



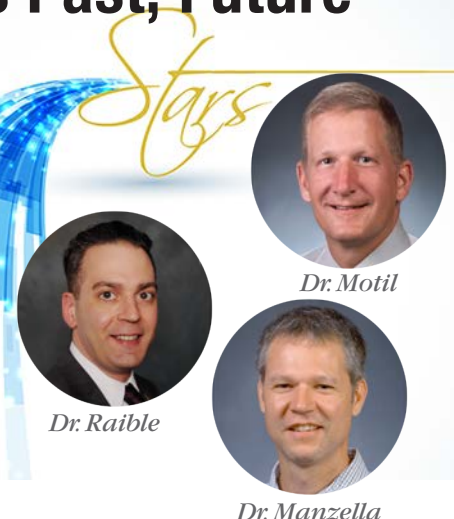
“Evening With The Stars” Celebrates Past, Future

The Western Reserve Historical Society’s Crawford Auto Museum at the Cleveland History Center provided the perfect backdrop for the 2nd annual “Evening With the Stars” (EWTS) program, Oct. 20. The vintage automobiles and NASA exhibits created an ambiance ideal for the event theme: Celebrating NACA’s 100th Anniversary and a Century of Dreaming Big.

The evening featured presentations by Glenn researchers and a networking reception aimed at raising the visibility of the center throughout Northeast Ohio. More than 300 guests representing federal, state and local government, businesses, academia and community-based organizations attended.

“Thanks to the Ohio Aerospace Institute’s (OAI’s) coordinated sponsorship along with 25 other companies, universities and organizations, and the high caliber of service by Glenn staff, the evening was a huge success,” said Dovie Lacy, EWTS program manager.

Continued on page 3



Around the Center



GRC-2015-C-7478

Photo by Rami Daud

NASA’s Super Guppy aircraft delivered Orion test hardware, Nov. 2. See page 5.



GRC-2015-C-6521

Photo by Rami Daud

Employees learned about phishing during Cyber Security Awareness Month. See page 2.



GRC-2015-C-7340

Photo by Marvin Smith

Glenn unveiled its new main gate at Plum Brook Station, Nov. 4. See page 8.

In This Issue

Director’s Safety Corner	2	Golden Shoe Winners.....	4	Silver Snoopy Awards	6
Partnership Produces Power	4	Astronaut Briefing	5	Susan Motil Named to SES	7



Keep Up Your Holiday Safety Guard

With the excitement of the holidays in the air, it's easy to get caught up in the frenzy and festivities of the season. Don't let your safety guard down! Pay attention to fire safety guidelines related to decorating, lighting fireplaces and baking or frying that turkey. Exercise caution while driving and walking on slick surfaces. Research healthy ways to manage increased demands on your time. My holiday wish is that you'll spend some much-deserved time with your co-workers, family and friends in ways that are comforting, memorable—and safe.

Thank you for putting safety first in and outside of our gates in 2015!

—Jim

Glenn Cyber Security Awareness Day 2015 Educating Employees on Best Practices

Glenn's Office of the Chief Information Officer (OCIO) conducted a Cyber Security Awareness Day Program and Training, Oct. 21, in the Mission Integration Center (MIC) Auditorium. The event was one of several OCIO events held throughout October, including an Information Technology (IT) Vendor's Day, in observance of National Cyber Security Awareness Month.

The program included guest speakers from the Air Force Institute of Technology (AFIT) at Wright-Patterson Air Force Base and the NASA Security Operations Center, along with several speakers from Glenn's OCIO, Export Control, and Counter Intelligence offices. Each took a turn providing updates on major cyber threats and best practices to minimize the vulnerabilities.

Topics included Cyber Defense; Protecting Your Mobile Device; Phishing; Identity Theft; Protecting Data on Personal/Work Travel; and Counter Intelligence Awareness. A trivia game was incorporated into this year's train-

ing to evoke audience participation and comprehension of the various topics throughout the 4-hour program.

In his key address, "Why Does Cyber Security Matter?" Matt Dever, associate director at AFIT's Center for Cyberspace Research, delivered sobering news. He spoke about growing threats to infrastructure and transportation due to advances in technology that enable criminals to act remotely.

Sherri Lippus, OCIO's Incident Response manager, coordinated this year's cyber security program with the goal of covering topics that touch virtually every segment of the public and private sectors.

