



# Director Announces New Management Appointments

## Jim Free Named Deputy Director

Glenn Center Director Ray Lugo has announced the selections of new senior management appointments at the center. The changes became effective Jan. 16.

“These senior executive appointments are not only major steps in each individual’s career, they are also critical to Glenn Research Center’s mission,” Lugo said. “Each brings a level of expertise that will have a significant impact on the center achieving its goals; making Glenn the absolute best we can be.”

James M. Free has been appointed Glenn’s deputy director. Free has been the director of Space Flight Systems since September 2009. Free previously served as chief of Glenn’s Orion Projects Office and as the Orion test and verification manager reporting directly to the Orion project manager at NASA Johnson. He also served as the launch vehicle and autonomous rendezvous and docking manager for the Prometheus spacecraft and as the liquid-oxygen-methane engine project manager. Before joining Glenn in 1999, Free began his career at NASA Goddard, working on a variety of spacecraft.



Deputy Center Director Free

Continued on page 2

# Glenn Tests Planetary Excavation Tools and Vehicles

## Collaborates With Mining and Space Technology Company

In working towards the agency’s goal to extend and sustain human activities across the solar system, NASA Glenn has partnered with a Canadian mining

and space technology company to develop hardware capable of harvesting and processing planetary materials to sustain life and reduce the costs of spaceflight missions.

the Northern Centre for Advanced Technology (NORCAT) of Sudbury, Ontario, Canada, will conduct a series of tests simulating planetary excavation. Glenn is providing its test facilities, computer simulation and spacecraft/space hardware development capabilities, while NORCAT is providing excavation

Continued on page 3



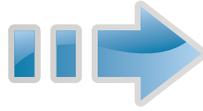
During the 3-year collaboration, sponsored by NASA’s Partnerships, Innovation and Commercial Space Division, Glenn and

*Researchers document instrumented excavation of the simulated lunar soil in Glenn’s SLOPE facility.*

C-2010-5881

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## The Struggles Ahead

Last month I spent a Saturday meeting with our Administrator and other senior agency leaders to continue the development of the NASA Strategic Plan. I think we at Glenn are a little ahead of the agency because of the work we have done on our Strategic Action Plan. But, also know the agency plan is critical to our future.

At this meeting, to assure the alignment of our agency, we focused on defining the purpose of NASA and what NASA brings to the table, as well as answering the “Why” of NASA. Why is this alignment so important? It is important because this planning will form the basis of what we do, how we make our investments and most importantly, how we engage the workforce and the public in supporting the difficult decisions that need to be made.

The federal budget outlook is not very good. Similarly, the budget outlook of our state and many municipalities is equally uncertain. More than ever, NASA needs a clear goal and direction.

On the 50th anniversary of President Kennedy’s inauguration last month, many of us took the time to reflect on his first remarks as President. It seems to be eerily relevant to the situation we face today. In addition to describing the struggles for freedom, the defense of freedom and the social issues of poverty, the speech also talks to the use of science to improve our world and explore others.

I believe that the message of President Kennedy’s speech is hopeful.



Center Director Lugo

Although we will see some difficulties in the days ahead, NASA is clearly positioned to make a contribution and a difference. NASA Glenn may not win all the near-term battles, and may not get all the prized assignments—but I assure you that we will prevail in the greater context of how we will be viewed as an organization that contributes to solving the difficult problems we face today.

## New Senior Level Appointments

Continued from page 1

Bryan K. Smith has been appointed director of Space Flight Systems. He has served as chief of Glenn’s Systems Engineering and Analysis Division since October 2009.

John D. Taylor has been appointed chief of the Systems Engineering and Analysis Division, reporting to Glenn’s director of engineering. Taylor previously served as chief of the Power and Avionics Division since February 2007.

Therese Griebel has been appointed chief of the Avionics and Electrical Systems Division, reporting to Glenn’s director of engineering. Prior to this appointment, Griebel was the space flight systems liaison for External Government Projects.

