

Orion Program Managers Tout Glenn's EFT-1 Contributions

Orion Program Manager Mark Geyer visited Lewis Field, April 14, to provide mission highlights from the Dec. 5, 2014, Exploration Flight Test-1 (EFT-1). He thanked the Glenn team for their contributions to the Orion program.

"Glenn's been part of the program—technical and managerial—since the beginning," Geyer affirmed during the employee briefing. "Your contributions were vital to making this first mission so successful!"

Orion Deputy Program Manager Mark Kirasich and Lockheed Martin Orion Deputy Program Manager Larry Price also took the podium to reflect on the exciting uncrewed space flight.

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GRC-2015-C-1697

Photo by Bridget Caswell

Left to right: Price, Geyer and Kirasich share highlights of the EFT-1 mission.

Celebrating the Amazing Hubble



GRC-2015-C-1733

Photo by Michelle Murphy

Glenn and the Cleveland Public Library collaborated to engage the public through an interactive exhibit and educational activities in celebration of Hubble@25. See page 5.

New Deputy Joins All Hands

Center Director Jim Free introduced his new Deputy Director, Dr. Janet Kavandi, during his All Hands Meeting with the Glenn workforce, March 31. Kavandi is a former astronaut who served 6 years as deputy director and then director of Flight Crew Operations. She most recently worked as deputy director of the Health and Human Performance Directorate at NASA Johnson.

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Way To Go Solar Electric Propulsion Teams!

Please join me in congratulating the Asteroid Robotic Retrieval Mission (ARRM) and the Solar Electric Propulsion (SEP) teams on a successful agency Mission Concept Review (MCR). This is a crucial step in moving the ARRM into project formulation. The Glenn-led SEP team did a tremendous job demonstrating SEP maturity and readiness by using a comprehensive risk-based approach. They highlighted the critical path and key investment areas for SEP. Thanks to this review, we now have a clear understanding of technology risks that need to be addressed to assure ARRM success.

Formula for mission success: Understanding the risks; proactively tackling the challenges!

— Jim

All Hands



GRC-2015-C-1254

Photo by Marvin Smith

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A veteran of three space shuttle missions, Kavandi (pictured above) highlighted her role on each mission as well as her other responsibilities with NASA over the past 20 years. She talked about her love for the agency and her role as lead Casualty Assistance Calls Officer, where she led the team that took care of the families of the Columbia astronauts.

Kavandi told employees they would be seeing her in laboratories and facilities across the center. "I can't wait to learn and brag about you," she said.

Following Kavandi's comments, Free kicked off his presentation by highlighting recent center accomplishments. The Cleveland Clinic's Global Healthcare Innovations Alliance partnership, LaunchHouse Hardware Accelerator program, Cleveland City Club presentation and testing related to the Multi-Purpose Crew Vehicle at Plum Brook Station, were among several mentioned.

Free spoke about Glenn's proposed \$601.5 million in the fiscal year 2016 budget, noting a steady increase that he attributes to the center's technological contributions.

"Your work is doing the talking for us and ramping up our budget," he said. Free cited solar electric propulsion, hybrid electric propulsion for aircraft and advanced communications as some examples of areas that will take Glenn's budget forward.

Glenn's EFT-1 Contributions

Continued from page 1

The Orion program managers presented commendations to Glenn employees who made significant contributions to the program:

Damian Ludwiczak, Mark McNelis and Mike Politi: The EFT-1 Crew and Service Module Systems Management Team Award for outstanding leadership of the Orion EFT-1 Crew and Service Module Engineering Team.

Ben Van Lear: For outstanding leadership and dedication in support of modeling and simulation for Orion's EFT-1 Spacecraft, resulting in significant improvements in manufacturability and early identification of assembly issues.

Joel Kearns: Leadership Award for outstanding leadership of ESA Service Module Integration Office in driving closure of issues leading to a successful PDR and maintaining EM-1 schedule agreements critical to the Orion program.

