National Aeronautics and Space Administration

AeroSpace FRONTIERS

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It's been my privilege to serve as your center director for the past 2½ years. This has been an unbelievable journey! From conducting research with very knowledgeable and talented individuals supporting space power technologies, to learning about project management from the best in the aeronautics team and serving as a supervisor leading teams and organizations in support of NASA missions.

This is a great agency, and you are an amazing team that, despite challenges and uncertainties, continues to excel in developing innovative technologies for space exploration and aeronautics.

I wish you all the best and continued success in achieving the significant milestones ahead of us, including the Artemis I launch, and progress toward all others from our 2022 Glenn Research Center Top Priorities in space, aeronautics, the institution, and external partnerships. Together we can achieve HEROICS accomplishments for the benefit of all!

AeroSpace Frontiers
is an official publication of Glenn Research Center, National Aeronautics and Space Administration. 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.

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GRC-2022-C-01942 Photo by Jeff Janis

NextGen Ambassador Ahmed views a model of NASA's Space Communications and Navigation (SCaN) Testbed in Glenn's Visitor Center.

Center Welcomes New NextGen Ambassadors Class

Two years ago, 16 early career professionals gathered at the Guerin House to learn how they could spread the word about the NASA mission. They became members of Glenn's first Next Generation (NextGen) Ambassadors program. Since then, and despite the pandemic, participants embraced opportunities to support official events, activities, and initiatives in various capacities.

During the virtual 2022 NextGen Ambassadors Program Kickoff earlier this year, participants (cohort I) reflected on their experiences and helped welcome a new class of NextGen Ambassadors (cohort II). Former Center Director Dr. Marla Pérez-Davis, executive sponsor, and Director of Center Operations Robyn Gordon, program founder, shared their support during the event. Marlena Hudson, Human Resources Office, serves as the program lead, with Debbie Lockhart, Office of Communications, and Lesley Parker-Bryant, Human Resources Office, as co-advisors.

The goal of the program is to provide professional development opportunities for early-career professionals at Glenn. Media training, public speaking, critical thinking, problem solving, and mentoring sessions are some of the development opportunities offered to participants. The group connects with students, the public, and partners to positively represent Glenn and its mission.

"Cohort I provided us with positive feedback and suggestions on how to improve the program this time around," said Lockhart. "Using the first cohort's feedback, we've been able to incorporate training sessions, mentoring events, and public engagement opportunities that will help our ambassadors become better public speakers and champions of the NASA story."

On April 26, the new ambassadors participated in an in-person event at the Great Lakes Science Center (GLSC), home of Glenn's Visitor Center. Office of Communications staff members, Jan Wittry, news chief, and Chris Hartenstine, Public Engagement lead, provided media and outreach training. JonDarr Bradshaw, GLSC, gave an overview of the science center including Glenn's Visitor Center.

by Adam Schabel

GRC-2022-C-01903

Photo by Jeff Janis

NextGen Ambassadors (cohort II), left to right, front row: Jen Pierce, Lilia Miller, Emily Clapper, Jeresha Nixon, Meghan Bush, and Tina Wozniak; back row: Rebecca Buehrle, Marlena Hudson (lead), Bilal Ahmed, Brooke Weborg, Kerrigan Cain, Zane Meyers, Ryan Grotenrath, Debbie Lockhart (advisor), and Darcy DeAngelis. Not Pictured: Emily Armbrust, Christopher Morris, Lucas Shearer, Paul Von Hardenberg, and Lesley Parker-Bryant (advisor).

GRC-2022-C-1936

Photo by Jeff Janis

GRC-2022-CN-00027

Photo by Debbie Lockhart

GLSC's Bradshaw, right, takes NextGen Ambassadors on a tour through Glenn's Visitor Center.

Left: NextGen Ambassador Weborg gets an up-close look at a Moon rock encased in a display at Glenn's Visitor Center.

On the Cover:

Next Generation Ambassadors enjoy a visit to the Great Lakes Science Center. Pictured, left to right, standing: Darcy DeAngelis, Bilal Ahmed, Brooke Weborg, Jeresha Nixon; kneeling: Meghan Bush, Emily Clapper, and Jen Pierce.

GRC-2022-C-01945
Photo by Jef Janis

Facility Upgrades Meet Large-Scale Emergency Needs

Glenn's Protective Services Office Emergency Operations Center (EOC) ensures effective resource management and communications during large-scale on-center emergencies and mass casualty events.