For more information about each appointee, visit [http://www.nasa.gov/centers/glenn/news/pressrel/2011/11-004\\_appointment.html](http://www.nasa.gov/centers/glenn/news/pressrel/2011/11-004_appointment.html).



Smith



Taylor



Griebel

## Seventy Years Later...

On January 23, 1941, ground was broken for the National Advisory Committee for Aeronautics’ new Aircraft Engine Research Laboratory—what is today known as NASA Glenn Research Center.

In the past 70 years, the center has been at the leading edge of aeronautical and aerospace research. Today, the men and women of Lewis Field and Plum Brook Station develop critical space flight systems and technologies advancing the exploration of our solar system and beyond.



Groundbreaking 1941: pictured, left to right, William Hopkins, Major John Berry, Edward Sharp, Frederick Crawford, (unknown person hidden) Major George Brett, Dr. Edward Warner, Captain Sydney Kraus, Edward Blythin, George Lewis and John Victory.

In an email to employees last month, Center Director Ray Lugo encouraged them to take time and look back at the 70 years of experience in performing world-class research, deeply rooted in the tradition of excellence. He also asked them to continue to “dream big” and work together as a part of the NASA team.

## Sharpening Tools for Moon Mining

Continued from page 1

tools and mining vehicles to precisely measure the force and electrical power needed for planetary surface mining. The Canadian Space Agency is funding NORCAT's work with NASA.

"We're taking detailed measurements of the physical forces applied to excavation devices, the traction of evacuation vehicles, and even the flow of sand during simulated digs," explained Kurt Sacksteder, chief of the Space Environment and Experiments Branch. "Data obtained from the tests will be used to validate NASA Glenn computer simulations of planetary surface excavation systems."

Sacksteder also noted the added value of comparing this data to results of field tests conducted last year with NORCAT and the Canadian Space Agency in Hawaii, and with NASA Glenn excavation devices at the Desert RATS (Research and Technology Studies) in Arizona.

"Our computer simulations help predict the hardware mass and power

consumption needed to produce oxygen, water and propellants in low-gravity, extraterrestrial locations," he said.

Last December, Glenn invited news organizations to watch a demonstration of digging equipment and mining vehicles in Glenn's Simulated Lunar Operations (SLOPE) facility. The facility features a 20-by-60-foot-long sandbox, filled with nearly 20 tons of sand and clay silk created to mimic lunar soil mechanical strength properties measured by Apollo astronauts.

Reaffirming the value of using planetary resources to the audience, Sacksteder noted how NASA's research enables affordable and sustainable human and robotic space exploration by reducing resources brought from Earth.



C-2010-5879

Photo by Quentin Schwinn

*Members of the media witnessed an American-Canadian collaboration preparing for extra-terrestrial resource extraction in the SLOPE facility.*

"Whether we return to the moon or explore asteroids or Mars, surface materials will be mined and processed locally to produce life-sustaining oxygen and water, rocket propellants and manufacturing materials, dramatically reducing the cost of space travel."

For more information about the SLOPE facility, visit <http://rt.grc.nasa.gov/main/rlc/simulated-lunar-operations-slope-facility/>.

—By S. Jenise Veris and Sandra Nagy

## Aerospace Toastmasters: Award-Winning Training at a Bargain

Looking for an affordable, convenient way to improve your communication and leadership skills? Glenn's Aerospace Toastmasters may be the answer. Just ask Dr. Dexter Johnson, chief of the Structural Systems Dynamics Branch, who took first place in an international speech contest last fall.

Johnson won the Western Area 41 Table Topics competition of the Toastmasters International Fall Speech Contest. Table Topics are 1- to 2-minute impromptu speeches, which Toastmasters members practice weekly to improve their ability to provide a convincing response to virtually any subject.



Dr. Johnson

"I became a member of Toastmasters 2 years ago with the goal of becoming a more polished speaker in making office and outreach presentations," Johnson said. "The experience has helped me to readily draw from my own experiences or knowledge base to offer brief remarks relative to a requested topic."