Kathy Schubert: Leadership Award for outstanding leadership of Orion Service Module development and in the establishment of the partnership with ESA for future human exploration. (Not pictured.)



Above top, clockwise: Ludwiczak on behalf of EFT-1 Crew and Service Module Systems Management Team; Van Lear for Outstanding Leadership; Kearns for Outstanding Leadership. Not pictured: Schubert for Outstanding Leadership.



Photos by Bridget Caswell

The Glenn team will continue its critical efforts leading to Exploration Missions, 1 and 2 (EM-1 & 2) which begin an era of sustained human space exploration beyond low Earth orbit.

By Doreen B. Zudell

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Employees Earn FEB Wings

The Cleveland Federal Executive Board (FEB) honored seven Glenn employees among the 2015 Wings of Excellence Award winners, May 1. The award recognizes employees from federal agencies across Northern Ohio for their outstanding government service and outreach to the community and/or nation. The awards ceremony and luncheon kicked off Cleveland FEB's observance of Public Service Recognition Week (May 3-9), celebrated across the country.

Congratulations to the following Glenn honorees:

Ryan Brown, Accounting and Financial Analysis Division, for developing innovative solutions to improve contractor cost reporting, expediting vendor payments and reducing interest penalties while supporting colleagues through training and serving as President of the Cleveland Chapter of the Association of Government Accountants; and for representing Glenn's Disability Awareness Advisory Group supporting the annual Very Special Arts Festival.

Steven Bauman, Mechanisms and Tribology Branch, for contributing to NASA's exploration research by developing two analog robotic planetary excavators; and dedicating significant time and effort in engineering/community outreach to NASA's Speakers Bureau, the Young Engineers & Scientists (YES) event and as chief

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A century of aerospace achievement

What was it like to work here when NASA was NACA? Over the coming months, we will share a few memories of NACA employees still working at the center. Our second profile is Leonard Tower, who works as a Distinguished Research Associate, modifying computer codes he wrote to analyze heat pipe performance under space environments.

Leonard "Len" Tower

Q. How did you begin your career at NACA?

A. I started as a co-op student from Antioch College on March 27, 1944. During my intended 3-month tenure I was drafted. My section head arranged my induction into the Air Corps Enlisted Reserve. I never returned to campus, completing my requirements by transferring credit from Case Institute of Technology graduate courses and other means.

Q. What do you remember most about the workforce culture of the early years?

A. The employees were very young and full of energy, engaging in all sorts of athletic activities. Their income levels required group living arrangements, resulting in many long-term friendships continuing after marriage.

Q. As NASA has evolved through the years, what has stayed the same?

A. I believe that concern for educational advancement remains even more active than in the early days.

Q. Who stands out among those you have mentored over your career?

A. I introduced Karl W. Baker to heat pipe theory and practice. He had a successful career at Lewis and then moved into aerospace technology at another organization.

Q. What do you feel is the most important contribution you have made to NASA's mission?

A. I became interested in thermochemistry at an early stage. I advised over the years on many projects where materials problems involving chemical interactions were major issues in success or failure.

By Doreen B. Zudell



Last year Tower celebrated a 70-year association with NACA-NASA. He is pictured with retired Branch Chief Richard Shaltens, right, and current Branch Chief Lee Mason, Thermal Energy Conversion Branch, left, during a recognition lunch in 2014.

Solar Electric Propulsion Drives Dawn

Launched in September 2007, NASA's Dawn spacecraft explored the giant asteroid Vesta for 14 months in 2011 and 2012, capturing detailed images and data about that body. It was then redirected to fly to the protoplanet, Ceres, where it arrived during the first week of March. Both Vesta and Ceres orbit the sun between Mars and Jupiter, in the main asteroid belt. This two-stop tour of our solar system is made possible by the Dawn spacecraft's futuristic, hyper-efficient solar electric propulsion (SEP) system based on technology developed by Glenn. SEP enables many multiple rendezvous asteroid and comet missions, such as Dawn, which would be impractical with chemical propulsion.



