National Aeronautics and Space Administration



AeroSpace FRONTIERS

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Dedicating the Neil A. Armstrong Test Facility

Pages 2–3

Leaders Share Lessons Page 5

Inspiring Young Entrepreneurs Page 6

Driving Undistracted Page 7



Safety and Health Awareness

As you have heard me state many times before, your health and safety remains my top priority. On Sept. 21 and 22, we are hosting our annual Safety and Health Awareness Event. This year's theme is "Be Safe Where You Are." Whether on-site or off-site, we need to be mindful of our safety, our health, and those around us. I encourage you to attend the program featuring two distinguished guest speakers, virtual vendor booths, a mishap panel, and a virtual Golden Shoe Health Walk. This year's program promises again to be an informative and exciting event! Please check out Today@Glenn for further information.

AeroSpace Frontiers

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NASA Officially Renames Test Facility in Honor of First Moonwalker

Neil Armstrong—the first human to walk on the Moon—accomplished what was thought to be impossible and made that dream into a reality. NASA Glenn honored his life and legacy during a dedication ceremony at the Neil A. Armstrong Test Facility (ATF) in Sandusky on Aug. 11.

NASA Administrator Sen. Bill Nelson led the ceremony. He was joined by NASA Deputy Administrator, Col. Pam Melroy, Center Director Dr. Marla Pérez-Davis, other senior NASA officials, Armstrong's youngest son, and members of the Ohio federal and state delegation, who all commemorated the day with remarks.

"Neil's 'one giant leap for mankind' was taken by a giant of a person," said Nelson. "It's wonderful to be able to commemorate an exemplary person and incredible human being."

Armstrong was born in Wapakoneta, Ohio, and spent his childhood in Upper Sandusky. He began his career in 1955 as a test pilot at the Lewis Flight Propulsion Laboratory (now NASA Glenn). He flew aircraft like the F–82 Twin Mustang and C–47 Skytrain before eventually transitioning to the agency's High-Speed Flight Station in California (now Armstrong Flight Research Center) and later becoming an astronaut.

Pérez-Davis welcomed guests and thanked officials for their continued support of the agency and the center. "We are proud to have his name as the Armstrong Test Facility because of what we accomplish here for the agency and our many commercial partners," she said.



The ceremony included the unveiling of a permanent stone marker. Pictured left to right: ATF Director Dave Stringer, Armstrong, Dr. Pérez-Davis, and Sen. Nelson.

Deputy Administrator Pam Melroy recalled how Armstrong's walk on the Moon motivated many people to pursue careers in STEM and exploration. "We are all so inspired by his technical achievements," she said, "but to me, and I think to my fellow astronauts-his grace, his humility, and most of all, his humanity, stands as an inspiration to all of us."

Rob Portman, U.S. senator from Ohio and friend of Armstrong, joined fellow Sen. Sherrod Brown in introducing the Neil A. Armstrong Test Facility Act to redesignate NASA's Plum Brook Station as the ATF in November 2019. It was signed into law on December 30, 2020.

During the ceremony, Portman said the Artemis program, with the associated work at ATF, is reinvigorating the entire space program. "Neil was a big advocate of the space program, and, in particular, getting Artemis off the ground and moving forward," said Portman.

Mark Armstrong shared his pride in the NASA facility bearing his father's name. "It is our family's



Photo by Bridget Caswell GRC-2021-C-02539 Left to right: Sen. Portman, U.S. Rep. Marcy Kaptur, and Sen. Nelson answer questions from the media about the ATF.



GBC-2021-C-02457 Photo by Marvin Smith

On the Cover: Neil Armstrong's youngest son, Mark, spoke at the dedication ceremony.



Dr. Pérez-Davis, right, welcomes Sen. Nelson at the podium for comments.



A new entrance sign now bears the name of the Neil A. Armstrong Test Facility.

hope that the Neil Armstrong Test Facility will continue to vault us forward for faster and safer aerospace transport, and that this new name will be a beacon for the best, the brightest, and perhaps, most importantly, the most determined," he said.

The ceremony included the unveiling of a permanent stone marker outside of the Engineering Building at ATF. The marker will stand as a reminder of the bravery and dedication of Armstrong and his incredible contributions to humanity, our country, and Ohio.

