



AeroSpace FRONTIERS

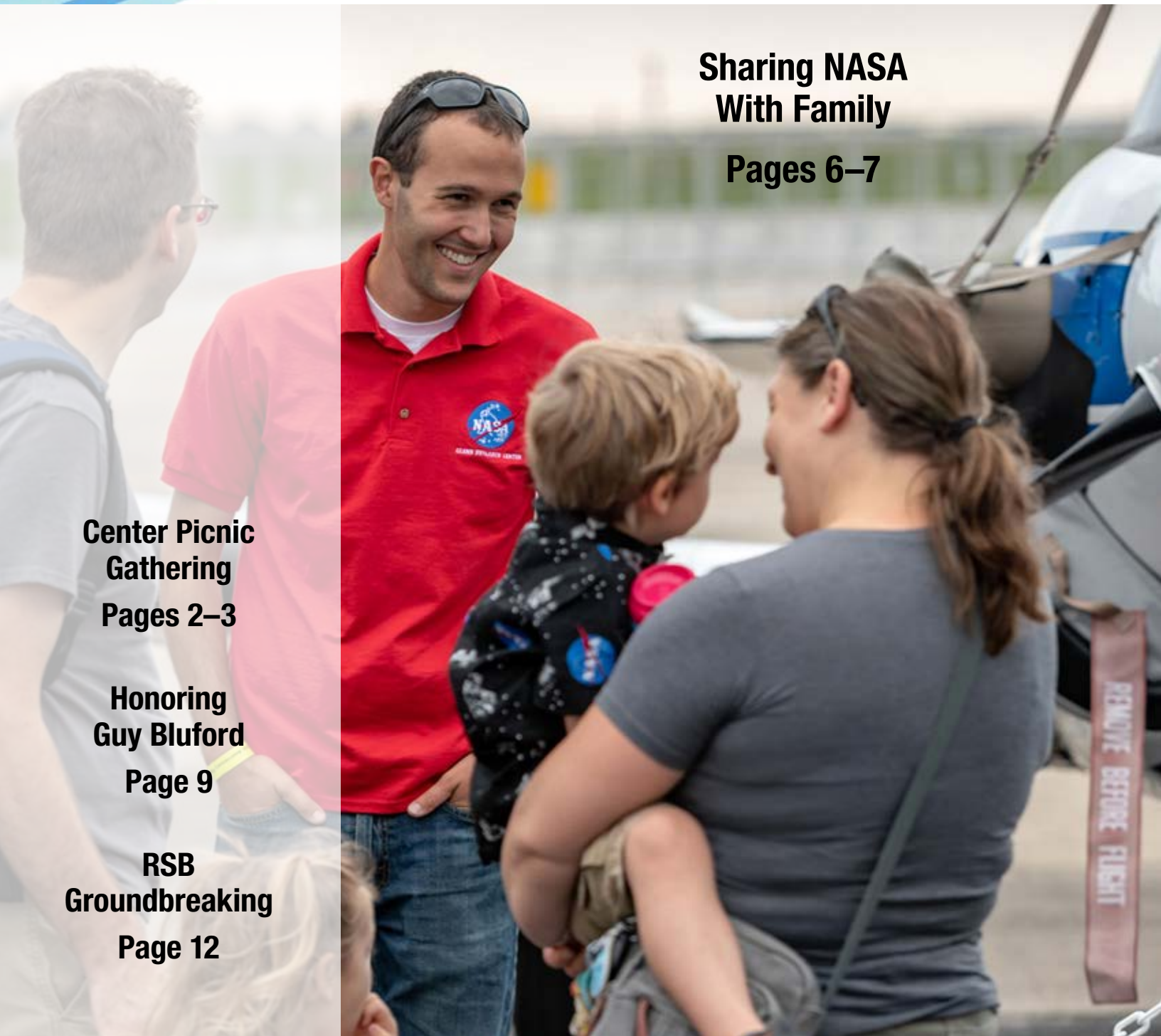
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Cyber Awareness Enhances Our Mission Success

October is Cyber Security Awareness month. Cybersecurity has been a persistent hot topic, and we should all be aware of the many threats to our information technology, communications and networking systems. In addition, it is important to me that we are vigilant in addressing cybersecurity throughout the mission-development cycle. Software is an integral part of our aerospace systems, making our wind tunnel and vacuum chamber operations more efficient. As we address the emerging cyber developments, it is critical that we stay out front and exercise sound engineering, process control and assurance practices to mitigate the cybersecurity threat to our mission success.

Thank you for your consistent attention to the ever-present cybersecurity threat.