Artist's concept shows Dawn spacecraft arriving at Ceres (lower right). The xenon ions glow with blue light.

Worldwide Challenge Focuses on Space



Photo by Brad Nellis, OHTec

Glenn’s Office of Chief Information Officer (OCIO) hosted the 2015 NASA Space Apps Challenge, April 10 to 12, an OHTec-sponsored Tech Week event. More than 12,500 participants submitted 929 projects worldwide, and Cleveland ranked the fourth largest U.S. location for the Space Apps Challenge, with 60 participants forming 11 teams. Teams solved NASA challenges in four themed areas: Outer Space, Earth, Human and Robotics. OCIO’s Herb Schilling led the core team that organized the event. Glenn’s Matt Melis and Jeff Chin gave dynamic presentations on NASA technology. Three teams from Cleveland were nominated to move on to the next level for global judging. Pictured is the Space Hugs project team at work on the Space Wearables: Designing for Today’s Launch & Research Stars challenge. For more information on the project teams, visit <https://2015.spaceappschallenge.org/location/cleveland-oh/>. Chief Information Officer Sean Gallagher represented NASA Glenn in a panel discussion at the *Crain’s Cleveland Business CIO* of the Year 2015 event, April 14, which was also a part of the Tech Week series.

Sessions Encourage Feedback on Reorganization



GRC-2015-C-1216

Photo by Bridget Caswell

Nearly a year after Glenn’s reorganization, employees gave feedback on the realignment and shared thoughts on the future health, sustainability and relevancy of the center. Four onsite World Café sessions—small-group discussions in a creative and comfortable setting—enabled collaborative dialogue among employees. Center Director Jim Free joined in, sharing his insights on the reorganization and encouraging employee feedback.

Aspiring Artists at LLF



Photo by Doreen Zudell

Look out Picasso! The students of Lewis Little Folks’ (LLF) onsite development center transformed their gym into an art gallery, March 20. Under the direction of LLF teacher, Rachel Tomasewski, each classroom—infant to kindergarten—was given an example of a famous artist for inspiration. The original artwork, which included individual pieces and classroom group projects, was then showcased in “The Museum of Children’s Art” for parents to view with their children. Pictured above, Andrew, son of Chris Hartenstine, Office of Education, and wife, Janet, study Andrew’s art work.

Sustainability Events

Mark Your Calendar!

• A virtual tour of the Detroit Shoreway EcoVillage with EcoVillage Project Manager, Adam Davenport. An EcoVillage is a community of people creating a way of living that sustains healthy ecological relationships. Take a tour through the neighborhood as well as some of the city’s finest examples of green building. Tuesday, May 12, 11:30 a.m., Ad Bldg. Foyer.



• Garlic Mustard Pull to combat invasive species at Plum Brook Station, Wednesday, May 13, from 11 a.m. to noon. Watch for “This Week at Plum Brook” for more details.

Hubble Still Delivering Amazing Discoveries at 25

Glenn Recognizes Employees' Technological Contributions

April 24 marked the 25th anniversary of the launch of the Hubble Space Telescope! Since its debut, Hubble has helped change our understanding of the age and beauty of the universe, the evolution of galaxies and the expansion of space. NASA Glenn recently coordinated several events to recognize these amazing discoveries and highlight Glenn's technological contributions.

On March 30, the City Club of Cleveland welcomed Center Director Jim Free and NASA astronaut Mike Good to the podium to enlighten members and guests to the significance of Hubble's revelations. Free gave a presentation entitled "Hubble@25: Rewriting History Yet Unwritten," followed by Good's personal account of the STS-125 space shuttle mission in 2009—"The Final Hubble Servicing Mission."