Johnson gathers with other employees at weekly Toastmasters meetings to learn and practice these skills in a comfortable and nurturing environment on site. Club manuals allow participants to pursue

levels of competence at their own pace using a variety of speeches, technology and "tools" for instruction, such as a dry-run of an office presentation, a wedding toast or a speech competition.

If you dread getting up in front of a group or simply want to update your presentation skills, Glenn's Aerospace Toastmasters may be just what you're looking for.

Civil servants receive a discount for the first 6 months of the annual membership dues by completing the online NASA Form 1735 in SATERN; payments are also available to support service contractors. For more information, visit <http://aerospace.freetoasthost.com/index.html>.

—By S. Jenise Veris



## Fond Farewell To CFO

Center leadership and employees across the center gathered to say a fond farewell to Chief Financial Officer Debra Watson, who retired on Jan. 3. Watson, who served as Glenn's CFO since September 2007, dedicated 36 years of federal government service to NASA (Headquarters, Langley and Glenn), the Office of Management and Budget and the National Science Foundation. Pictured: Director Ray Lugo, left, and Deputy Director Jim Free, right, present tokens of appreciation to Watson during the gathering.



C-2011-189

Photo by Marvin Smith

## Lunch and Learn with Director

Center Director Ray Lugo hosted a meet and greet gathering for employees at Plum Brook Station on Jan. 12. He gave a center update on future plans and took questions from employees. Pictured: Lugo served lunch to Wes Sallee, left, and Larry Ponikvar, next in line, as well as other employees prior to the center update.



Photo by Larry Oppen

## STEM Career Building

Glenn participated in Bowling Green State University–Firelands' Women in Science, Technology, Engineering and Mathematics (STEM) program, Nov. 19, which engaged students from five area middle schools in activities demonstrating the excitement of STEM-related careers. Pictured: Lindsey Rhodes, left, testing Sandusky Central Catholic High School students Julia Calderon and Molly Rhodes' Mars habitat design in a miniature aeroacoustic chamber.



Photo by Sheryl Smith, BGSU

## Representatives Get Technology Update



C-2011-245

Photo by Marvin Smith

Ohio's Senator Michael Skindell, Representative Mike Foley and U.S. Senator Robert Portman and staff, visited Glenn last month to receive an overview of center programs and activities. Pictured: Electrochemistry Branch Chief Michelle Manzo, center, briefed Senator Portman on fuel cell technology. Research and Technology Director Dr. Jih-Fen Lei observes.



Photo by Tim Dedula

## Long-Distance Call to Space

Glenn's Deputy Director Jim Free moderated an educational downlink from the International Space Station to the Great Lakes Science Center on Dec. 28, 2010. Over 400 students from local schools viewed the Expedition 26 crew, live, via satellite video in an auditorium and throughout the center during a question and answer session.

**Glenn's Emergency and Inclement Weather Line:**  
Lewis Field: 216-433-9328 (WEAT)  
Plum Brook Station: 419-621-3333

## Glenn Merits 16 Silver Snoopy Awards

### Astronauts Honor Employees' Efforts

The Silver Snoopy Award luncheon was a welcomed surprise for 16 Glenn employees lured to the Administration Building on Nov. 23 for a motivational talk on mission success featuring Astronauts Robert Behnken, Michael Foreman and K. Megan McArthur.

Center Deputy Director James Free, who previously served as Glenn's Space Flight Systems Director, welcomed the honorees and participated in the award presentation commending the recipients for their excellence in ensuring flight safety and mission success.

The following honorees received the coveted Silver Snoopy pin, along with a certificate, letter of commendation and autographed lithograph:

**Carl M. Blaser**, Mechanical Design Branch, for support to the Ares I-X Upper Stage Simulator (USS).

**Daniel F. Brown**, ZINT/ISS (International Space Station) and Human Research Project Office, for developing hardware concepts for the Intravenous Fluid Generation (IVGEN) project.

**Joy A. Buehler**, ASRC/Advanced Metallics Branch, for performing metallography on Orbiter Reinforced Carbon-Carbon Wing Leading Edge joggle sections.