"Glenn's OCIO is committed to informing and training employees on the latest IT solutions," Lippus said. "Periodically, we offer Lunch & Learn sessions to raise awareness and augment the center's annual cyber security training. Watch *Today@Glenn* for the schedule."

By S. Jenise Veris



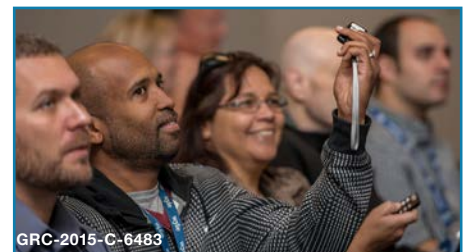
Mark your calendar!

2015 Centerwide Holiday Celebration

**Tuesday, Dec. 15
1 to 3 p.m.
MIC Auditorium**



CIO Sean Gallagher welcomes the audience.



The audience participates in trivia questions.



Keynote speaker Dever gives an update on focused efforts to protect our nation.

Evening With The Stars

Continued from page 1

Kelly Falcone-Hall, CEO, Cleveland History Center; Mike Heil, president and CEO of the Ohio Aerospace Institute; and Carlos Grodsinsky, chairman and Ohio Aerospace and Aviation Council/Chief Operating Officer, ZIN Technologies, offered congratulatory remarks. NASA Administrator Charlie Bolden welcomed guests through a video message.

Center Director Jim Free thanked the sponsors and guests for their support. He acknowledged the foresight of Frederick C. Crawford, the museum namesake, for influencing NACA's decision to bring the Aircraft Engine Research Laboratory (Glenn's predecessor) to Cleveland nearly 75 years ago. The lab proved invaluable to the research and development that aided the World War II allied victory.

Free said the work of the evening's presenters—Dr. Brian Motil, Dr. David Manzella and Dr. Daniel Raible—builds on the NACA legacy by expanding the boundaries of human exploration.

"NASA's Orion spacecraft figures prominently in our journey to Mars," Free said, "and that journey passes right through Northeast Ohio with testing of the European Crew Service Module set to begin over the next few months at Plum Brook Station in Sandusky."



Dr. Raible speaks on his satellite research in space communications, one of Glenn's core competencies.



Guests mingle throughout the museum.

Each of the speakers, aided by a captivating multimedia presentation, shared what they are doing to make NASA's goals a reality.

Dr. Brian Motil, deputy chief of the Fluid Physics and Transport Processes Branch, explained why microgravity research is important to our understand-

ing of how to live safely in space. He provided examples of Glenn fluids and combustion experiments currently operating on the International Space Station.

Dr. David Manzella, chief engineer for the Solar Electric Propulsion (SEP) Technology Demonstration Project, reviewed Glenn's historic leadership in ion propulsion. He shared current developments in SEP research for potential use as we prepare for the journey to Mars.

Dr. Daniel Raible, Optics and Photonics Branch, explained his research and development of optical devices and precision navigation systems. He illustrated how these systems will allow future astronauts to communicate to Earth more efficiently despite delays, disruptions or disconnections over the vastness of space.

Free reminded the audience that the center's accomplishments, since breaking ground on Jan. 23, 1941, were made possible through NASA's most valuable resource—its people. People like the presenters.

Free concluded by unveiling the official logo for NASA Glenn's upcoming 75th Anniversary activities and encouraged the support and participation of the entire community in celebrating this milestone. In a brief video message, Senator John Glenn echoed Free's appreciation and invitation to 75th activities.



A timeline of NACA/NASA accomplishments greets guests as they enter the museum.

By S. Jenise Veris

Student-Mentor Partnership Collaborates to Produce Power



GRC-2015-C-6787

Photo by Rami Daud

During the ceremony, Center Director Free, left, and Congresswoman Kaptur power up an electric car using the mobile solar power system.

U.S. Rep. Marcy Kaptur participated in a ceremony at Lewis Field, Oct. 30, recognizing a successful pilot partnership between NASA Glenn and the Erie, Huron, Ottawa Vocational Education (EHOVE) Career Center in Milan. Glenn engineers and technicians teamed with students in EHOVE's electrical and industrial technologies and collision and refinishing trades to build a mobile solar power system. Mounted on a 16-foot trailer, the power system produces 3 kilowatts of power. The congresswoman joined Center Director Jim Free and EHOVE Assistant Director Matthew Ehrhardt in congratulating the team members. More information on the partnership is available in the October 2015 *AeroSpace Frontiers* at <http://www.nasa.gov/centers/glenn/news/AF/index.html>.

