NASA Aeronautics

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Monthly STEM Newsletter

INSIDE

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The DC-8 aircraft returned to NASA's Armstrong Flight Research Center in Palmdale, California, on April 1, 2024, after completing its final mission supporting Airborne and Satellite Investigation of Asian Air Quality (ASIA-AQ). The aircraft and crew were welcomed back with a celebratory water salute by the U.S. Air Force Plant 42 Fire Department. It's not too late to sign up on Flight Log to send your name on its final flight to Idaho State University.
CREDIT: NASA Armstrong Flight Research Center

May 2024

May flowers are blooming, Aeronauts, which means it is almost the end of the 2023-2024 academic year! This month we celebrate Asian American, Native Hawaiian, and Pacific Islander Heritage, moms everywhere of many different types (how many of you educators have been called "mom" over the years?!?), and the retirement of our beloved DC-8 research aircraft. Check out our Aero Crew Highlight of the month, Stephen Helland. He is a traveler helping others reach their full potential and giving young people a strong role model to look up to. Check out STEM classroom opportunities from AeroFair and the new round of internship opportunities available at NASA centers throughout the country. Let your students know about their chances to apply for NASA internships, challenges, or other opportunities. AND there's a new flight coming up! Sign up with Flight Log today so you don't miss the chance to fly on the final flight of the DC-8, receive new flight updates, and other opportunities to engage with 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 or holly.o.gutierrez@nasa.gov.

Asian American, Native Hawaiian, and Pacific Islander Heritage Month

May

Our country is made up of many different people from all over the world. At NASA we celebrate the diversity of people whose ancestors or they themselves have come here to add their skills to change the future of Aeronautics, Earth, and humankind. This month we celebrate our Asian American, Native Hawaiian, and Pacific Islander friends, family, and colleagues who have dedicated their careers to the missions at NASA.

May commemorates the first Japanese immigration to America in 1843 and the completion of the transcontinental railroad in 1869 which was built mostly by Chinese immigrant workers. Beginning in 1977, Representatives Frank Horton and Senator Daniel Inouye of New York proposed (at different times) to congress declaring the first 10 days of May to be Asian/Pacific American Heritage week. Both proposals were denied, but during the following year, 1978, Rep. Horton resubmitted the proposal and President Jimmy Carter signed it into law on October 5, 1978, with an amended 7-days instead of ten. In 1990, President George H.W. Bush extended Asian American, Pacific Islander Heritage week to the entire month of May.

Throughout the years NASA has celebrated the many contributions made by these wonderful individuals who have shared their culture and heritage and have accomplished so much over the years. Watch this video to meet two of NASA's very own, Anita Dey and Johnny Lim, who are working to achieve their missions towards the betterment of humanity. Read about some of the aeronautics crew at NASA Armstrong Flight Research Center such as Litia Ata who is breaking barriers and stepping out of her comfort zone and Wason Miles inspiring the next generation of pilots and engineers.

DC-8 Retirement Flight

May 2024

The Douglas DC-8 was built in 1969 and entered the Airborne Science Project in 1987. The aircraft is 157 feet long with a 148-foot wingspan and has a range of 5,400 nautical miles. It can fly at altitudes up to 42,000 feet for up to 12 hours, and has the ability to carry 42 researchers, a flight crew, AND 30,000 pounds of scientific instruments and equipment! The DC-8 has been an amazing aircraft

Aeronautics Crew Highlight

Stephen Helland, *NASA Associate Director & Technical Advisor for AETC*

Stephen Helland is an Associate Director at NASA inspiring young people to persevere and seize opportunities. Read on to learn about Stephen's journey to NASA.

"I serve as the Associate Director, Technical Advisor overseeing NASA's Aerosciences Evaluation and Test Capability (AETC) Portfolio at headquarters. Responsible for managing extensive ground test facilities spanning NASA Ames, Glenn, and Langley, I am dedicated to bolstering the research facility workforce, fostering their professional growth, and facilitating cross-center collaboration across the three NASA centers. I am also an American Institute of Aeronautics and Astronautics Associate Fellow.

Born in Hong Kong and adopted by Lutheran missionaries, my early years were filled with travel from Asia through Hawaii and California before settling in the Cleveland area of Ohio. My fascination with flight began with watching the first moon landing on a black and white TV, leading to a childhood spent building model airplanes. Little did I know, this passion would culminate in a 40-year career at NASA, where I've celebrated my work anniversary every April 1st - yes, hired on April Fools' Day!