In 2020, the Protective Services Office noted that a majority of the EOC's audiovisual and information technologies had become obsolete, in need of repair, or unserviceable.

Recognizing the criticality of the EOC, center management funded a project to implement modern and innovative audio, video, and communication technologies into the EOC in building 14.

To effectively coordinate and deploy resources during an emergency, EOC personnel must be able to efficiently correlate and distribute information. Participants could include personnel in areas of law enforcement, firefighting, hazardous materials, search and rescue, and public health. Additionally, public affairs, cybersecurity, mass care, transportation, public works, and logistics organizations may also be involved.

In addition to traditional telephone and radio communications, emergency coordination requires reliable data communications to include remote video surveillance, incident management dashboards, Geographical Information Systems (GISs), news and weather feeds, and the use of social media.

Depending on the type of the emergency, the EOC requires a flexible space configuration so that participants—large groups or small resource teams—can view video displays.

The upgraded EOC will support an in-person team or a hybrid model to include virtual participants. This capability greatly enhances the versatility of emergency resource management in the current culture of hybrid teleworking. Video collaboration and video-enabled tools allow emergency resource managers to share computer content, engage in desktop-quality video chat, and perform online conferencing.

"As a result of these upgrades, the center now has a state-of-the-art EOC, which serves as a high-functioning workspace and coordination hub to support emergency management and incident command activities for the center," said Protective Services Office Chief Christi Tomaro.

GRC-2022-C-02397 Photo by Jef Janis

The updated EOC serves as a high-functioning workspace and coordination hub to support emergency management and incident command activities.

Conference Showcases Space Nuclear Power Systems

Bryan Smith, director of Facilities, Test, and Manufacturing at Glenn, chaired the American Nuclear Society's Nuclear and Emerging Technologies for Space (NETS) 2022 Conference, May 8–12, in Cleveland. This is the premiere event for the space nuclear power and propulsion technical communities.

The NETS conference brings attention to the latest advancements in space nuclear systems and provides a forum for researchers, engineers, and managers to discuss progress on current activities. This year's conference highlighted topics related to past missions and programs, new systems under development, external influences such as terrestrial nuclear energy, and mission pull related to the Moon, Mars, and beyond.

Plenary speakers from NASA included Associate Administrator Bob Cabana; Associate Administrator for Technology, Policy, and Strategy Dr. Bhavya Lal; Associate Administrator for the Space Technology Mission Directorate James Reuter, Deputy of NASA's Planetary Science Division Eric Ianson; former Center Director Dr. Marla Pérez Davis; and Smith. Several Glenn employees led technical presentations.

Sen. Sherrod Brown and Col. Joseph Zeis Jr. from the Office of Ohio Governor Mike DeWine participated as plenary speakers. Ohio Lt. Gov. Jon Husted provided a virtual message.

Exhibit booths, staffed by Glenn and NASA's Marshall Space Flight Center employees, highlighted the agency's space nuclear power and propulsion programs, projects, and technologies. Those featured included the Radioisotope Power Systems Program; Fission Surface Power—Technology Development; Nuclear Electric and Thermal Propulsion—Technology Development; and Lattice Confinement Fusion.

On May 12, many of the participants visited Lewis Field and toured facilities related to the conference.

by Doreen B. Zudell

GRC-2022-C-00584 Photos by Marvin Smith

NASA engineer Lee Mason explains the advancements in fission surface power during the NETS tour of building 301.

GRC-2022-C-00591

NASA engineer Scott Wilson, center, explains the inner workings of the Multi-Mission Radioisotope Thermoelectric Generator (MMRTG) to NETS participants during a tour at Lewis Field.

