



Touting the Benefits of the International Space Station

Assembled on four different continents by personnel from five different space agencies and 15 countries, the International Space Station (ISS) is an engineering marvel that represents humankind's quest to explore and live in space.

Julie Robinson, program scientist for the International Space Station, visited NASA Glenn last month to affirm the benefits and expand employees' knowledge of this great orbiting research laboratory. On Sept. 12 and 13, she and five members of her staff from NASA Johnson Space Center toured Glenn's premier facilities that support ISS research, and conducted a lecture and four interactive workshops.

In her lecture, "ISS Research 101," Robinson stressed that humans explore to advance. "Civilizations that ceased

to explore, ceased to advance," she said. She shared how her office has been working to ensure the ISS can accommodate diverse research, which will ultimately determine the life of the laboratory. In the "ISS Ambassadors" workshops, Robinson and her staff focused on enhancing employees' communication skills to confidently discuss the ISS benefits with the public.

Continued on page 3



C-2012-4475

Photo by Marvin Smith

Pictured: On a tour in Glenn's High Bay: Bob Corban (white coat), discusses features of the Light Microscopy Module with, left to right, Robinson, Kirt Costello, Justin Kugler (CASIS), Tracy Thumm and Emily White (CASIS).

Sustainability Fair Shows Greening Saves Resources



C-2012-4303

Photo by Marvin Smith

Pictured is one of 30 external vendors and 15 internal organizations explaining their sustainable practices and products at the fair.

The Greening NASA Glenn "One Event at a Time" committee highlighted NASA Glenn's commitment to a sustainable center and the environment during the Sustainability Fair, Sept. 13.

Sharing the grounds outside building 15 with the Combined Federal Campaign Block Party, the Sustainability Fair hosted various vendors with exhibits containing information on how employees can be more sustainable at work and at home. Additionally, fuel-efficient cars were on display and Acorn Food Services featured locally grown food selections on the Glenn Cafe menu.

Space Flight Systems Director Bryan Smith kicked off the event by stressing that we are all responsible for conserving natural resources. Facilities and Test Director Dr. Rickey Shyne explained how sustainability equates to

Continued on page 2

In This Issue

- 4 John Glenn's First Pitch
- 4 Focus on Veterans
- 5 Education Outreach
- 8 2012 CFC Kicks Off



Center Director Lugo

The Right to Choose

I think it is an appropriate time to write about the liberties we enjoy as Americans. I must admit, for many years I took liberties such as enjoying the opportunity to live and work in a country that affords us the freedoms we have, and expressing my opinions, for granted. Today, I am in a very different place.

People who know me have come to accept my off-key rendition of “The Star Spangled Banner” or “America the Beautiful” as the price of admission for being a friend, because it is important to me.

The reason I bring this up has to do a lot with our freedom of speech, but more about the responsibility that comes with this freedom. Take for example, my blog.

I started the blog after being named Center Director. I felt that many of the issues among the workforce could easily be managed with just a little more conversation or information. For the most part, I believe it has worked that way. Recently, though, I've noticed a greater frequency of diversions.

I use the term “diversion” as it has a special meaning for me. A diversion is what happens when you lose focus or allow emotions to hijack your judgment and perspective. It just happens. The key is to know when you are headed down that track and stop it from taking over. A diversion can play out from time to time in communication channels like the blog. Sometimes I will post an answer to a question, and then find myself answering one or two more questions about my original post.

For the most part, my blog has met its intended purpose of having a dialogue with the workforce. However, if it takes me down a path where diversions

become the norm, then I may need to consider shutting it down because the effort does not warrant the results. So, while an employee’s freedom of speech is a privilege, it also comes with responsibility. In other words, we can say what we want, but then we need to accept the consequences if we become judgmental or lose focus.

I want the blog to be a place where we can have a dialogue and discuss an issue, without getting into a debate. I also want to use it to share why I make a decision and understand how it affects the workforce. But at the end of the day, I don’t want to get into a debate regarding the decision. Ultimately, I am accountable for the decisions I make. We are in a difficult time and I have to make tough decisions. I will do my best to make decisions that impact people the least.

Focus on Sustainability for Work and Home

Continued from page 1

cost savings—through savings in electricity, heating, cooling, water, fuel and supplies. Center Operations Director Robyn Gordon highlighted Glenn’s significant improvements in fleet management and use of alternative fuels, such as biodiesel (B-20), ethanol (E-85) and electric vehicles.