Healthy Steps Earn Golden Shoe Award



Glenn's Safety and Mission Assurance Directorate (SMAD) has announced the winners of the 2015 Golden Shoe Competition. Team 1—comprising the Office of the Director, Office of Diversity and Equal Opportunity, and Office of Chief Counsel—captured first place with 57 percent participation. Team 4—comprising five areas within the Facilities, Test and Manufacturing Directorate (FO, FB, FM, FA, and FE)—was second with 43 percent participation. The SMAD took third with 40 percent participation. Pictured, second from left, SMAD Director Anita Liang, presents the trophy to winning team representatives—Bill Sikora, Lynda Glover and Jim Free.

Disability Awareness



Photo by Dick Woodward

Dr. Maricela Lizcano, Materials Chemistry and Physics Branch, pictured, was the featured speaker for this year's Disability Awareness Observance event, Oct. 28. Lizcano shared her personal visual impairment story and the challenges she and others with disabilities face as members of a diverse workforce. Lizcano has Stargardt's disease, a hereditary type of macular degenerative eye disorder. Glenn welcomed back talented special needs children from the O'Connor Dance Studio under the instruction of SGT retiree, Pat Kons, for repeat performances.

Post-Flight Briefing



GRC-2015-C-6612

Photo by Marvin Smith

Glenn welcomed Expedition 41 Flight Engineer/Expedition 42 Commander Butch Wilmore for a post-flight mission briefing to employees, Oct. 21. Wilmore shared behind-the-scenes footage on preparing for a Russian launch compared to a U.S.; logistics for preparation and execution of spacewalks; and space station daily operations, such as maintenance of the regenerative life support system. Pictured: Wilmore demonstrates the constraints of Russian Soyuz compared to U.S. shuttles.

Experiment Expands Communications Frequencies



Glenn and the Air Force Research Laboratory (AFRL) have teamed to fabricate and install a communications experiment at the University of New Mexico (UNM), Albuquerque, New Mexico. The experiment, which characterizes atmospheric effects on radiowave propagation at 72 and 84 GHz—the first measurements at these frequencies—could lead to the development of next-generation satellites. The transmitter is located at the crest of the Sandia Mountains with the receivers installed on the roof of a UNM research building. The experiment is expected to operate primarily autonomously for a minimum of 2 years. Pictured, left to right, Robert Richard (AFRL), with Glenn's James Nessel (lead), Nicholas Varaljay, Jacquelynne Houts and Michael Zemba.

Orion Test Hardware Arrives in Ohio; Bound for Plum Brook Station!

NASA's Super Guppy aircraft delivered Orion's service module stack assembly fixture with an interface ring, along with tooling to Mansfield's Lahm Regional Airport, Nov. 2. Seven days later, a full-size version of the European Space Agency's service module and other Orion test hardware were delivered on an Antonov An-124 to Cleveland Hopkins International Airport. The test hardware was transported by truck to Plum Brook Station where it will be tested for its ability to withstand the punishing space launch environment as NASA takes the next step in the Journey to Mars. Pictured: huge test hardware is unloaded from an Antonov An-124 aircraft and placed on a trailer.



GRC-2015-C-7100

Photo by Bridget Caswell

Employees Merit Silver Snoopy

Eight Glenn employees received the recognition and admiration of astronauts Dr. Andrew Morgan, Lt. Col., U.S. Army, and Glenn Deputy Director Janet Kavandi during a Silver Snoopy Awards ceremony, Nov. 2, in the Ad Building Auditorium.

The Silver Snoopy is the astronauts' personal award, presented to less than 1 percent of the NASA workforce for significant contributions in every phase of space flight enhancing the probability of mission success. Morgan and Kavandi presented the award to the following honorees:

Scott A. Bleisath, Human Space Flight Systems Branch, for dedication to astronaut safety through development of new space suit technologies and development of power, avionics and software for the Advanced Extra-vehicular Mobility Unit.

James J. Bontempo, ZINT/ISS and Human Health Office, for delivering the highest quality service troubleshooting all the electrical board designs to ensure the electrical system supporting the Observation and Analysis of Smectic Islands in Space (OASIS) experiment was completed on time.

Scott E. Darpel, Program and Project Assurance Division, for dedication and technical excellence in safety and mission assurance leadership to ensure risk reduction of Glenn flight hardware and software test and development for International Space Station (ISS) research and human research projects.