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 & External Relations 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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Employees, Retirees Gather for Center Picnic

It was fun in the sun—and under the big tent—for employees and retirees during the 2018 Center Picnic, Aug. 23, at the Lewis Field Picnic Grounds. Participants enjoyed lively music from the Glenn Band, picnic fare, popcorn, games and more.





This year's picnic showcased a car show, where employees voted on their favorite entry. Mike Perez, Aviation Test Branch, won for his 1966 Pontiac GT0.

GRC-2018-C-06260



GRC-2018-C-06233



GRC-2018-C-06300



GRC-2018-C-06236



GRC-2018-C-06323



GRC-2018-C-06220

Thanks to everyone who helped to bring it all together!

Showcasing NASA's Mission

Glenn's Office of Communications and External Relations staff led the agency's participation in several outreach events this summer, emphasizing the future of space exploration and air travel. Popular exhibits included NASA's Space Launch System and the Orion spacecraft, Journey to Tomorrow trailer and Picture Yourself in Space photo booth.



GRC-2018-CN-00047

Photo by Debbie Lockhart



GRC-2018-C-06666

Photo by Rami Daud

Largest in the Nation

NASA acknowledged its 60th anniversary at the 2018 Chicago Air and Water Show, the largest free show of its kind in the nation, Aug. 17 to 19. Approximately 7,200 guests came through the NASA Village, pictured, to learn about NASA's contributions to the world in which they live.

Air and Space Technology

Glenn's Ian Jakupca demonstrated different methods of power generation during the Cleveland National Air Show at Burke Lakefront Airport in Cleveland over Labor Day weekend. NASA's S-3 Viking and Twin Otter research aircraft were on display, along with exhibits and informational materials. Staff engaged over 6,000 members of the public during the show and reached additional audiences on social media.



GRC-2018-CN-00048

Photo by Mack Thomas

Teaming Up for STEM

NASA Glenn staff conducted demonstrations and distributed informational materials during the 2018 STEM Festival at First Beulah Baptist Church in Cleveland, Aug. 18. Glenn and the Cleveland Public Library teamed up to bring science, technology, engineering and mathematics to community members at the festival. This was one of many events at which 50 Golden Astronaut tickets were randomly distributed throughout the year. The tickets gave recipients the opportunity to participate in the Sept. 29 Special Tour marking NASA's 60th Anniversary.



Photo by Bridget Caswell
GRC-2018-C-06132

Rodger Dyson, Glenn's hybrid gas electric propulsion technical lead (far right), gives an overview of the NASA Electric Aircraft Testbed (NEAT) to several mayors.

Glenn Hosts Elected Officials

Elected officials eager to learn more about the center's R&D testing capabilities traveled to Glenn's Plum Brook Station (PBS). On Aug. 28, PBS Director David Stringer hosted 15 Northeast Ohio mayors, two city managers and two mayoral aides. Two days later, Ohio Senators Bill Beagle and Randy Gardner, along with three legislative aides, visited PBS. Following a windshield tour of PBS acreage, both groups received an on-site tour and overview of facilities.



Photo by Rami Daud
GRC-2018-C-06117

Stringer, right, gives an overview of the Reverberant Acoustic Test Facility housed inside the PBS Space Environments Complex to Senators Gardner (far left) and Beagle (center), accompanied by Kim Veris, Glenn's legislative affairs officer.

NEWS AND EVENTS

Dr. Zurbuchen Visits, Interacts With Glenn Staff



GRC-2018-C-05065

Photo by Jordan Salkin

Glenn's Rohit Shastri, left, briefs Associate Administrator of the Space Mission Directorate Dr. Thomas Zurbuchen, center, and Glenn's Director of Space Flight Systems Bryan Smith on ion thruster technology efforts in the Electric Propulsion Laboratory, Aug. 14. In addition to tours during his visit, Zurbuchen met with senior leaders, early career employees, the Rocket U class and members of the Planetary Exploration Science Technology Office (PESTO). Zurbuchen, executive sponsor of the 2018 NASA FIRST Cohort Program, met with the participants. He shot several "Science in Seconds" clips and shared them on his Twitter page.

Agency CIO Featured Speaker

NASA's Chief Information Officer (CIO) Renee Wynn, pictured, held a Town Hall at Lewis Field, Aug. 6. She discussed the soon-to-be released IT Strategic Plan as well as the significant change drivers facing IT across the agency and here at Glenn. She also participated as a featured speaker for the center's 60th x Six lunch series focusing on "Vision." This interactive lunchtime discussion was part of NASA's 60th Anniversary celebration.