In honoring Armstrong with this dedication ceremony, NASA renews its commitment to staying curious, to being pioneers, and to exploring further than any human has gone.

By Doreen B. Zudell

NASA ADMINISTRATOR TOURS GLENN

While in town for the Neil A. Armstrong Test Facility (ATF) dedication, NASA Administrator Sen. Bill Nelson, Deputy Administrator Pam Melroy, Associate Administrator Bob Cabana, and other Headquarters personnel, toured facilities at Lewis Field and ATF.



Scott Wilson, left, and Sen. Nelson view the Fission Surface Power Model in the Dynamic Power Conversion Laboratory at Lewis Field.



GRC-2021-C-02451 Sen. Nelson stops to greet employees in the Central Process Systems Building at Lewis Field.



ATF Director Dave Stringer, left, explains the test capabilities of the Space Environments Complex Mechanical Vibration Facility and the Reverberant Acoustic Test Facility.



GRC-2021-C-02454

In the Hypersonic Tunnel Facility, Amy Jankovsky, left, briefs visitors about NASA's work on sustainable aviation in the NASA Electric Aircraft Testbed at ATF.



As part of NASA Glenn's 80th Anniversary celebration, the center held a series of virtual discussions featuring three former center directors who have helped make our center what it is today. During the Lessons From Our Leaders series in July, these leaders shared their perspectives and valuable insights on leadership and how Glenn's advancements in aeronautics and space exploration have benefited our center and the world around us.

Megan Sorrelle, Center Operations, moderated all three events, and Abigail Rodriguez, Center Operations, served as the project manager for the series. The speakers and interviewers included:

July 8 Dr. Woodrow Whitlow Jr. Interviewed by Director of Aeronautics Timothy McCartney

July 22 Dr. Janet Kavandi Interviewed by Center Director Dr. Marla Pérez-Davis

July 29 Jim Free Interviewed by Director of Research and Engineering Dr. Rickey J. Shyne



Program Helps Inspire Young Entrepreneurs

Who will be the future entrepreneurs to license NASA technology and create startup companies to develop commercial products?

NASA Glenn is helping to inspire young entrepreneurs through its Technology Transfer University (T2U) program, which brings real-world, NASA-proven technologies into college and university classrooms. Students build case studies with NASA's patent portfolio while they learn about licensing opportunities. T2U is an important asset to NASA's new Technology Transfer Expansion (T2X) program.

"T2U connects universities with NASA-developed technology to enable students to work with federal government research and technology," said Tom Doehne, T2X commercialization specialist in Glenn's Technology Transfer Office.

Last spring, Glenn introduced the program virtually to students attending Youngstown State University and Baldwin Wallace University.

Youngstown State held two entrepreneurship classes in which 10 NASA technologies were selected for class group projects. Students created hypothetical companies and applied the entrepreneurial skills they learned in the courses to analyze the commercial potential of a product based on the NASA technologies. Students identified a market need, conducted customer discovery, and developed a prototype. They also performed market research and developed financial projections to test the viability and feasibility of launching the commercial product.

Baldwin Wallace held a class where students conducted a technology development and market assessment on one of NASA's technologies. The students concluded the semester with a presentation outlining their research and conclusions, while also finding multipleuse cases for different forms of the technology.

"The initial collaboration with these universities produced very good work by the students, and we look forward to seeing what great things come as both schools will be working with us again this fall," said Doehne.

By Lauren Simmers

T2U Transfer University

Interns Spin Washing Machine Designs

There is no laundry in space...yet. Astronauts only bring two small suitcases' worth of clothes aboard the International Space Station, sometimes wearing the same pair of underwear for up to a week. These used garments aren't washed-they're booted onto ships that burn up in the atmosphere.

NASA Glenn summer interns took a spin at possible ways to solve this stinky space technology problem. From June 25 to July 1, six mentor-led intern teams each designed conceptual components for a space washing machine. Their ideas could inform a gadget that could be tested on the space station for use on future, long-duration missions. Teams presented the concepts to NASA judges on the last day of the challenge. Interns juggled cost, space, and resource concerns and even created their own acronyms. To see what they came up with, visit https://go.nasa.gov/3fbx3i9.