Calendar

IFPTE LOCAL 28, LESA MEETING: LESA will hold its next membership meeting, Wednesday, Dec. 9, noon, in the Glenn Employee Center's Small Dining Room.

SPACE SATURDAY: Visit NASA Glenn's Visitor Center at the Great Lakes Science Center, Dec. 19, for the Space Saturday program, "Meeting Up in Orbit: Spaceship Rendezvous and Docking." Glenn engineer David



Glenn Snoopy honorees with presenters, left to right: Wong, Darpel, Astronaut Morgan, Bleisath, Wolff, Deputy Director Kavandi, Storck, Bontempo, Krauss and Rogers.

Amber S. Krauss, ZINT/Space Operations Project Office, for serving as lead mission planner for the ISS Fluid Integrated Rack (FIR) and Light Microscopy Module, along with supporting the ISS mission operations at Glenn for the FIR and Combustion Integration Rack.

Christopher R. Rogers, ZINT/ISS and Human Health Office, for leading the ZIN Technologies ISS Mission Integration and Planning Team supporting overall payload integration and project interactions with the ISS Program Office, particularly the final human factor inspections to ensure crew safety.

Jennifer L. Storck, ZINT/Space Operations Project Office, for outstanding service as systems/integration/operations lead engineer on the OASIS Project discovering a power line location issue that saved hardware rework,

coordinating with the principal investigator's team to define the science test matrix, and training a Russian cosmonaut.

Frederick J. Wolff, Power Management and Distribution Branch, for technical prowess, leadership and commitment to excellence that has made a significant impact on the design, development, test and verification of the Orion Multi-Purpose Crew Vehicle (MPCV) electrical power system.

Edmond Wong, Intelligent Control and Autonomy Branch, for contributions to the Space Launch System (SLS) Program as the Sensor Data Qualification and Consolidation Team lead and lead developer of flight computer algorithms that validate flight-critical sensors for safe operation of Core Stage and Booster Stage subsystems.

By S. Jenise Veris

Fuller recounts how 50 years ago, this month, two crewed Gemini spacecraft rendezvoused in space for the first time.

HOLIDAY SHOPPING: Save time and money this holiday season by shopping at NASA's Exchange Store, located in the Employee Center, bldg. 15. Find a variety of NASA-related items such as apparel, glassware, toys and freeze-dried ice cream. Store hours

are Monday through Friday, 9:30 a.m. to 3 p.m. POC: Connie Carroll, 3-5535.

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

Connect With Glenn



Motil Named To Senior Executive Service

Susan M. Motil has been appointed to the Senior Executive Service (SES) position of manager, European Service Module (ESM) Integration Office, Space Flight Systems Directorate, effective Nov. 15.

Motil has more than 26 years of project management experience across numerous space flight development projects at Glenn. Prior to this selection, she served as the Cryogenic Propellant Storage and Transfer project manager, where she oversaw design and development and established an international partnership. Other notable experiences include management

of new environmental test capabilities at Plum Brook; as well as multiple space flight experiments on the International Space Station and shuttle.



Motil

Motil received her bachelor degree in industrial engineering from Cleveland State University. She has received numerous awards, including NASA's Silver Snoopy and an Outstanding Leadership Medal.

More Than a Memory

Kenneth J. Bowles, 84, a 2001 retiree with 42 years of NASA service, died Oct. 17. Bowles retired from the Materials Division where he was a senior materials research engineer. He developed several patents during his career, including one recognized as an *R&D 100 magazine* award winner in 1991. He co-authored, with Carl E. Lowell, a patent for the development of a processing method called the Inert Gas Post Cured Crosslinked Polymer.

Louis Gedeon Jr., 89, a 1982 retiree with 33 years of federal service, died Oct. 14. Gedeon was a U.S. Army veteran of World War II, who served NASA as a research engineer. He provided thermal data for the TEP (transmitter experiment package) launched aboard the Communications Technology Satellite, a joint program between the United States and Canada. Gedeon was active on several NASA sports teams.



Gibb

John W. Gibb, 80, a 1994 retiree with 38 years of NASA service, died Oct. 13. Early in his career, Gibb served in the Rocket Systems Division at Plum Brook Station, where he was part of the team that conducted the first hot firing tests of the Centaur's twin rocket engines. Gibb was later appointed director of the Reliability and Quality Assurance Office at Lewis Field. He became manager of the Atlas/Centaur Project Office that oversaw the design, development and operations to launch a variety of commercial satellites.