**Dr. David F. Chao**, Fluid Physics and Transport Branch, for support as project scientist of the Constrained Vapor Bubble (CVB) project.

**Louis Chestney**, ZINT/ISS and Human Research Project Office, for developing ground and flight software for the Light Microscopy Module (LMM) and its initial payload, the CVB experiment.

**Damon C. Delap**, Mechanical and Rotating Systems Branch, for developing two umbilical systems on the Orion Service Module and supporting the Surface Mobility Project at Glenn.

**Jeffery C. Eggers**, ZINT/ISS and Human Research Project Office, for flight software development for the IVGEN project.



C-2010-5649

Photo by Marvin Smith

*Pictured, front and left to right, Buehler, Frye and Kocka. Middle, left to right: McArthur, McKay, Gilkey, Delap, Lorik, Behnken and Melcher. Back, left to right: McQuillen, Chao, Eggers, Brown, Zoldak, Blaser, Chestney and Fleet.*

**James E. Fleet**, Space Power & Propulsion, Communication and Instrumentation Branch, for fabricating custom flight experiment-printed circuit boards as a member of the Max Launch Abort System Team.

**Jerry W. Frye**, ARES/Program and Project Assurance Division, for organizing and leading two payload safety reviews for the Communications, Navigation, and Networking Reconfigurable Testbed (CoNNeCT) Project.

**Kelly M. Gilkey**, Structural Systems Dynamics Branch, for contributions as a lead engineer to the Human Research Program/Exercise Physiology and Countermeasures Project.

**Daniel G. Kocka**, Manufacturing Engineering & Process Branch, for developing a manufacturing flow process for the Ares I-X/USS at the Glenn Ares Manufacturing Facility.

**Tibor Lorik**, ZINT/ISS and Human Research Project Office, for support to research conducted on the ISS and managing development of the LMM subrack facility and the CVB experiment.

**Terri L. McKay**, Bio Science and Technology Branch, for identifying and resolving a sterility quality issue with intravenous fluid generated under the IVGEN project.

**John B. McQuillen**, Fluid Physics and Transport Branch, for initiative and leadership as principal investigator for the IVGEN project and development of this critical technology to administer drugs or rehydrate crew members in the advent of an emergency.

**Kevin J. Melcher**, Controls and Dynamics Branch, for leading a team developing advanced technologies for health management of propulsion systems to ensure the safety of future human exploration spacecraft.

**John T. Zoldak**, ZINT/ISS and Human Research Project Office, for developing test processes to maximize efficiency in hardware fabrication and environmental testing to meet all payload turnover dates.

### My Job at NASA Glenn

#### Profiles on Glenn Personnel

Learn about Glenn's diverse workforce and the interesting jobs they perform by visiting "My Job at NASA Glenn" at <http://www.nasa.gov/centers/glenn/about/employees/index.html>

Barbara Wilson is the latest addition to the profiles. You can suggest the next employee for the series by contacting [victoria.e.woods@nasa.gov](mailto:victoria.e.woods@nasa.gov)



## Promotions and Awards

## Glenn Engineers to be Honored at 2011 BEYA

### Executive Support Assistants Selected



*Palivoda*



*Wiersma*



*McLaughlin*



*DeLaCruz*

Monica Palivoda was selected executive support assistant to the director of NASA Glenn. She previously served as executive secretary and office manager for the director of Space Flight Systems Directorate.

Lynne Wiersma was recently selected executive support assistant to the deputy director of NASA Glenn. She previously served as administrative officer for the Space Flight Systems Directorate.

Ethel McLaughlin was selected executive support assistant to the deputy director of the Research and Technology Directorate. She previously served as human resources assistant for the chief of the Office of Human Capital Management.

Betsy DeLaCruz was selected executive support assistant for the deputy director of the Space Flight Systems Directorate. She previously served as management support assistant to the chief of the External Program Division.