Photo by Marvin Smith
GRC-2018-C-04686

60th Anniversary Family Day:

Sharing NASA Glenn's Story With Our Family and Friends



On Saturday, Aug. 25, NASA Glenn welcomed approximately 2,300 guests through the Lewis Field gates for its 60th Anniversary Family Day event. When they were not spending time with their families and friends, over 400 Glenn staff members were providing facility tours, exhibits and hands-on activities; guiding guests and staff; ensuring a safe and secure event; and providing a fun and exciting time for all.



GRC-2018-C-05660



GRC-2018-C-05808



GRC-2018-C-05621



GRC-2018-C-05743



GRC-2018-C-05799



GRC-2018-C-05813

Photos by Imaging Technology Center



GRC-2018-C-05676



GRC-2018-C-05787



GRC-2018-C-05702



On the Cover:

Glenn's Anthony Royce, mechanical and flight engineer, talks with a family about how the T-34 and other aircraft are used as testbeds for sensors and emerging technologies development during Glenn's Family Day.

Photo by Rami Daud
GRC-2018-C-05794

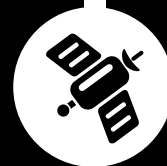
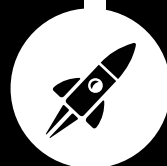
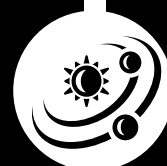


GRC-2018-C-05800



GRC-2018-C-05735

Many thanks to those who made this day special
for some of our biggest fans and supporters!



Faces of Glenn: Diamond Edition

Our Faces of Glenn portrait series returned to Instagram last month to feature four long-serving NASA Glenn employees in honor of the agency's 60th anniversary.



To read more about the
Faces of Glenn, visit

[https://www.instagram.com/
nasaglenn/](https://www.instagram.com/nasaglenn/)



In our last customer survey, readers asked for more stories on Glenn's technical work. This new column highlights some of the research underway in our many test cells.

A Glenn team has assembled the first Sub-Kilowatt Electric Propulsion (SKEP) laboratory model prototype thruster, which is undergoing performance testing in the Electric Propulsion Laboratory's (EPL's) Vacuum Facility 8 (VF-8). SKEP would enable the use of small spacecraft to accomplish NASA missions at a faster tempo, reduced risk and lower costs.

By leveraging extensive lessons learned with higher-power, multikilowatt electric propulsion systems, the SKEP project seeks to deliver and flight qualify a complete propulsion unit—composed of a thruster, the associated power electronics and the propellant feed system—in about 3 years. That is less than half the time of traditional NASA electric propulsion development.

Successful completion of the SKEP project will yield a flight-ready electric propulsion system compatible with ambitious cislunar and deep space NASA exploration and science missions involving small spacecraft. A team from Glenn's Electric Propulsion Systems Branch, Research and Engineering Directorate—with technical support from the Facilities and Test Directorate—are leading these efforts.



Photo by Rami Daud
GRC-2018-C-06988

SKEP thruster being installed in VF-8 by test lead Dr. Thomas Liu, left, and Pathways intern Naia Butler-Craig.



Dr. Sankovic

Glenn's Chief Technologist Retires

Dr. John M. Sankovic, chief technologist and director of the Office of Technology Incubation and Innovation, retired Sept. 15, after 31 years of NASA service. Sankovic joined the agency in 1987 as a co-op engineering student working on turbine engine compressors. He has had a distinguished NASA career serving in various technical, supervisory and midlevel program/project management positions. He has earned numerous awards and authored/co-authored over 70 technical publications.

Sankovic leaves NASA to assume the role of president and CEO of the Ohio Aerospace Institute.

Glenn, GLSC Honor Bluford on 35th Anniversary of First African-American in Space



NASA Glenn and the Great Lakes Science Center (GLSC) honored retired Air Force officer, astronaut and aerospace executive Dr. Guion S. Bluford Jr. with a special ceremony on Aug. 30. That day marked the 35th anniversary of Bluford's first space shuttle flight, and distinction as the first African-American in space. The ceremony included a candid interview by Ideastream's Rick Jackson.

GLSC CEO Kristen Ellenbogen also presented Bluford with their Award of Distinction and unveiled an exhibit dedicated to Bluford in the NASA Glenn Visitor Center. The exhibit features Bluford's personal memorabilia over a remarkable career.

"I'm thankful that you are recognizing me at the museum," Bluford said. "I hope I inspire other people to follow in my footsteps and become scientists or engineers, and possibly go on to fly in space."

