations in NASA Aeronautics through the eyes of our Transformative Aeronautics Concepts Program is invited to attend.

Do you want to bring your class? Great! If you missed the virtual educator professional development session on Jan. 24th, learn more about what to expect during the conference, how to get your students engaged, and more about the conference platform Gather.Town through the recorded session.

Jr. Pilot Book: X-57 (in English and Spanish)

Our first Jr. Pilot Book focused on the X-59 and the science of sound. Coming soon—our X-57 book which will allow elementary-aged students to have fun while learning about the X-57 and electricity.

education by working with educators, students, and now at the larger programmatic level. A more recent aeronautics program she oversees is the development and implementation of a pilot program for the NASA Community of Aerospace Scholars (NCAS) experience, allowing community college students to work with NASA to first learn about then help generate ideas to contribute solutions for advanced air mobility (AAM), manufacturing, and the supply chain.

Professional Development:

If you are like many educators you look forward to NASA's many educator professional development opportunities including opportunities both in person and virtual. Our virtual sessions are currently undergoing a transition and we'll be back better than ever! New EPD sessions are expected to return at the beginning of March, so stay tuned!

Come See Us in Person!

Space Educators Conference (SEEC): Feb 9-11, 2023: Join NASA for fun, engaging, hands-on STEM at the SEEC conference. Join other educators from around the country (and globe) in Houston, TX to get reinvigorated and have a great time doing so. Our aeronautics team will present a session on X-planes on Saturday, Feb. 11.

Women in Aviation, International (WAI): Feb. 23-25, 2023: NASA Aeronautics will have a booth at the WAI conference in Long Beach, CA this year so stop by and say hello. We will also participate in the educator professional development session on Feb. 23rd, along with the Girls in Aviation Day event on the 25th.

Funding and Internship Opportunities:

Join the **NASA University Student Research Challenge** family and collaborate with peers to contribute to the evolving field of aeronautics! NASA is seeking creative ideas and concepts relevant to NASA Aeronautics from interdisciplinary student teams.

- Receive up to $80,000 to pursue your ideas
- Gain technical and entrepreneurial experience
- Open to all majors and interdisciplinary teams (engineering, business, etc.)
- Interface with NASA experts and receive exposure to the aerospace industry

Proposals for the current round are ***February 25, 2023***

The next opportunity will be due June 24, 2023

To learn more, visit our website: https://nari.arc.nasa.gov/usrc

Summer 2023 NASA Internships

The application window is open now through March 1 for Summer 2023 NASA Internships. Did you know there are internships for educators, too? Follow the link above to find out more.

NASA MUREP Women's Colleges and Universities Grant- new for 2023!

The NASA MUREP WCU Activity is a new initiative seeking to address the significant gender gap and disparate experiences of women in STEM in the United States, both in higher education and the workforce. WCUs, as identified by Department of Education data, are called to leverage their women-centered expertise and

Did you know??

Feb. 14, 1932: Ruth Nichols successfully flew her Lockheed Vega aircraft at almost 20,000 feet, setting a new altitude record for diesel-powered aircraft. Nichols set several records throughout her career, flew every type of available aircraft, and was a founding member of the organization for female pilots called, "The Ninety Nines."

February 16 is International Black Aviation Day to honor black aviators, past and present, who dared to dream among the stars and beyond. Airlines, schools, and aviation enthusiasts globally will be honoring African American pioneers and their accomplishments.

Cornelius Coffey, an African-American aviator and engineer, was a prominent figure in the field of aviation. Born in 1903 in Newport, Arkansas just months before the Wright Brother's initial flight, he was the first African American certified aircraft mechanic in the United States.

experience to address barriers to women seeking, retaining, and remaining in STEM degrees and employment. MUREP WCU awardees will create academic, personal, and professional programs, student outreach, and support services through an intersectional (Crenshaw, 1989) lens, taking into consideration the experiences of women and their various identities such as race, sexual orientation, and socio-economic status.
Open to Women's Colleges & Universities

Release date: January 17, 2023

Proposal Due Date: April 17, 2023

Solicitation website: MUREP WCU - NSPIRES

NASA MUREP Curriculum Awards (MCA) - new for FY2023!

Open to all Minority Serving Institutions (MSIs), the MCA solicits proposals from 2-year/community college and 4-year/college or universities to strengthen the research capacity of MSIs, and enable students' capacity for research in areas of priority to NASA Mission Directorates, while engaging diverse students in authentic learning experiences through curriculum improvement and development and culturally relevant and responsive teaching, learning and support.

Release Date: January 30, 2023

Proposal Due Date: May 1, 2023

Solicitation website: MCA - NSPIRES

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.

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 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.