C-2012-4259



C-2012-4334

Keep following *Today@Glenn* for upcoming Greening NASA Glenn events or contact NASA Glenn’s Sustainability Program Lead Michelle Kenzig, 216-433-3043.

Pictured, top, left: Vehicles that use alternative fuels were on display. Pictured above: Employees enjoyed fresh and locally grown food items in the Glenn Cafe.

Glenn Supports Feds Feeds Families

NASA Glenn joined the fight against hunger by participating in the governmentwide 2012 Feds Feed Families food drive that ended in September.

Lewis Field and Plum Brook Station employees donated a total of 2,973 pounds of food items that were distributed among several food banks across local communities.

“Many thanks to everyone who made a donation to the 2012 Feds Feeds Families Food Drive, helping us surpass last year’s donation,” said coordinator Andrea Bonesteel, Office of Human Capital Management. “Imagine how many people will benefit from your generosity!”



Space Station Going Strong

Celebrating a fluid physics milestone

Continued from page 1

As program scientist, Robinson has overseen the transition of the ISS from the assembly period to full utilization, with over 444 experiments conducted by 1500 investigators in 10 years of continuous research. She represents all station users, including NASA-funded investigators, the new community of investigators from academia, business and other agencies using ISS as a national laboratory and the international research community.

Robinson emphasized that Glenn researchers and managers are responsible for numerous ISS experiments related to a better understanding of the physics of fluids and combustion as well as life science studies. (See sidebar on this page.) The Fluids and Combustion Facility (FCF), a multiuser modular facility that supports sustained systematic fluid physics and combustion science experiments onboard the ISS was designed and built at NASA Glenn.

This year, U.S. microgravity fluids research reached a milestone. The first U.S. fluid physics space investigation took place 50 years ago, May 24, 1962, aboard Aurora 7, the second orbital Mercury flight by Scott Carpenter. This experiment addressed a critical question for human space flight. How do fluids behave in the absence of Earth's gravity? In ensuing years, a number of capillary flow type experiments gathered data aboard a variety of spacecraft. That data has led to design improvements for containers and transfer equipment to counteract challenges triggered by microgravity or partial gravity conditions.

This work continues today, with the Capillary Flow Experiments-2 (CFE-2). This set of 11 modules investigates complex capillary flow geometries. These experiments have produced the first space-validated models describing fluid behavior capable of predicting fluid flows in porous media such as groundwater, and high performance wicks used in electronics cooling.



NASA Photo

Pictured is ISS flight engineer Joe Acaba adjusting the vane angle on the CFE-2 Vane Gap 2 experiment during an Expedition 32 flight operation, on Aug. 10.

Information on research opportunities utilizing the International Space Station should be directed to the International Space Station Research Integration Office at 281-244-6187 or email jsc-iss-research-helpline@mail.nasa.gov.

—By S. Jenise Veris



Pictured: A completed ISS taken during STS-133, Discovery's final mission.

What's Up There?

Some of Glenn's current (or scheduled) studies on fluid physics and combustion in microgravity include the following:

Investigating the Structure of Paramagnetic Aggregates From Colloidal Emulsions (INSPACE-3) continues a series of investigations to obtain fundamental data about the complex properties of an exciting class of smart materials called magneto-rheological (MR) fluids;

Observation and Analysis of Smectic Islands in Space (OASIS) observes and characterizes suspended liquid crystals to advance resolution and response time of the liquid crystal display devices such as those used on the Helmet Mounted and Heads Up display systems;

Binary Colloidal Alloy Test (BCAT-6) studies coarsening behavior of product samples (phase separation rates) that impact product shelf life; and seeded growth, a new way to grow crystals;

Structure and Ltoff in Combustion Experiment (SLICE) and the Burning and Suppression of Solids (BASS) are two experiments designed to refine computational models of the structure and performance of flames. SLICE focuses on gas flames that lift away from the burner, floating in midair. BASS looks at flames from a variety of burning materials with different shapes. Researchers can use these investigations to assess the effectiveness of nitrogen in suppressing microgravity fires; and

Advanced Colloids Experiment (ACES) will guide the understanding of phase separation (e.g., product stability and collapse) at the particle level, while laying the foundations for understanding and implementing colloidal engineering and self-assembly.



