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National Aeronautics and
Space Administration

AeroSpace Frontiers

Focus on Science

Safety Culture Action Plan

As promised, we have implemented an action plan to address your feedback from the recent Safety Culture Survey. We are taking key actions, which include: improving hazard and safety reporting awareness during town halls and on safety SharePoint sites; increasing transparency of safety reporting through communications at supervisors meetings and our annual Safety and Health Awareness Event; increasing safety and health reporting awareness for new employees by offering improved training; and doing a better job of recognizing those who support key center safety hazard assessment processes, like our area safety committees.

Thank you for embracing a strong safety culture at Glenn for mission success.

AeroSpace Frontiers
is an official publication of NASA's Glenn Research Center. It is published the second Friday of each month by the Office of Communications in the interest of the Glenn workforce, retirees, government officials, business leaders, and the general public.

Submit short articles and calendar items to the editor at doreen.b.zudell@nasa.gov.

Editor: **Doreen B. Zudell**, ATS, 216–433–5317

Design: **Rhys Sampson**, ATS

Managing Editor: **Kelly R. DiFrancesco**

First Face to Face Since Pandemic

Glenn Hosts Agency Science Council With Chief Scientist

On July 11 and 12, Glenn welcomed leaders from each of NASA's centers to Lewis Field when it hosted the first in-person Agency Science Council meeting since the beginning of the COVID-19 pandemic. NASA Chief Scientist and Senior Climate Advisor Dr. Kate Calvin headlined the visit that included technical briefings, meetings, and facility tours, providing numerous opportunities for interaction with Glenn's workforce.

One of these collaboration activities involved Calvin joining several of Glenn's summer interns and early career employees for lunch. They engaged in an open dialogue with Calvin, shared details about their research projects, and inquired about her role as chief scientist.

"I enjoyed being able to ask her [Calvin] questions in a one-on-one setting," Callie Koenig, an International Space Station (ISS) and Human Health intern said. "She cared about what each of us is working on. I loved how she highlighted the importance of making science more accessible."

Calvin assumed her role as NASA chief scientist in 2022. Her background includes a Bachelor of Science in mathematics and computer science as well as a doctorate in management, science, and engineering from Stanford University. Calvin was intentional in offering advice to the next generation of NASA workers.

"One of the things that I recognize in my career is everyone is different, and we all have different backgrounds," Calvin said. "We have different ways of accessing information and doing things; we all have different ways of working. Listening and understanding what people need is important to me."

Later that evening, Calvin traveled to the Cleveland Metroparks Watershed Stewardship Center, where she spoke on topics related primarily to climate. An enthusiastic audience packed the room to hear what Calvin had to say. Her presentation touched on current NASA missions, ways for citizens to engage with NASA, preparation for the upcoming solar eclipse in April 2024, and more. The evening concluded with a Q&A session.

GRC-2023-C-05827 Photo by Jef Janis

Left to right: Dr. Nagaraja, Dr. Tibor Kremic, and Dr. Calvin observe Dr. Stephanie Vivod making aerogels.

The morning of July 12 offered an opportunity for Glenn employees to get to know Calvin and her staff during an informational meet and greet. Deputy Chief Scientist David Draper, Associate Chief Scientist Dr. Mamta Patel Nagaraja, and Associate Chief Scientist Louis Barbier joined Calvin for the discussion. NASA employees, including interns, from a multitude of disciplines attended. They asked questions about topics relating to climate change, future missions, and ways the public can become more involved with NASA's climate initiatives.

Calvin and the council wrapped up their visit to Glenn with technical talks and additional tours.

"Everything we [NASA] do we think about how to share," Calvin said. "We want to open up science and make it easier to use, bring more people into it, ensure that it's inclusive and reproducible so people have access to the information they need, and they understand what it is, where it came from, and how to use it. This is an effort across NASA."

By Lauren Low

GRC-2023-C-05726 **Photo by Jef Janis**

Dr. Calvin, far left, takes a question from summer intern Justin Wheeler during a lunch gathering with interns and early careerists.

GRC-2023-C-05712 **Photo by Jef Janis**

Center Director Dr. Jimmy Kenyon addresses the Agency Science Council with a welcome and an overview of Glenn activities.

GRC-2023-C-05944 **Photo by Bridget Caswell**

Dr. Calvin, right, and Dr. David Urban discuss applications of ISS research from the NASA Combustion Integrated Rack.

On the cover:
While on a tour at Lewis Field, members of the Agency Science Council stop to take a photo at the top of the Zero Gravity Drop Tower.