On April 1, Glenn hosted the Hubble@25 Awards Ceremony in the Mission Integration Center (MIC) Auditorium. The event honored Glenn's Hubble team—Bruce Banks, Kim de Groh, Joyce Dever, Sharon Miller, Edward Sechkar, Curtis Stidham, Thomas Stueber, Deborah Waters and James Gaier—whose expertise contributed to Hubble's mission and longevity. Center Director Free and Banks, former chief of the Electro-Physics Branch who managed Glenn's Hubble team, provided commentary and presented the awards. The team's participation in the review, analysis and selection of replacement materials for insulation was critical to Hubble's operational life, which has far exceeded any other space telescope.

That same day, a new exhibit, Hubble@25, opened in the Louis Stokes Wing of the Cleveland Public Library (CPL). The exhibit showcased a 1/25-scale model of Hubble, a video wall of powerful Hubble images and interactive kiosks. Glenn's Hubble team members were on hand to answer questions while invited students participated in hands-on educational activities.

Glenn also coordinated several "Camp Hubble Days" to engage students and the public, at large, in the Hubble@25 celebration. The camps highlighted



Above: Glenn Hubble Team honorees pose, left to right, front row: Sechkar, Waters, Dr. Gaier, Miller and de Groh; back row: Banks, Stidham, Dever and Stueber; Below, clockwise: Astronaut Good and Center Director Free field questions at the Cleveland City Club forum on Hubble; Glenn's Carl Sandifer demonstrates a STEM educational activity at the Cleveland Public Library (CPL); Banks, Center Deputy Director Janet Kavandi, CPL Director Felton Thomas, Jr. and Center Director Free view the Hubble exhibit; and Glenn's Jill Noble assists a student with an activity during Camp Hubble Day at the Cleveland Sight Center.



GRC-2015-C-1549 Photo by Marvin Smith

guest speakers, interactive exhibits, videos, educational activities and NASA mementos. Camp Hubble Days were hosted at the CPL's Rice Branch and Louis Stokes Wing, and the Cleveland Sight Center.

The Great Lakes Science Center closed the month of festivities with three showings of the thrilling IMAX movie, "Hubble." For more information about the Hubble Space Telescope, visit www.nasa.gov/hubble.

By S. Jenise Veris



GRC-2015-C-1736 Photo by Michelle Murphy



GRC-2015-C-1762 Photo by Michelle Murphy



GRC-2015-C-1806 Photo by Marvin Smith

—2015 Federal Executive Board Wings of Excellence Honorees—

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inspector for the Buckeye Regional, FIRST (For the Inspiration and Recognition of Science and Technology) Robotics Competition.

Joyce Dever, chief of the High Temperature and Smart Alloys Branch, for providing leadership supporting the development of metallic materials technologies for future aircraft that will significantly reduce greenhouse gas emissions; and for contributions to science and engineering education outreach.

Dr. William “Bill” Marshall, Ascent and Thermal Propulsion Branch, for distinguished job performance, leadership and support of center objectives and projects in space propulsion; and for community outreach and volunteering activities, such as supporting Physics Day at Cedar Point, public tours at Lewis Field and serving the Boy Scouts in Cleveland as a commissioner and leadership trainer.

Aaron Olmsted, Institutional Services Branch, for the ability to quick-study complex processes and expertly perform assignments in procurement policy, contract pricing, and major services and construction contracts and procurements, including highly



Brown



Bauman



Dever



Dr. Marshall



Photos by Barbara Breen, Louis Stokes Cleveland VA Medical Center



Olmsted



Rachul



Wiese

visible and politically sensitive assignments; and for providing a positive role model for youth by serving as a Scoutmaster for the Boy Scouts of America.

Lori Rachul, Office of Communications and External Relations news chief, for leading her team in producing timely, high-quality communications products—news releases, speeches, and videos—that accurately and effectively share Glenn’s research and technology expertise and achievements and convey Glenn’s role in NASA’s missions

that are used by domestic and international media outlets.