On Aug. 30, 1983, the STS-8, Challenger mission, launched from NASA's Kennedy Space Center with Bluford and four other astronauts with international ties to orbit the Earth. Bluford flew three additional shuttle missions before beginning a successful career as an aerospace executive supporting NASA Glenn.

In honor of this historic occasion, Bluford, a longtime resident of Northeast Ohio, spent the morning at the GLSC visiting with Cleveland Municipal School District ninth graders from the on-site MC2 STEM High School. Afterwards, the U.S. Navy Ceremonial Guard performed an honorary drill on the GLSC outdoor terrace overlooking the harbor, and Bluford signed autographs and met with guests.



Photos by Bridget Caswell
GRC-2018-C-05848

At top left: Ellenbogen presents Dr. Bluford with an Award of Distinction.

At left: Dr. Bluford talks with MC2 STEM High School students.

FEB Hosts Inaugural Special Emphasis Program Gala

Cleveland's Federal Executive Board (FEB) Diversity and Inclusion Committee hosted the First Annual Special Emphasis Program Gala to present FEB Diversity & Inclusion awards on Aug. 25. The award recognizes the exceptional achievements of Special Emphasis Advisory Group members who took affirmative steps to ensure equal opportunity for minorities, women and people with disabilities.

Seven Glenn employees were among the honorees: Sameer Kulkarni, Asian American/Pacific Islander Committee; Jill Noble, National Disability Employment Awareness Committee; Ashley Cantor, Diversity and Inclusion Committee; Jeremiah O'Callahan, Native American/Alaskan Native Heritage Committee; and Karin Bozak, Debra Goodenow-Messman and Amy Stalker, Women's History Committee.



Photo by Timothy Pierce
GRC-2018-CN-00049

Pictured, left to right: Glenn's Director of Diversity and Equal Opportunity, Aretha Carr; Cantor; Noble; Center Associate Director Janet Watkins; Stalker; O'Callahan; and Equal Employment Specialist Angela Pierce.
Not pictured: Kulkarni; Bozak; and Goodenow.

PROMOTIONS



Bailey

Kelly Bailey has been selected the Physical Science Research program manager for the ISS and Human Health Office in Glenn's Space Flight Systems Directorate. Bailey previously served at Zin Technologies, Inc. as project manager for the Advanced Colloids Experiment.



Raines

Peggy L. Raines has been selected the Center Operations Directorate (COD) management and program analyst officer serving as program manager for the Lean Six Sigma (LSS) Program. She previously served as the COD technical lead and supported the agency and center's LSS Office as a Master Black Belt.

Darkside 2018 Softball League Champs

Congratulations to the 2018 NASA Glenn Softball League Champions, the Darkside. After winning the regular season with a 14–2 record, the Darkside won all three of their post-season games. This resulted in the defeat of the Sidewinders in a 10th inning walk-off victory, 10–9, on Sept. 6. This was Darkside's first championship since 2012. This year was the third year in a row that these two teams have squared off for the final game to determine the NASA Glenn championship.



Photo by Karin Bozak
GRC-2018-CN-00045

Pictured left to right: back row: Brandon Ruffridge, Anthony Manco, Rick Bozak, Josh Lisowski, David Pike, Brad Kershaw, Jeff Kregenow, Alex Krinov and Greg Schmitz. Front row: Jordan Kisel, Zach Lucas, Jerry Traster, Mike Krinov, Ryan Brown, Alan Hewston and Jim Fleet. Not pictured: Nick Catanzarito, Eddie Lajeski, KJ Pederson, Brandon White and John Winter.

MORE THAN A MEMORY

McGrady Provided Valued IT Expertise and Humor



McGrady

Jerry McGrady, 44, a computer technician with the ACES contract supporting Glenn's Office of the Chief Information Officer at Plum Brook Station (PBS), died Sept. 10. McGrady provided a wide range of IT technical support for the past 8 years.

"He was our 'go-to guy' for anything related to IT. We could always count on Jerry to be knowledgeable and easy to work with," said Dave Taylor, PBS deputy director.

"Jerry had a positive outlook, was easygoing, and loved to support the end-user community. We will miss him," added Tyson Stahnke, ACES Operations Manager.

Queen: A Spirited Member of the PBS Security Force



Queen

Halle Queen, 61, a security officer for Glenn's Office of Protective Services stationed at Plum Brook Station (PBS), died Sept. 8. She performed various security roles over her 37-year career, most recently as sergeant. Queen began working at the Space Power Facility for Garrett Research in 1981. She moved over to the Reactor building in 1987 to work for the Telatron Isotope group, thus providing dual-hatted support as maintenance and plant protection.