GRC-2023-C-05796 *Photo by Jef Janis*

Town Hall Addresses Agency Transformation and More

Center Director Dr. Jimmy Kenyon joined Deputy Center Director Dawn Schaible, Associate Director Larry Sivic, and others at the Center Town Hall meeting on June 29 to provide updates on Glenn's progress in meeting our mission and priorities.

Similar to the last town hall, Kenyon began the meeting recognizing recent accomplishments of employees within the Glenn workforce and provided updates on the 2023 priorities that were introduced at the last town hall. He also highlighted recent aeronautics and space milestones at Glenn.

Kenyon announced that Robyn Gordon (former Center Operations director) has been appointed director of strategy in the Office of the Director. Gordon will lead the development and implementation of an integrated strategy to meet short- and long-term demands that will ensure the center's mission success. This work will lay the foundation for Glenn's strategic engagement approach and plan.

In addition to Glenn being a research center, the center has been recognized as a space flight center. Our expertise in power and propulsion, cryogenic fluid management, and space communications is necessary to complete the Moon to Mars objectives.

"This puts us at the table for conversations that determine the best place to put projects," Kenyon said.

NASA 2040

Kenyon said the agency must change its strategies to meet future goals, most notably its Moon to Mars objectives. He introduced NASA 2040, the agency initiative that will help define a workforce strategy to transform NASA.

"We can't wait," Kenyon said. "We need to define and develop strategies now. NASA 2040 will give us the data to build the case for what we need." He cited the first three workstream areas of focus under NASA 2040:

Mission Strategy: Define NASA's future role, a value agenda, and what we will (and won't) do as an agency.

Budget: Reimagine the financial model for the agency that considers the entire institution to be more strategic and transparent.

Structure: Clarify and pressure test roles, responsibilities, decision rights, and behaviors to matrix (centers, Mission Directorates, and Mission Support Enterprise Organizations).

An integration team called "the Engine" will be set up to drive progress and results. Workstreams will be supported by conducting analysis, bringing test practices, and building capabilities.

DEIA Implementation

Ashley Cantor, equal opportunity specialist in the Office of Diversity and Equal Opportunity, shared two areas of progress within the Diversity, Equity, Inclusion, and Accessibility (DEIA) implementation plan.

A Reflection and Contemplation Room (R&CR) has been created in the Research Analysis Center, building 142, room 186–1. The space provides a calm and private area for meditation, reflection, and prayer, regardless of faith or belief. Additionally, nursing rooms have been updated in all eight locations across Lewis Field. Reservations can be made for the R&CR and nursing rooms using the online Book-A-Space Reservation Tool. Information on using the tool is available by accessing this link, https://go.nasa.gov/3XVqXrk.

New Employee Resource Group

The Veterans Employee Resource Group (VERG) has been designated an official employee resource group. Samantha Yousef, chair, said VERG was established to create awareness across the center and build an inclusive and accepting environment through education, outreach, development, collaboration, and observances of military service and sacrifice. Dates are set for the next prisoner of war/missing in action observance (Sept. 14) and Veterans Day observance (Nov. 15).

Schaible and Sivic joined Kenyon for a Q&A with employees after the presentations.

By Doreen B. Zudell

Putting Gateway Thruster System to the Test

Engineers from NASA and Aerojet Rocketdyne are conducting qualification testing on the cutting-edge solar electric propulsion (SEP) thrusters that will change the in-space propulsion game. The culmination of this work will see these innovative thrusters fly on Gateway beginning in 2025, making it the most powerful SEP spacecraft ever flown. Gateway is a lunar space station that will serve as an important part of NASA's Artemis program, which will land the first woman and first person of color on the Moon.

Led by NASA's Technology Demonstration Missions program, the Advanced Electric Propulsion System (AEPS), built by Aerojet Rocketdyne, provides 12 kilowatts of propulsive power—over two times more powerful than current state-of-the-art in-space electric propulsion systems. These innovative systems tout extremely high fuel economy at lower thrust, providing mission flexibility and capabilities not achievable using traditional chemical propulsion systems. Three AEPS thrusters will be used on the Power and Propulsion Element (PPE) to maneuver Gateway during its planned minimum 15-year mission.

"AEPS is truly a next-generation technology," said Clayton Kachele, the AEPS project manager at Glenn. "Current electric propulsion systems use around four and a half kilowatts of power, whereas we're significantly increasing power in a single thruster. That capability opens a world of opportunity for future space exploration, and AEPS will get us there farther and faster."