My journey to NASA wasn't conventional. After starting college at "The Ohio State University," I transferred to a local community college, where I seized the opportunity for an apprenticeship at NASA Glenn. Working full-time while pursuing a graduate degree in Electrical Engineering from Cleveland State University, I've navigated through trades, engineering, and management roles. I advocate for young people to pursue their dreams,

and for nearly 40 years, has provided a flying science laboratory that has contributed so much data and research to many disciplines such as meteorology, biology, oceanography, volcanology and much more!

The DC-8's work focused on four primary areas: sensor development, satellite sensor verification, space vehicle launch and re-entry telemetry and tracking, and research studies of the Earth's surface and atmosphere. Read more HERE to learn more about the research in these areas.

The DC-8 just flew the last mission -- the Airborne and Satellite Investigation of Asian Air Quality Mission. The US Air Force Plant 42 welcomed the craft with open arms and was given a water salute for her retirement from airborne science missions. The DC-8 will fly one last time to a new home at Idaho State University in Pocatello, Idaho, where students will be given real-world, hands-on experiences for the school's Aircraft Maintenance Technology Program, just in time to celebrate Aviation Maintenance Technician Day on May 24th!

Student and Internship Opportunities

Deadline This Month! **University Leadership Initiative (ULI)**

The University Leadership Initiative (ULI) is a collaboration between NASA Aeronautics Research Mission Directorate and university student programs to create new innovative ideas for current NASA projects and the future of aviation. Don't miss the opportunity to tell NASA about your ideas! Watch the ULI workshop on demand to learn how to submit your proposal. Submit your Round 8 proposals by ***May 29, 2024*** through NASA NSPIRES.

NEW! **NASA Community College Aerospace Scholars (NCAS)**

NASA Community College Aerospace Scholars (NCAS) has three missions designed to challenge and build student's knowledge and skills. Mission 1: Discover registration is open ***through June 10, 2024***! Students will collaborate to work on real NASA missions and goals. Mission 1: Discover takes students through a 5-week, self-paced online course where they gain broad knowledge of NASA's mission directorates and discover NASA career paths. Students can expect to hear from subject matter experts embracing non-traditional paths and seizing learning opportunities.

Throughout my career, I've delved into various roles, from procurement to center management, including a memorable detail in Washington DC at the Office of Management and Budget. Along the way, I've cherished experiences like flying back with the Administrator on the NASA plane, meeting Senator John Glenn, and witnessing my daughter participate in the Easter Egg roll on the White House lawn.

I've had the privilege of contributing to groundbreaking projects such as the National Aerospace Plane, Orbital Space Plane, and various aircraft testing programs. But beyond the projects, my focus has always been on serving others, continuous learning, and fostering meaningful relationships.

Outside of work, I enjoy golf, music, and volunteering, particularly with initiatives like the First Robotics Competition and the Cleveland Men's shelter. As a formal NASA mentor, I'm committed to inspiring the next generation of innovators. My journey is a testament to the power of perseverance, curiosity, and the importance of giving back. **"**

Stephen, you are a true inspiration. Thank you for giving back and encouraging others to *carpe diem*! Happy Flying!

Professional Development

Come See Us in Person!

COSI Science Festival
Big Science Celebration
Scioto Peninsula, OH on May 4th, 2024: Join NASA Glenn Research Center at the COSI Science Festival's Big Science Celebration at Scioto Peninsula in Ohio. This four-day event happens at different locations throughout central Ohio. Each location is different, but will feature a combination

and learn about NASA's missions dedicated to space exploration, technology, and aeronautics research. Engineering design challenges are hosted at a partner institution or a NASA field center. NCAS alumni are also eligible for NASA internship opportunities.

For more information, eligibility, and the application process join an information session or visit the NCAS website.

Projects Available! NASA Internships

Did you miss the summer and fall 2024 NASA internships? NEW projects have already been added for Spring 2025. Encourage student to apply for a NASA internship today to get their names in early. Some opportunities start 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 opportunities. Whatever you are interested in studying, NASA has a place for you! Get your application in by ***August 23rd, 2024,*** and join NASA experts in the Spring for a chance to show them the vision for the future of NASA.