Gerri Wiese, Office of Protective Services, for determining the suitability of more than 3,500 contractor employees and temporary workers hired on behalf of the government; and sharing innovative approaches and expertise with her colleagues that have contributed to an improved security posture resulting in reduced risk of loss, damage or compromise to center employees, visitors, information and physical assets.

By S. Jenise Veris

Promotions

Frank Jennings Jr. has been selected as deputy chief of the Office of Communications and External Relations, effective April 5. He previously served as a public affairs specialist on the division’s media relations team. Prior to coming to NASA Glenn in 2013, Jennings spent 29 years with the U.S. Coast Guard as a civilian and uniformed member.



Jennings

Calendar

SATURDAY TOURS AT LEWIS FIELD: Glenn offers free tours of its world-class facilities at Lewis Field one Saturday through October. Tour buses depart from the Main Gate every hour starting at 10 a.m. One-hour tours begin with a multimedia presentation in the Briefing Center Auditorium. The June 6 tour will showcase the Telescience Support Center, a secure, multipurpose facility designed to provide dedicated support for simultaneous training, simulations and real-time operations of space experiments on the International Space Station. For more information and a complete schedule, visit <http://www.nasa.gov/centers/glenn/events/tours.html>.

IFPTE LOCAL 28, LESA MEETING: LESA will hold its next membership meeting, Wednesday, May 13, noon, in the Glenn Employee Center’s Small Dining Room.

NASA RETIRED WOMEN’S LUNCHEON: The next luncheon will be held Thursday, May 21, 1 p.m. at Vintage House Café, 35800 Detroit Road, Avon. Please contact Gerry Ziemba, 330-273-4850 or gto64gerry@yahoo.com to reserve your place.

Emergency and Inclement Weather Lines
Lewis Field: 216-433-9328 (WEAT)
Plum Brook Station: 419-621-3333

Connect with Glenn

FIRST Robotics Recognizes Veteran Volunteer

Tim Dedula, Office of Education, received a Volunteer of the Year award at the 14th annual Buckeye Regional FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition (FRC). Dedula was recognized for his dedication and behind-the-scenes contributions to the success of the Buckeye Regional, including serving the past 2 years as project coordinator. During 21 years of involvement in FIRST, Dedula has also volunteered as an electronic systems mentor, Website curator, pit administrator, cuing team member and photojournalist.



Photo by Bob Jadowski

Dedula, center, with fellow Volunteer of the Year Award winners Arsbawna Warren, left, and Melody Buca.

FRC teams are composed of students, professional engineers and other adult mentors, who have just 6 weeks to work collaboratively to design and build a robot that can compete in specially designed robot games. This year's game RECYCLE RUSH brought attention to the global concern of exhausting our natural resources and our need to reuse and recycle whatever we can.

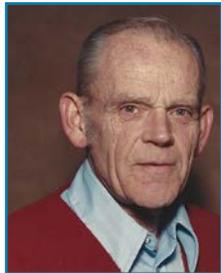
More than 1,500 high school students from across the United States and Canada competed in the Buckeye Regional FRC, March 26 to 28, at Cleveland State University's Wolstein Center.

More Than a Memory

Bruce R. Leonard, a 1974 retiree with 27 years of service, died March 3. During his career, Leonard served as Assistant to the chief of Technical Services, safety director and chairman of the Executive Safety Board. He worked on the Quiet Engine Program, which focused on developing engine noise-reduction technology for subsonic conventional takeoff and landing aircraft. He wrote several technical papers and designed many of the center's smaller facilities and research rigs, including the quiet fan (QF-1) ground test facility.

Emery J. "Jim" Merkle, 87, a 1988 retiree with 27 years of federal service, died March 12. Merkle was a World War II Army veteran and chemist in NASA's Materials and Structures Division. He analyzed materials and essential metals needed to make high-performance jet and rocket engines for several significant agency programs and projects. They included the Conservation of Strategic Aerospace Materials, the Global Air Sampling Program and others requiring analytical chemistry and X-ray diffraction labs.