To read the entire article, visit https://go.nasa.gov/3NOHEQp.

GRC-2023-C-04815 Photo by Jef Janis

Left to right: Aerojet Rocketdyne's Hoang Dao and Glenn's Matt Baird and Jon Mackey prepare the AEPS Qualification Model 1 thruster for acceptance testing inside a vacuum facility in Glenn's Electric Propulsion and Power Laboratory.

Spreading NASA Awareness in Paris

Aeronautics Director Tim McCartney and Public Affairs Specialist Brian Newbacher (back row, second and third from the left) represented Glenn and NASA's Aeronautics Research Mission Directorate (ARMD) at the Paris Air Show, June 19 to 23. They networked and strengthened relationships with other organizations internationally and in Ohio, and educated show attendees, including college students, about ARMD missions and projects. Retired astronaut Charlie Duke (center front) stopped by to learn about the latest research and pose for a photo with McCartney and Newbacher, along with representatives from Ohio organizations, industry, and universities.

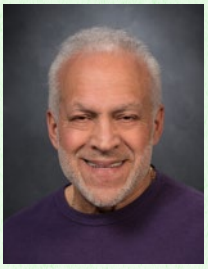
GRC-2023-CN-00014

More Than a Memory

Karl D. Bergquist, 79, a 2011 retiree with 23 years of NASA service, died June 9. Bergquist was a metallurgical engineer. He worked in the Fabrication Support Division, which later became the Manufacturing Division. Bergquist most notably worked on the Aries I-X rocket and received a NASA Group Achievement Award for that effort. He earned several other NASA awards for his work. His daughter, Kara Eck, works in the Office of the Director.

Bergquist

Heriberto M. Medina, 74, a 2018 retiree with 38 years of NASA service, died June 1. He began his career in the Facilities and Maintenance Division and graduated as a mechanical engineering technician from the Apprentice Program in 1985. In the early 1990s, he was part of the team that addressed the fabrication, processing, and durability issues associated with lightweight metal, intermetallic, and ceramic matrix composites for nozzles that can withstand extremely high temperatures. He retired from the Research Testing Division's Space Power and Propulsion Technical Branch. He earned two NASA Honor Awards.



Medina

Charles E. Provencher Jr., 95, a 1992 retiree with 30 years of NASA service, died May 15, 2023. He was a World War II veteran. Provencher began his engineering career at NASA working on the Space Electric Rocket Test I Project in the Spacecraft Technology Division, then moved to the Spacecraft Engineering Branch. Later he served in the Regional Earth Observations Branch, Communications and Applications Division, and the Systems Analysis Branch for the Advanced Communications Technology Satellite Project. He retired from the Space Communications Division's Communications Project Office. Provencher earned several awards for his work.

Provencher Jr.

Ralph J. Zavesky, 92, a 1994 retiree with 31 years of NASA service, died May 26. He was a U.S. Army veteran. Zavesky began his career working as an aerospace engineer on the SERT I project in the early 1960s and helped design the thrusters for the SERT II experiment. He subsequently developed 30-cm ion thrusters in the 1970s. He later worked on solar electric propulsion and then as the project manager on the Solid Surface Combustion Experiment flown on the shuttle in 1990. He earned numerous awards, including two Space Act Awards.

Zavesky

Retirements

David DeFelice, Office of Communications, retired July 28, 2023, with 38 years of NASA service.

Michael Doherty, Space Technology Project Office, retired June 17, 2023, with 43 years of NASA service.

Steven M. Geng, Thermal Energy Conversion Branch, retired July 29, 2023, with 42 years of NASA service.

Robert D. Green, Thermal Systems and Transport Processes Branch, retired June 30, 2023, with 40 years of NASA service.

Matthew Melis, Structures and Materials Division, retired June 2, 2023, with 40 years of NASA service.

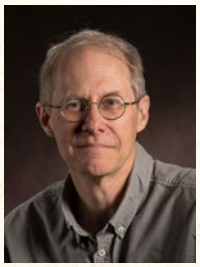
Dennis W. Rohn, Aeronautics and Ground-Based Systems Branch, retired July 31, 2023, with 40 years of NASA service.


DeFelice


Doherty


Geng


Green


Melis


Rohn

Have you signed up for the NASA Aeronautics Virtual Flight Log?

NASA invites you, your family, and even your friends and classmates, to sign up and add your name to our list of virtual passengers. Your name can ride with us on our X-planes, drones, and other flights as NASA explores ways to improve aviation for everyone.