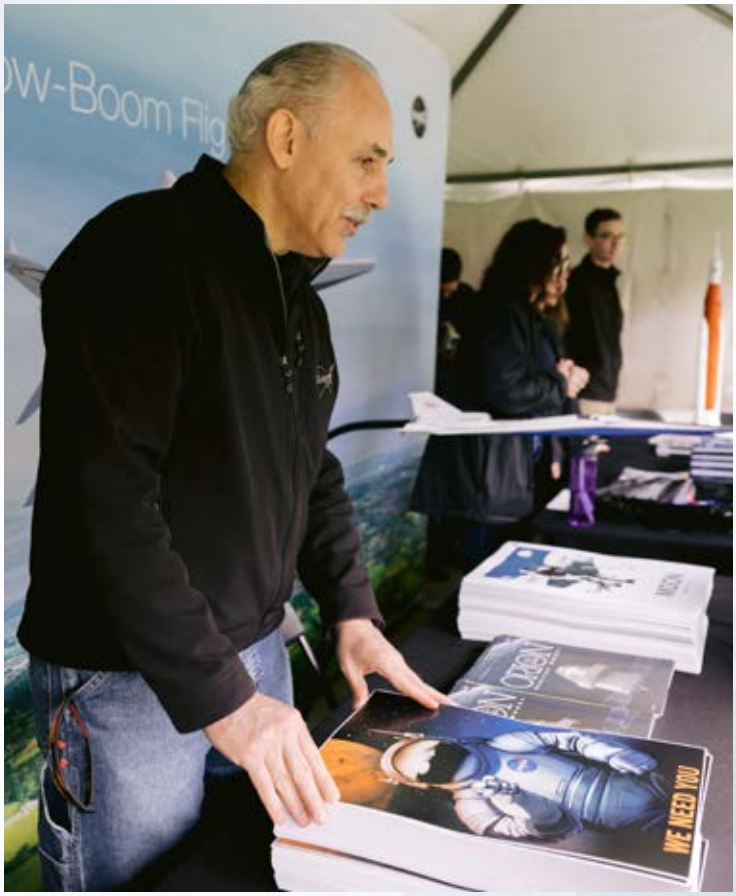
First Pitch!

Former Center Director Dr. Marla Pérez-Davis took to the mound to throw out the first pitch at the Cleveland Guardians game at Progressive Field on May 17. NASA Glenn was invited as part of the Hometown Heroes celebration honoring members of the military, veterans, and federal employees.

GRC-2022-C-02598 Photo by Jordan Salkin

Dr. Pérez-Davis throws out the first pitch at Progressive Field.

NEWS AND EVENTS



GRC-2022-CN-00029 Photo by Robb McCormick Photography

Glenn's Carlos Gomez provides information that promotes human spaceflight during the COSI Science Festival.

Employees Showcase NASA at Science Festival

NASA continued its partnership with the Center of Science and Industry (COSI) to reach underserved and underrepresented audiences during the COSI Science Festival (CSF), May 4–7, in Columbus. As the largest STEM event in Ohio, and one of the largest in the nation, the CSF is an annual four-day festival that engages thousands with hands-on experiences, inspiring the pursuit of careers in STEM. Glenn and NASA Langley employees staffed several space and aeronautics-based exhibits during the Big Science Celebrations on May 7, the culminating event of the in-person festival. An estimated 20,000-plus attended the event.

Employee Services Available On-Site

Glenn's credit union and gift store are now open in the Research Support Building, 164, at Lewis Field.

Century Federal Credit Union's NASA branch conveniently offers services to meet all your banking needs. Hours are Monday through Friday, 8:00 a.m. to 3:30 p.m., room 115.

The Exchange Gift Store offers a variety of NASA-themed apparel and accessories. Hours are Tuesday through Thursday, 10 a.m. to 2 p.m., room 113.

Additionally, next door in the Mission Integration Center (MIC), 162, Subway offers grab-and-go lunch in the **MIC LaGrange Café,** located in the lobby. Hours are Monday through Friday from 11 a.m. to 1 p.m. or until the sandwiches are gone.

GRC-2022-CN-00028 Photo by Lori Manthey

The Exchange Store offers a variety of NASA-themed gifts.

Most Pre-Pandemic Services Available to Retirees

Glenn employees are now able to access the center to do their day-to-day work. Retirees also are welcome to come on-site and access the Century Federal Credit Union and Exchange Store in the new Research Support Building. Please check in at the Main Gate Guard House first for a day pass. To use the Fitness Center, please contact a Fitness Center staff member at 216–433–6313, who will call in a guest pass for you. We also hope to see you at the Summer Fest in August! (See page 11 for details.)

AeroSpace Frontiers Back Issues Now Available!

Glenn's Office of Communications is making hard copies of the AeroSpace Frontiers newsletters that were printed during the pandemic available to employees. Employees are welcome to stop by building 3, room 5 (ground level) to pick up issues from April 2020 through February 2022.

Contact Doreen Zudell, editor, doreen.b.zudell@nasa.gov, with any questions.