### Occupational Health Support Team Earns SFA Award



C-2010-5597

Photo by Marvin Smith

Astronauts Robert Behnken, Michael Foreman and K. Megan McArthur visited Glenn's Medical Services Office prior to the Silver Snoopy ceremony on Nov. 23, to present a Space Flight Awareness (SFA) Team Award to the 20 members of the Ares I-X Occupational Health Support Team. Pictured above in bold, with Glenn managers and the astronauts, are the Safety, Health and Environmental Division (SHED) team members recognized for excellent Occupational Health and Industrial Hygiene services and professional expertise delivered to ARES I-X Manufacturing Program staff. Standing, left to right: Safety and Mission Assurance Director Tom Hartline, Behnken, Dr. Carrie Ross-Shelton, Virginia Markus, Caryn Chalupa, Foreman, Luz Jeziorowski, Center Deputy Director Jim Free, Nancy Zimlich, Betty Hodgson, Joyce Rodusky, Scott Mahnke, Sandra Lavelle, Dr. John Kocka, Dr. Bruce Costarella, Patty Oleksiak, Margaret Bold, Katie Blume and SHED Deputy Chief Dave Forth. Kneeling, left to right: Wennie Wise, Wendy Dennis, Nancy Miller, Joan Pettigrew, Patricia Gareau, Cheryl Gradert and Renee Barrett. Not pictured: Dan Wood.

Three Glenn employees will be recognized at the 25th Annual Black Engineers of the Year, STEM Global Competitiveness Conference, held February 17-19 in conjunction with the Minorities in Research Sciences Conference in Washington, DC.



*Morton*



*Hall*



*Doxley*

NASA retiree John W. Morton, who currently supports Glenn as the Arctic Slope Regional Corporation's program manager for the Glenn Engineering and Scientific Services (GESS-2) contract, will receive a Professional Achievement Award, which also cites his service on NASA's Project Mercury Team evaluating the computing system for John Glenn's historical flight around the Earth.

Nancy R. Hall, a research scientist and aerospace engineer in the ISS and Human Research Project Office, will be recognized as a Science Spectrum Trailblazer for her fluid physics research that is aiding the future course of science and technology.

Charles Doxley, an electronics engineer in the Flight Communications Branch, will be recognized as a Modern Day Technology Leader for excellence in developing an algorithm that will allow users to control the flow of data streaming over fiber optic cable.

Lockheed Martin Corporation, *US Black Engineer & Information Technology* magazine and The Council of Engineering Deans at Historically Black Colleges and Universities host this event.



## Retirements



Chamberlin



Oberc



Dr. Viterna



Watson

Roger Chamberlin, Space Power & Propulsion, Communication and Instrumentation Branch, Testing Division, retired on Dec. 31, 2010, with 41 ½ years of NASA service

Dr. Larry Viterna, Office of Strategic Management, retired on Dec. 31, 2010, with 34 years of NASA service.

Susanne Oberc, Science and Engineering Library, Logistics and Technical Information Division, retired on Dec. 31, 2010, with 38 years of NASA service.

Debra Watson, Office of the Chief Financial Officer, retired on Jan. 3, 2011, with 36 years of Federal service.



## In Memory

### Belter Expert in Data Systems Software

William L. Belter, 53, a computer systems engineer in Glenn's Facilities Test Division, died suddenly at his home on January 12. Belter, who was fondly known as "Mr. Bill" by his coworkers, began working in the Computer Services Division in 1980 and remained there throughout most of his 30-year NASA career.

Belter initially worked in the Data Systems Software Section on Escort II data acquisition systems supporting a number of experimental facilities and research programs. He was a key contributor of the Escort D implementation team, where he was the recognized expert for the integration of specialized data acquisition components to the system, which is critical to the support of many external customer development tests in the 8- by 6-Foot Supersonic Wind Tunnel and the Engineering Research Building test facilities. Recently, Belter was the primary developer of the new Netscanner (digital pressure scanning) system currently being installed in the major facilities.

Belter was the recipient of many awards, including a Space Act Award for development of the Escort D system and Special Achievement Award for development of a 20khz testbed. Off the clock, he was devoted to his pets and enjoyed listening to jazz and rock music.