"Halle had a substantial impact to our organization and her fellow co-workers. Her legacy will live on for years to come. She will be greatly missed," said Christi Tomaro, chief, Office of Protective Services.

Upcoming Center Events

Conflict Resolution Day

Wednesday, Oct. 31

Session 1: 8 to 11 a.m. • Session 2: 1 to 4 p.m.
Administration Building Auditorium

The Office of Diversity and Equal Opportunity is partnering with the Federal Mediation and Conciliation Services to sponsor two 3-hour training sessions (morning and afternoon).

The topic is "The Art and Science of Communication and Appreciative Inquiry" for Glenn employees. This is Glenn's annual Conflict Resolution Observance event.



POC: Angela Pierce, 3-2813

Register through SATERN. See *Today@Glenn* for details.

Disability Employment Awareness

Thursday, Oct. 25

1 to 2 p.m.

Administration Building Auditorium

Maria Wolfe, Leap, Inc., will discuss personal care assistants, the functions they provide and how to request these services through Leap.

POC: Angela Pierce, 3-2813



GSEL MOBILE LIBRARIAN

The Glenn Science and Engineering Library (GSEL) Mobile Librarian will be visiting building 54 through Oct. 18; building 77 from Oct. 23 to Nov. 1; and building 86 from Nov. 6 to 15. A Glenn reference librarian will be ready to assist employees with subject searches, finding specific books and articles and other information needs on the spot.

POC: Robin Pertz, 3-5776

OUTDOOR SIREN TESTING

The Emergency Management Office staff will conduct an audible siren test on the "all clear" tone on Saturday, Nov. 3, at Lewis Field. An outdoor mass notification "voice" test will be conducted at building 87 on Wednesday, Nov. 7.

POC: Allen Turner, 3-6826

IFPTE LOCAL 28, LESA MEETING

LESA will hold its next membership meeting, Wednesday, Nov. 14, noon, in the Glenn Employee Center's Small Dining Room.

RETIRED WOMEN'S LUNCHEON

The next luncheon is Thursday, Nov. 15, at 1 p.m., at Square 22 Restaurant, 13485 Pearl Road, Strongsville, Ohio.

Please reserve your place by calling Gerry Ziemba, 330-273-4850 or email gto64gerry@yahoo.com.

Deadline for next calendar section is **Oct. 17, noon**. News and feature stories require additional time.



Photo by Marvin Smith
GRC-2018-C-05955

Left to right: Hartline; Deputy Director of Facilities, Test and Manufacturing, Susan Kevdzija; Dr. Kavandi; and Marris participate in the RSB Groundbreaking Ceremony.



GRC-2018-CN-00046

Rendering of new cafeteria seating, showing panoramic views of the Lewis Field campus.

RSB Groundbreaking Celebrates Next Step in Facility Master Plan

NASA Glenn held a groundbreaking ceremony for the Research Support Building (RSB), Aug. 23, ushering in the next step in implementing the Center's Facility Master Plan.

Center Director Dr. Janet Kavandi and Director of Facilities, Tests and Manufacturing Tom Hartline, led the festivities with special guest Deputy Assistant Administrator, Office of Strategic Infrastructure Rick Marrs. The Lewis Ensemble added to the celebration by performing America the Beautiful and Finlandia, a favorite of John and Annie Glenn.

"I'm really excited that we are here today for the groundbreaking of Glenn's next high-performance building," said Kavandi. "When completed in the fall of 2020, the RSB, along with the adjacent Mission Integration Center, will create a new campus center that will be a destination envisioned to create excitement, promote innovation and serve as the primary gathering location for the GRC community."

Marrs added his endorsement, saying the project aligns with the agency's goals of constructing energy-efficient, cost-saving buildings that help reduce NASA's carbon footprint.

The RSB consists of a public wing and an office wing. The public wing includes a new cafeteria, exchange store and training rooms, as well as two concurrent engineering rooms. The creation of these areas will allow for the future demolition of building 15. Visitors to the cafeteria dining spaces will enjoy panoramic views of the Lewis Field campus from a cantilevered structure (extended deck) that reaches out creating a gateway to the Central Campus and the new "Wright Commons."

The RSB project was awarded to Walsh Construction Company II, LLC of Chicago, in August. Construction is set to begin in October.

By Doreen B. Zudell

Emergency and Inclement Weather Lines

Lewis Field: 216-433-9328 (WEAT)
Plum Brook Station: 419-621-3333

Connect With Glenn