Graphic by Ellen Bausback

Virtual Security Day Highlights Dangers of Distracted Driving

Whether deliberately or by accident, most drivers have driven distracted at least once in their lifetime. During NASA Glenn's Virtual Security Day, July 26, the dangers of distracted driving were made clear. Center Director Dr. Marla Pérez-Davis and Protective Services Office Chief Christi Tomaro stressed the importance of undistracted driving and how people can do their part in keeping themselves and others safe on the roadways.

Robyn Gordon, director of Center Operations, introduced the panel members before turning to Dr. Candice McDonald, Protective Services special agent, who moderated the event.

Joel Feldman, founder of EndDD.org, was the first panel member to speak. He admitted that he found himself driving distracted at times, and his life was changed drastically after his daughter died following an accident involving a distracted driver. That prompted him to change his own habits and spread the word about the dangers of distracted driving. He emphasized what people can do to be attentive drivers and to practice safe driving habits. Feldman also highlighted how dangerous texting and talking on the phone while driving can be.

James Smith, Glenn's Mishap Investigation manager in the Safety and Mission Assurance Directorate, followed Feldman. He spoke about issues and concerns with distracted driving on-site at Glenn, as well as close calls and mishaps related to distracted driving and distracted walking. Smith added that accidents on-site are almost always caused by a human factor, including distracted drivers or distracted walkers. To keep people safe, he



MCKENZIE AND TANNER RECOGNIZED



McKenzie

Tanner

During Glenn's Virtual Security Day, the Protective Services Office recognized Aaron McKenzie (Peerless) and Michael Tanner (GSVC) for their commitment and excellence in supporting the Protective Services mission.

emphasized the importance of paying attention when driving or walking on-site.

Sgt. Bob Bemis, a retired Pennsylvania state trooper and founder of Forged in Scars.com, followed Smith with an emotional story. Bemis was struck by a driver who lost control of a vehicle while he was assisting a disabled motorist on the highway and nearly lost his life. Bemis stressed the importance of slowing down and moving over for first responders on the roadways. This keeps all of those responding to an accident safe in the process.

Paramedic James Garcia, founder of the Slow Down, Move Over Law, was the final panel member to speak. He shared a story in which he was struck by a driver while rendering first aid at the scene of an accident and wound up in the hospital with several injuries. Garcia was determined to be at fault and was issued a ticket by police because he was in the roadway.

After spending years conducting research and contacting local government officials, Garcia's Slow Down, Move Over Law was passed in South Carolina. This law helps protect emergency medical services (EMS) workers at the scene of an accident, as well as other first responders. Since the law was introduced, several other states across the country have adopted the law.

The event concluded with a question-and-answer session with panel members.

By Adam Schabel

Event Shows Positive Impact of Employing People With Disabilities

NASA Glenn's Office of Diversity and Equal Opportunity and the Disability Awareness Advisory Group hosted a virtual presentation celebrating the anniversary of the passage of the Americans with Disabilities Act (ADA) on July 27, 1990. Anil Lewis, director of Blindness Initiatives at the National Federation of the Blind, shared his life experience with blindness and how it intersects with the passage of the ADA and the Civil Rights Act of 1964. The presentation included information about accessible technology, the positive impact of employing individuals with disabilities, and workforce accommodations. A question-andanswer session with employees followed.



GRC-2021-CN-00057 Photo by Ashley Cantor Lewis shares his personal prospectives during the virtual presentation.

NEWS AND EVENTS

Glenn's Cognitive Communications Workshop Gathers Top Researchers

NASA Glenn and the Institute of Electrical and Electronic Engineers sponsored the third biennial Cognitive Communications workshop held virtually from June 21 to 22. This event helped advance Glenn's position as cognitive communications leaders within NASA and the Space Communications and Navigation (SCaN) program. The workshop provided an international forum for about 100 scientists and engineers from across NASA, academia, industry, and other government agencies. Twenty-two speakers highlighted advances in machine learning, artificial intelligence, and cognitive technologies, and their applications to address NASA technical challenges. Badri Younes, NASA's deputy associate administrator for SCaN, delivered the opening keynote remarks.