NASA Uses Cleveland Landmark for Microgravity Research in the 1960s

In May 1964, weekend visitors peaking around a work screen in a first-floor corridor of Cleveland's iconic Terminal Tower building were surprised to see that NASA technicians had commandeered one of the main elevators. The men were using the 52-story structure, the nation's tallest building outside of New York City, to conduct experiments to facilitate the design of its new Zero Gravity Facility.

For more information, visit https://go.nasa.gov/3I6Z4K6.

GRC-1964-C-69610 Photo by NASA

Right: NASA technicians set up the drop package test rig inside an elevator at the Terminal Tower building. The 4-inch-diameter, 28-inch-long, 43-pound model was lowered through an aperture in the elevator floor before being dropped into the decelerator below.

Rocket Lab Provided Nearly 75 Years of Propulsion Testing

With little fanfare, in June 1945 fuels researchers began testing small, experimental rocket engines in simple cinder block test cells at the far end of what is today NASA Glenn. Over the years, the facility, which was known as the Rocket Laboratory, expanded both its physical size and the types of engines tested. For nearly 75 years, the Rocket Lab provided researchers with an adaptable resource for testing an array of propulsion systems and propellants. To learn more, visit https://go.nasa.gov/3MF7u6O.

GRC-1946-C-14478 Photo by NASA

Initially, the Rocket Lab was used to study jet-assisted takeoff (JATO) rocket engines that provided a boost to military aircraft during takeoff or combat conditions. This photograph shows the firing of a nitric-acid- and aniline-fueled JATO engine in the Rocket Lab in March 1946.

Wings of Excellence

FEB Award Honors Service to Job and Community

Seven Glenn employees received a 2022 Cleveland Federal Executive Board (FEB) Wings of Excellence Award during a virtual recognition ceremony on May 27. The award recognizes high-performing federal employees in their local communities and highlights innovative efforts that advance the missions of federal agencies. Former Center Director Dr. Marla Pérez-Davis introduced the awardees.

Congratulations to this year's NASA Glenn awardees!

Karen F. Bartos, Technology Transfer Office

Andrea R. Bonesteel, Occupational Health Branch

Lancert E. Foster, Inlets and Nozzles Branch

Dr. Timothy P. Gabb, High Temperatures and High Alloys Branch

John B. McQuillen, Low-Gravity Exploration Technology Branch

Kevin D. Rainbolt, Knowledge Sharing and Analysis Office

Heidi R. Schultz, Technical Excellence Office

To view the program and learn more about the individual awards, visit https://www.youtube.com/watch?v=F9wcyx1OqFo.

Bartos

Bonesteel

Foster

McQuillen

Rainbolt

Schultz

The festivities will take place along Taylor Road at Lewis Field.

Employee registration: see Inside Glenn for details

Retiree registration: Kathy Clark, 216–433–8354

POC: betsy.e.lavelle@nasa.gov

Rain date: Thursday, Aug. 25

Save the Date!

More Than a Memory

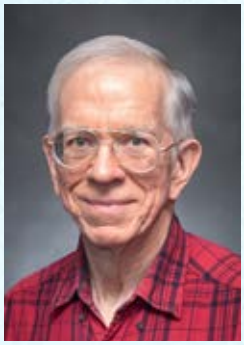
Ziemke Was a Gifted Engineer

Robert A. (Bob) Ziemke, 75, an electronics engineer at NASA's Neil A. Armstrong Test Facility (ATF), formerly Plum Brook Station, died March 25. Ziemke joined NASA as a co-op in 1969 after obtaining a bachelor's degree in electrical engineering at Cleveland State University. He was a gifted engineer who designed, fabricated, and commissioned special test equipment for large-scale ground test facilities.

Ziemke worked in ATF's Space Power Facilities (SPF) Division where he supported the Apollo-Skylab shroud and Centaur Standard Shroud testing at SPF. Through the years, he managed ATF's Instrument and Data Systems Section and worked in qualification testing of International Space Station radiators in SPF and testing of the Cosmic Ray Electron Synchrotron Telescope at the B–2 facility.

"Bob was one-of-a-kind," said David Taylor, ATF deputy director. "He was quiet and unassuming, but he was a brilliant engineer and he made us all better. We will miss him."

Ziemke earned several NASA awards for his work, including five patents.