Design Challenges and Grant Proposals

Next round opening soon! University Student Research Challenge

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

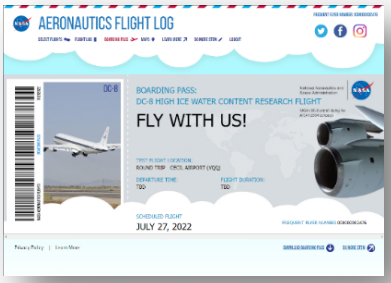
of hands-on activities, performances, speakers, and more.

Virtual Opportunities

NASA Aero Fair Virtual or In-Person STEM Engagement Opportunity: DEADLINE May 10th, 2024: Bring STEM to the classroom with NASA's Aero Fair. Apply for the opportunity to have NASA Aeronautics experts teach your class for three 1-hour sessions. Curriculum uses aeronautics principles for real-world projects aligned with Next Generation Science Standards. Log into your NASA STEM Gateway or create an account to apply for this unique educational experience.

NEW Flight Opportunity! Flight Log

The DC-8 is retiring, and you have a chance to take a virtual ride with her on her last flight. She is flying to Idaho State University on **May 15th, 2024**. Sign up today to fly on the DC-8's Retirement Flight and



get updates on other flights coming soon. Earn an endorsement code for your flight log when you complete activities and join NASA Aeronautics STEM engagements online and in-person. We have new flights and opportunities being added to Flight Log all the time. Add your email to our contact list to stay up to date on upcoming flights and other opportunities. It's a great time to fly with us!

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

- Open to all majors and interdisciplinary teams (engineering, business, etc.)
- Interface with NASA experts and receive exposure to the aerospace industry

Attend the **USRC Q&A/Info Session and Proposal Workshop on May 6, 2024, at 2pm ET** to learn more about submitting a successful proposal. The solicitation window for this round is closed but stay tuned for the next round when proposals are due ***June 20, 2024.***

In case you missed it…

2024 Dream with Us design challenge—JOIN US FOR THE AWARDS CEREMONY!

The 2024 Dream with Us design challenge closed April 30, 2024, and we are working on judging some amazing projects! **Join us for the upcoming Virtual Awards Ceremony, which is open for anyone to attend on Tuesday, May 21st at 7pm EST.**

TEAMS Meeting number: 211 443 798 725
Passcode: hFZjwX.

This is a yearly, team-based challenge for students in grades 6-12 to share their ideas for the future of aeronautics with NASA experts. The 2024 Dream with Us challenge asked students to dream of new ideas for "*Responding to Natural Disasters using New Aviation*" such as drones and air taxis. A HUGE CONGRATULATIONS to all the participants for all their hard work and dedication that shines through their projects. Stay tuned for the 2024 winner announcements coming soon on our Dream with Us webpage and NASA Aero social media channels. Head to the page to check out the winners from past challenges and learn more about how you can join next year's 2025 Dream with Us design challenge!

Did you know?

May the 4th be with you. Today is Star Wars Day and Free Comic Book Day! Two great things on one great day. We don't have Star Wars comics, but we do have our First Woman Graphic Novel that is completely FREE! That's right, *POR GRATIS*! The second issue is now available online and introduces a new character from the Choctaw Nation with a background in aeronautics. Check out both issues HERE available in English *y en Español!*

May 6th – 10th is teacher appreciation week. Educators everywhere are dedicated to the knowledge and growth of young people everywhere. Show your teachers how much their hard work and dedication is greatly appreciated and does not go unnoticed and hopefully someone will recognize all of you who are educators!

May 12th is Mother's Day. Let's celebrate moms everywhere for all their hard work with some much need rest and relaxation. Try some of our aeronautics coloring sheets as a quiet activity to give mom a break today. Aero STEM has plenty of pictures for you to create an aviation collage to show mom how your heart soars for her.

May 20th is National Women in Aerospace Day. Women do amazing things, so let's celebrate their sacrifices and contributions to home, work, and aviation. Support the women in your life to pursue careers in aerospace technologies, sciences, and other programs. Read about two amazing women remembered in a unique way for breaking barriers and paving the way for women and girls everywhere!

May 26th is National Paper Airplane Day and NASA Aeronautics STEM has just the paper plane you need to enjoy this flying fun day! Make Your Own X-59 paper airplane and let it soar. Get some friends together and see whose paper X-59 can fly the farthest!

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.

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