James P. Roberts Sr., 91, a 1975 retiree with 29 years of federal service, died Nov. 21, 2014. Roberts was a World War



Roberts



Volkin

II Army veteran, who began his NACA/NASA career in 1951. He was a research instrument maker in the Research Instrumentation Branch, Fabrication Division, throughout his entire career. His work focused largely on instrumentation for heat transfer research.

Dr. Howard C. Volkin, a 1974 retiree with 25 years of federal service, died Dec. 27, 2014. Volkin was a World War II Navy veteran, who joined the NACA/NASA workforce in 1951. He served as head of the Theoretical Physics Section, Materials and Thermodynamics Division, from 1959 to 1971. There, he personally initiated seminars and colloquiums with experts in the field to aid and maintain staff expertise. Volkin retired from the Spacecraft Technology Division, where he worked on the Microwave Power Transmission Project.

Retirements



Krejci



Terbrack

Marie Krejci, Office of Education, Center Operations Directorate, retired Jan. 31, 2015, with 30 years of NASA service.

David Lewicki, Rotating and Drive Systems Branch, Materials and Structures Division, retired May 1, 2015, with 33 1/2 years of NASA service.

John Pokatello, Manufacturing Engineering and Process Branch, Manufacturing Division, retired May 1, 2015, with 40 years of NASA service.

Suzanne Terbrack, Office of Human Capital Management, Human Capital Consult Division, retired May 2, 2015, with 38 years of NASA service.

Welcome to NASA

Glenn welcomed the following employees to the workforce in April: Calogero Dirienzo, Planning and Integration Office; and student trainees Aaron Ellich, Wind Tunnel and Propulsion Test Branch; Maria Choi, In-Space Propulsion Systems Branch; and Daniel Saccomando, Exploration Systems Branch.



Dirienzo



Ellich



GRC-2015-C-1766

Photo by Marvin Smith

Choi and Saccomando

National Aeronautics and Space Administration

John H. Glenn Research Center at Lewis Field

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Cleveland, Ohio 44135

www.nasa.gov

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 via e-mail to the editor: doreen.b.zudell@nasa.gov or 216-433-5317.

June 2015 Calendar section deadline: May 22, noon
News and feature stories require additional time

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Read *AeroSpace Frontiers* online at <http://aerospacefrontiers.nasa.gov>

Glenn Celebrates Women's History and Contributions

Federal Women's Program Awards Presentation

Members of Glenn's Women's Advisory Group (WAG) and Business and Professional Women's (BPW) Chapter co-hosted a lunchtime presentation of this year's Women's History Month Observance, March 25. Associate Director Janet Watkins provided welcoming remarks for the event relating to the 2015 Women's History Month theme of "Weaving the Stories of Women's Lives."

Keynote speaker Dr. Kirsten Ellenbogen, president and CEO of the Great Lakes Science Center, shared profiles of two influential women—Mary Gatson, a school nurse, and her mom, Mary Lou McGaffey. Ellenbogen cited examples of their strength and insightfulness that affected her life journey and defining moments in those of others.

The Federal Women's Program Awards, which annually recognize recipients' contributions to the advancement and inspiration of women, were presented to Joyce Dever and Michelle Mader. Karin Bozak, Power Management and Distribution Branch, nominated Dever, chief of the High Temperature and Smart Alloys Branch, for the supervisory



GRC-2015-C-1459

Photo by Bridget Caswell

Above: Glenn honorees and their nominators: left to right: Bozak with Dever, Dr. Ellenbogen, and Center Operations Deputy Seth Harbaugh, standing in for Gordon, with Mader.

Right: The 2015 National Women's History Project poster illustrates the theme of "weaving" women's stories—individually and collectively—into the essential "fabric" of our nation's history.

award. Michelle Mader, a contract specialist in the Institutional Services Branch, earned the nonsupervisory award. Robyn Gordon, director of Center Operations, nominated Mader.

By S. Jenise Veris