Belter



Calkins

Robert G. Calkins, 83, who retired in 1983 with 32 years of NASA service, died Dec. 4, 2010. Calkins spent the bulk of his career in the Instrument & Computing Research Division where he became Head of the Data Systems Service Unit of the Automatic Data Processing Branch, which provided important data processing and computing support across the center. Calkins retired from the Instrument Support Section of the Test Installations Division. He was a U.S. Army veteran and a committed member of the Boy Scouts of America for over 50 years.



## Calendar

**NATIONAL ENGINEERS WEEK:** Please share your time and experiences with area students and community organizations during the 60th National Engineers Week (N.E.W.), Feb. 20-26. N.E.W. was founded to recognize and celebrate engineers' amazing contributions to society. Contact Kristin Ratino, 216-433-2048; Heidi Toledo Moore, 216-433-2003; or register by Feb. 14 on the N.E.W. registration site URL: [http://edprograms.grc.nasa.gov/EdPrograms/New/Speaker\\_Registration.cfm](http://edprograms.grc.nasa.gov/EdPrograms/New/Speaker_Registration.cfm)

**AFGE MEETING:** AFGE LOCAL 2182 will hold its next membership meeting on Wednesday, Mar. 2 at 5 p.m. at Denny's Restaurant, 25912 Lorain Road, North Olmsted.

**IFPTE LOCAL 28, LESA MEETING:** LESA will hold its next membership meeting on Wednesday, Mar. 9 at noon in the Small Dining Room of the Employee Center.

**PUBLIC TOURS SCHEDULED:** General public tours of Glenn's premier facilities will take place on the first and third Saturday of each month, beginning April 2. April tours include: GVIS and GRUVE Laboratories, April 2, and Zero Gravity Facility, April 16. Tours are free and available to U.S. citizens and foreign national students in grades K-12. Reservations are required and available up to 30 days in advance but must be made one week prior to the tour. A NASA bus departs on the first tour at 10:30 a.m. from Glenn's Briefing Center, and runs every hour with the last tour departing at 1:30 p.m. POC: Brenda Morgan at 216-433-3156.

### Deadlines

News items and brief announcements for publication in the March issue is noon, Feb. 18. Larger articles require at least one month notice.

**READ US ON THE INTERNET:**  
<http://aerospacefrontiers.grc.nasa.gov>

Hermes Award  
2009,  
2010



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## Glenn's Work Will "Play Forward" in Future Space Vehicles Constellation Personnel Visit Center

"The work that this team has done for the future of human space flight will stay the test of time," said Constellation Program Manager Dale Thomas during the Constellation All Hands held in Glenn's Administration Building Auditorium on Jan. 19.

Thomas, Orion Deputy Program Manager Mark Kirasich and other key NASA Constellation personnel gathered Glenn employees to reflect on their contributions to the Constellation Program and look ahead as their work transitions into what is anticipated to be announced by the President and Congress as a future Multi-Purpose Crew Vehicle (MPCV).

Bryan Smith, who at one time headed Glenn's Orion Project Office before recently being named director of Space Flight Systems, opened the program that included an awards presentation and question and answer session.

Kirasich shared accolades for the skill and commitment of the Glenn Constellation team. He said that despite a very challenging year (2010) of budget reductions and realignments, Glenn kept on task. "The names and organizations may change but most of this work will play forward to subsequent programs," he assured. During his presentation, Kirasich highlighted key successes of the Orion Crew Exploration Vehicle and provided a Plum Brook construction update through animation and time-lapse videos and stills.

Earlier that day, Thomas, Kirasich and the other guests traveled to Plum Brook Station to tour the Space Environmental Testing (SET) Facility. When work is complete this summer, the SET at will provide one-stop environmental testing and will be the world's largest and most advanced space environment simulation facility.

—By Doreen B. Zudell



C-2011-259



C-2011-279

Photos by Michelle Murphy

*Above left: Thomas thanks Glenn employees for their contributions to the Constellation Program. Above: Kirasich talks with employees and other Constellation personnel after the awards ceremony.*