Promotions

Eric B. Clark has been selected chief, Technology Innovation and Integration Division for the Technology Incubation and Innovation Directorate. He most recently served a 1-year detail as acting deputy director of the Office of Technology Incubation and Innovation. Prior to his detail, Clark served as chief, Photovoltaic and Electrochemical Systems Branch for the Research and Engineering Directorate.

Janet Lane has been selected chief, Facilities Project Management Branch, Facilities Infrastructure Division for the Facilities, Test and Manufacturing Directorate. She previously completed a successful



Lane

Clark

Lucero

6-month competitive detail as chief of the Facilities Program Management Branch. Lane most recently served as the team lead in the Facilities Project Management Branch.

John Lucero has been selected chief, Acoustics Branch, Propulsion Division for the Research and Engineering Directorate. He most recently served as chief engineer for the Engine Research Building Flow Physics Laboratories and for the Aero-Acoustic Propulsion Laboratory. Lucero is a fellow of the Society for Machinery Failure Prevention and a past chair.

Symposium Spotlights John Glenn's Contributions and Future Exploration



The American Astronautical Society, in conjunction with NASA Glenn and Case Western Reserve University, hosted the 3rd Annual John H. Glenn Memorial Symposium, July 13 to 15. The virtual event brought together leaders in government, space and aeronautic industries, and academia. It addressed the theme "Convergence: Deep Space, Near Space, and Aeronautics Coming Together."

NASA leadership and several Glenn managers were among the session panelists on the agenda for the 3-day symposium.

Center Director Dr. Marla Pérez-Davis provided welcoming remarks, where she acknowledged John Glenn's contributions and how the center continues to carry on his legacy. She shared a video of the center's world-class facilities and the work supporting the themes and various topics of this year's symposium.

Jim Reuter, associate administrator, Space Technology Mission Directorate, presented a keynote address and announced NASA's Nuclear Thermal Propulsion Reactor concepts awards. The reactor is a critical component of a nuclear thermal engine, which would utilize high-assay low-enriched uranium fuel.

NASA Administrator Sen. Bill Nelson opened the second day with a keynote address. He highlighted the 100th birthday of John Glenn and his contributions to the nation. Nelson outlined NASA's exciting space and aeronautics activities on the horizon. He also stressed that NASA's budget is less than 1% of the entire federal budget, yet the agency generates \$64 billion in total economic output, and all of NASA's missions are for the benefit of humanity.

Jeff Shesol, author of "Mercury Rising: John Glenn, John Kennedy, and the New Battleground of the Cold War," gave a presentation on John Glenn's life and historic accomplishments.

Additionally, Anne Mills, Glenn's records manager, shared highlights acknowledging the center's 80th Anniversary.

Pérez-Davis expressed her hope that attendees feel inspired by what they learned and energized by fellow attendees. "I am confident the senator [Glenn] would be proud to have an event aimed at collaboration and discovery named in his honor," said Pérez-Davis.

Retirement

Queito P. Thomas, Wind Tunnel Test Branch, Testing Division, Facilities, Test and Manufacturing Directorate, retired Sept. 3, 2021, with 44 years of service.



More Than a Memory



Forkosh

Forkosh's Engineering Expertise Contributed to Space Development

Marton Forkosh, 74, Glenn's first Chief Knowledge Officer and a senior systems engineer whose early contributions helped establish NASA's systems engineering policies and practices, died July 14.

During his 38 years at NASA, Forkosh participated in several agency and center programs, including serving as the Space Station Freedom Electrical Power System (WP4) systems engineer. He assisted the NASA Chief Engineer in negotiations with Russia to define the architecture of the International Space Station, which resulted in the current configuration. Forkosh led Glenn's Space Mission Excellence Program, which served as a model for NASA's Systems and Engineering Leadership Program. He received NASA Honor Awards in 2008 and 2009.

"Marton was passionate about sharing knowledge and cared about people," said Marton's supervisor,

Derrick Cheston, chief, Systems Engineering and Architecture Division. "He will be remembered by colleagues across the agency for his lasting contributions and for the relationships he forged with others."