Send your name on a high-flying adventure with NASA Glenn's Pilatus PC-12 as it conducts ATM-X research flights. Get your boarding pass at https://nasa.gov/flightlog/.

Sustainability Ideas Wanted

SUSTAINABLE NASA GLENN RESEARCH CENTER

Do you have a great idea for promoting progress in sustainability at Glenn? The GRC Sustainability Working Group would like to know. Click on this link, https://go.nasa.gov/44oMJpW, to share your ideas in a virtual suggestion box. The Glenn Sustainability Working Group will review your ideas and contact you for additional information as needed.

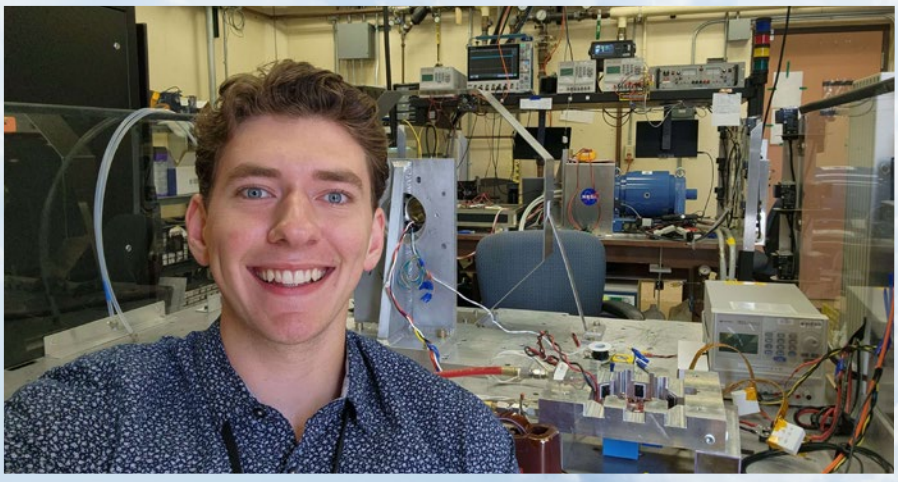
Deadline for small items in the August issue is Wednesday, Aug. 16, noon.
News and feature stories require additional time.

Interns *Celebrate* Selfie Day!

On June 21, some stellar students at NASA Glenn celebrated National Selfie Day! With 150 interns working on-site at Lewis Field and Armstrong Test Facility, National Selfie Day was a great way to showcase their enthusiasm. Lauren Low, Office of Communications intern, coordinated the effort and posted some of the selfies on Glenn's Instagram.

GRC-2023-CN-00010

International Space Station and Low-Gravity Exploration Technology interns Callie Koenig, Angelica Cuevas, Amanda Strebe, and Justin Wheeler.



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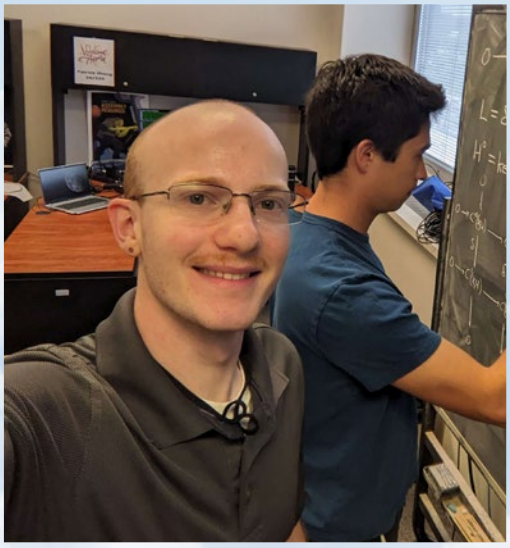
Power Systems Engineering intern Alan Maher.



GRC-2023-CN-00011

Space Communications and Navigation intern Jacob Cleveland, front, and Pathway intern Michael Moy.

GRC-2023-CN-00012

Pathway interns Nick Canovas, Blake Beckley, and Nomar Lebron.

National Aeronautics and Space Administration

John H. Glenn Research Center

Lewis Field
21000 Brookpark Road
Cleveland, Ohio 44135

Neil A. Armstrong Test Facility
3597 E. Scheid Road
Sandusky, Ohio 44870

www.nasa.gov

Emergency and Inclement Weather Lines

Lewis Field: 216–433–9328 (WEAT)
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