Ziemke

Willie George Darby, 69, a 2010 retiree with 30 years of NASA service, died May 25. Darby began his NASA career in 1980. He graduated from the Trades Apprentice Program as a research laboratory mechanic. He later worked as a mechanical engineering technician in various branches in the Test Installation Division. Darby's work earned him many honors, including Space Act awards and group achievement awards. Most notably, he earned a 1992 Exceptional Achievement Medal. He was part of a team that earned a patent for "Antenna Near Field Probe Station Scanner."

Darby

Attention Employees and Retirees

Do You Know This Person?

GRC-1988-C-00318

GRC-1990-C-08558

Glenn's Logistics and Technical Information Division needs your help identifying people, places, and research from archived images. If you recognize a photo placed here, email GRC-ITC@mail.nasa.gov.

To ensure your email reaches the right individuals, please enter "DYKTP" into the subject line. Although we cannot respond to individual emails, please know your participation is appreciated!

Correction

Glenn Aeronautics Director Timothy McCartney's name was misspelled in the "Town Hall Rolls Out Action Plan" article on page 5 in June AeroSpace Frontiers.

GLENN HAPPENINGS

SPARK MENTORING

Join Shaping Professionals and Relating Knowledge (SPARK), the formal mentoring program for Glenn. Applications are due July 15, 2022. Orientation is being held on Aug. 2, 1 p.m. to 4:30. Contact Kathy Clark at 3–8354 with any questions.

INFORMATION CAFÉ

The new Information Café will focus on Demystifying Application Program Interfaces. Join the Library staff on Wednesday, July 20 from 11–11:45 a.m., in bldg. 142, room 188, or on Teams. Check Inside Glenn for the link.

POC: robin.n.pertz@nasa.gov

OUTDOOR SIREN TESTING

Emergency Management Office staff will conduct a mass notification voice test at building 6 on Wednesday, Aug. 3, at Lewis Field. An audible siren test will be conducted on the "Lock-Down" tone on Saturday, Aug. 6.

POC: allen.r.turner@nasa.gov

VISITOR ACCESS

The Protective Services Office is responsible for processing visitor requests and managing visitor access to NASA Glenn. For official visitor requests, please use the following link, https://www.grc.nasa.gov/security/services/visitor-processing/.

Deadline for the next calendar section is **Wednesday, July 20, noon**. News and feature stories require additional time.

For more information on upcoming events, visit **https://nasa.sharepoint.com/sites/grc/SitePages/calendar.aspx**

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

Read AeroSpace Frontiers online at https://www.nasa.gov/glenn/aerospacefrontiers.

Keeping the Center Moving *Forward*

While many employees transitioned to telework due to the pandemic, others remained on-site to ensure a safe and secure environment at the center. This column highlights these services.

When researchers need water, air, or cryogenics delivered to tunnels and test cells, and personnel to operate the equipment, they call on Mainthia Technologies Inc. (MTI). When Glenn entered mandatory telework in March 2020 and progressed through the stages of NASA's Framework for Return to On-site Work, MTI was there every step of the way.

Operated under Glenn's Facilities Management Branch, MTI is responsible for Central-Process Recertification, Operations, and Maintenance (CROM) at Lewis Field. This includes maintenance, operation, and pressure systems engineering services to support research facilities as well as all major research and development systems and subsystems.

Ensuring all CROM functions during the pandemic was far from business as usual for MTI staff. With COVID–19 protocols in place and limitations to on-site access, MTI management developed policies for working under new restrictions. One of these included developing a telework plan, which had never been in place before. When on-site, MTI safely arranged technicians into two to three shifts with fewer personnel to meet social distancing and limited access restrictions. Monitoring health to evaluate symptoms and adhering to stay-at-home orders, when necessary, was a cultural change for these dedicated employees as well.

As the number of mission-critical projects increased, the need for MTI staff increased as well. MTI is grateful for the assistance and guidance provided by Facilities Division management to determine the types of services needed for the approved on-site projects. The company's existing policies to cross-train workers enabled them to efficiently utilize their staff.

While there were many challenges for MTI staff during the pandemic, they affectively adjusted their policies, schedules, and mindset to meet the center's mission needs.

GRC-2022-C-03358 Photo by Bridget Caswell

Left to right: MTI's Andy Breschini, Joe Chiaramonte, and Dave Robbins in the Central Air Equipment Building control room.

Emergency and Inclement Weather Lines

Lewis Field: 216–433–9328 (WEAT)
Neil A. Armstrong Test Facility: 419–621–3333

Connect With Glenn