William (Bill) D. Guthrie, 86, a 1995 retiree with 33 years of service, died June 27. He served on various safety committees and advisory panels at the center. Guthrie was named head of a Mechanical Design Section in the Facilities Engineering Division in 1972. He was part of a 1991 Group Achievement Award for the fiscal year 1990 Construction Team. Guthrie retired as head of the Mechanical Engineering Branch. His wife, Mary Lou Guthrie, a 2007 retiree, died in May. His stepson, Tony Herrmann, works in the Rotating and Drive Systems Branch.

Harold E. Rohlik, 94, a 1986 retiree, died July 8. Rohlik was an expert in the field of turbine research. His expertise was called upon during the center's investigation of a space shuttle main engine turbine issue in the late 1970s. He received several awards for his service, including a Sustained Superior Performance Award (1969) and an Exceptional



Guthrie

Rohlik

Service Medal (1980). His Exceptional Service Medal recognized his contributions to turbine research and technology and for providing key supportive aid in the design and evaluation of turbomachinery for advanced technology propulsion systems for aerospace vehicles.

Correction

Donald Gonzales, Facilities, Test and Manufacturing, was incorrectly identified as Jose Gonzalez in a photo for the "NASA Retires a Research Workforce" article on page 2 in the August AeroSpace Frontiers.

Virtual Safety and Health Event

"Be Safe Where You Are"

Sept. 21 and 22

The all-virtual event will feature two distinguished guest speakers, vendor booths, a mishap panel, and the Golden Shoe Health Walk.

Check Today@Glenn for details.

POC: Steve Herron, steven.l.herron@nasa.gov



Upcoming Events

National Hispanic Heritage Month Sept. 15 to Oct. 15

National Disability Employment Awareness Month October

Check Today@Glenn for details on upcoming observance events.

INFORMATION CAFÉ

On Wednesday, Sept. 15, from 11– 11:45 a.m., the Library will introduce you to their trial of Scopus! Scopus quickly finds relevant and authoritative research, identifies experts, and provides access to reliable data, metrics, and analytical tools. Join them for a demo of this new tool. Check Today@Glenn for the link.

POC: Robin Pertz, 3–5776

LSS VIRTUAL TRAINING

Agencywide Lean Six Sigma (LSS) Virtual Black Belt Training will take place from Sept. 20–25 and Oct. 18– 22, from 9 a.m. to 5 p.m. This course comprises mixed virtual classroom training and project workshops. Black Belt candidates should be prepared with a preselected project. Green Belt Certification is a prerequisite to this training. Both sessions must be completed. Register through SATERN at https://satern.nasa.gov.

POC: Peggy Raines, 3-2337

OUTDOOR SIREN TESTING

Emergency Management Office staff will conduct an audible siren test on the "severe thunderstorm" tone on Saturday, Oct. 2, at Lewis Field. A mass notification voice test will be conducted at building 39 on Wednesday, Oct. 6.

POC: Allen Turner, 3-6826

VIRTUAL FACILITY TOURS

Glenn is hosting a virtual public tour season, featuring seven world-class facilities, through October. To learn more about the featured facilities, visit https://www.nasa.gov/nasaglenntours. The next tour is Oct. 7, Electric Propulsion and Power Laboratory. Registration opens 1 month before the tour date. Space is limited. Tell your friends and family!

POC: Debbie Lockhart, 3-8655

Deadline for next calendar section is **Sept. 15, noon**. News and feature stories require additional time. National Aeronautics and Space Administration

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www.nasa.gov

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

Celebrating 80 Years Looking Back Through the Decades

NASA Glenn was originally established in 1941 as the Aircraft Engine Research Laboratory (AERL), part of the National Advisory Committee for Aeronautics (NACA). The laboratory became a national resource for innovations in aircraft engine technology that transformed commercial and military propulsion systems.

Over the decades, NASA's Cleveland-based scientists and engineers advanced technology in both aviation and space exploration, propelling the U.S. into a leading role in the aerospace industry.



GRC-2014-C-04024 Photo by Marvin Smith Center Director Jim Free, center, along with NASA senior leaders and construction managers, cut the ribbon for the official dedication of the Mission Integration Center in 2014.

The 21st Century: 2000s

The center makes key contributions to the Columbia Accident Investigation and Constellation Project. The campus also undergoes a transformation with the addition of the Mission Integration Center and the removal of several historic facilities. The on-site visitor center relocates to Great Lakes Science Center.

Emergency and Inclement Weather Lines

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