Wilbur D. Knapp, 86, a 1996 retiree with 36 years of NASA service, died July 24. Knapp was a U.S. Army Medical Corp veteran of World War II. He retired from the Aerospace Technology Facilities Division, where he served as a research operations engineer. Knapp initially served in the Chemical Rocket Division's Test Evaluation Branch, and later in the Photovoltaic Technology Branch, supporting test operations for solar cell research for the space station power system. Knapp received two NASA Group Achievement Awards.

Daniel F. Wills, 87, a 1986 retiree with 22 years of NASA service, died Aug. 13. Wills was a U.S. Army veteran, who became a member of the center's Plant Engineering Branch. The staff consulted on troubleshooting, maintenance planning and rehabilitation of project designs for the center's process systems. This included distribution systems for electrical power, compressed air, altitude exhaust, fuels, refrigerants, water and steam.

Awards and Honors



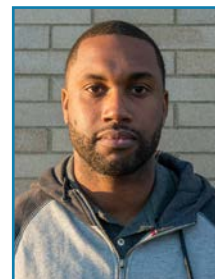
Photo courtesy of UT

The University of Toledo (UT) College of Engineering has named Glenn's Director of Research and Engineering, Dr. Rickey Shyne, its 2015 Distinguished Alumnus. Shyne received his master's degree in Mechanical Engineering and doctorate in Engineering Science from the UT College of Engineering. At the request of the school, he delivered a lecture for engineering students, faculty and staff following the Distinguished Alumnus reception, Oct. 9. His lecture addressed the far reaches of NASA-developed technology. Pictured, left to right: UT President Dr. Sharon Gaver, Dr. Shyne, and UT College of Engineering Dean Dr. Nagi Naganathan.

Welcome to the NASA Family



Brandenberg



Washington

Glenn welcomed two new employees to the workforce in November. They include **Brian A. Brandenburg**, Fabrication and Instrumentation Branch, and **Daniel J. Washington**, Aviation Environments Technical Branch.

Retiring Soon?

Be sure to fill out a GRC431 form. It ensures your retirement announcement is published in the newsletter and secures home-delivery of the newsletter.

National Aeronautics and Space Administration

John H. Glenn Research Center at Lewis Field

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Cleveland, Ohio 44135

www.nasa.gov

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News and feature stories require additional time

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Read *AeroSpace Frontiers* online at <http://www.nasa.gov/centers/glenn/news/AF/index.html>

NASA Unveils New Main Gate at Plum Brook Station

NASA Glenn leaders and staff, joined by state and local elected officials/representatives, celebrated the completion of Plum Brook Station's (PBS) new main gate, Nov. 4. Located on Scheid Road, the new gate improves security and reduces traffic through the residential area outside the former main gate on Taylor Road.

In opening remarks, Plum Brook Director Dave Stringer shared resolutions from both the Ohio Senate and the Ohio House of Representatives. The resolutions commended Glenn on the excellence of the main gate project.

Deputy Director Dr. Janet Kavandi recognized the exemplary efforts of the Office of Protective Services and Facilities Division in designing the 4,200-square-foot facility and gate entry. "This new building not only changes the primary entry point into Plum Brook, but also accommodates the many security changes for federal entry points since 9/11," she said.

Kevin Stiles, Facilities Division, served as project manager. He said the new facility significantly improves the security staff's ability to safely and efficiently handle vehicle traffic, including visitors and materials transported in for construction and research needs. Also, the new facility reduces PBS's vulnerability to outside threats. The project



GRC-2015-C-7357

Photo by Marvin Smith

Ribbon cutting participants, included, left to right: Erie County Commissioner Bill Monaghan, Deputy Director Dr. Janet Kavandi, State Representative Steve Arndt, Erie County Commissioner Patrick Shenigo and Erie County Commissioner Tom Ferrell.

also helps improve the safety of traffic patterns while improving NASA's visibility and community presence. Construction of the \$6.9 million facility began in the summer of 2013. It is the latest facility to be completed under Glenn's Master Plan for its PBS and Lewis Field campuses.

The facility achieved Silver certification from the U.S. Green Building Council's Leadership in Energy and

Environmental Design (LEED). LEED is a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high-performance green buildings. The building features water-efficient fixtures, ENERGY STAR equipment and a state-of-the-art heating and cooling system.

The gate is expected to open in spring.

By Doreen B. Zudell