News and Events

John Glenn Visits Progressive Field >

More than 26,000 fans continued the celebration of the 50th anniversary of John Glenn's Mercury flight during NASA Day at Progressive Field on Aug. 26, as Senator Glenn threw out a ceremonial first pitch for the Cleveland Indians game against the New York Yankees. Senator Glenn spoke and requested a moment of silence to honor fellow astronaut, Neil Armstrong, who passed away the day before. Glenn employees staffed NASA exhibits and activities throughout the game in the new Kids Clubhouse and Astronaut Mike Foreman signed autographs.



C-2012-3850



C-2012-3832

Photos by Bridget Caswell

Pictured, left: Senator Glenn is congratulated for his ceremonial first pitch by Cleveland Indians Bench Coach Sandy Alomar, Jr. after he caught the ball. Above: Senator Glenn and Foreman meet children who were selected by the Indians to participate in their Kids Starting Lineup.



C-2012-4553

Photo by Michelle Murphy

< Focus on Veterans

NASA Glenn's Veterans Awareness Committee (VAC) recently hosted three opportunities to remember and recommit to those Americans who serve or served in the U.S. Armed Forces. On Aug. 22, the VAC hosted Tim Daley, executive director of the Soldiers' and Sailors' Monument (inset, left) at Euclid Square, Cleveland, who



engaged employees with the history of the monument erected to commemorate Union Soldiers and Sailors from Cuyahoga County during the American Civil War (1861-1865). A Veterans Awards Luncheon at the Guerin House on Aug. 30 gathered employees and retirees who have served or currently serve in active duty, guard and reserve status to thank them. During the National POW/MIA recognition event on Sept. 21, Rear Admiral Robert Shumaker, a prisoner of war for 8 years in North Vietnam, inspired employees when he shared his struggles and triumph. His visit also included a tour of facilities at Lewis Field and Plum Brook Station. Pictured, left, Admiral Shumaker explains the communication system that he developed to maintain morale among fellow prisoners.



C-2012-4373

Photo by Michelle Murphy

< Partnering With Members of the FEB

On Sept. 14, Associate Director Janet Watkins welcomed Executive Director Michael Goins and 11 members of the Cleveland Federal Executive Board (FEB) who visited NASA Glenn for a center overview and information on new business pursuits, research and development, and accomplishments and contributions to Ohio's economic growth. Center Director Ray Lugo, Deputy Director Jim Free, and several directorate heads presented ideas/areas for potential collaboration or shared services to maximize use of limited resources. Pictured, left: Glenn's Aeronautics Research Director Dr. Marla Perez-Davis talks with Capt. John Bingaman, 9th Coast Guard District chief of staff, and Michael Young, Transportation Security Administration federal security director.

Aerospace Toastmasters Officers >

NASA Glenn's Aerospace Toastmasters Club (ATC) 2012-2013 Executive Team will focus on increasing membership, developing more leaders and engaging in community outreach. Employees interested in becoming a better speaker or a more efficient leader should attend an ATC meeting, held Thursdays from noon to 12:50 p.m. in building 54, room 101. Executive Team members include, left to right: Gayle Roth (Sergeant at Arms), Robert Reid (VP of Education), Michelle Kenzig (VP of Public Relations), Terri McKay (President), Dan Gotti (Treasurer) and Sandra Gage (Secretary). Not pictured: Daniel Rodriguez (VP of Membership).



Glenn Supports Summer Reading >

NASA Glenn and Cleveland Public Library (CPL) brought to a close a fun-filled summer of activities supporting the 2012 Summer Reading Club, Saturday, Aug. 18 at the Cleveland Metroparks Zoo. Nearly 625 adults and students attended the culminating event that rewarded participants who completed the minimum requirements for the reading club with free admission to the zoo. External Program Division staff and Speakers Bureau subject matter experts conducted a variety of NASA hands-on educational activities and demonstrations at the zoo and at eight CPL branch summer events. Pictured: Dr. Afroz Zaman and Dr. Daniel Raible, Antenna and Optical Systems Branch, explain concepts like optics and holograms and engage kids in a fun Mars laser-link challenge game.



Photo by Mack Thomas



Photo by Doreen B. Zudell

< Event Promotes Employee Wellness

Employees enjoyed time outdoors as they participated in the Wellness Walk and Farmers Market at the Picnic Grounds on Sept. 6. After a 1-mile walk on the Fitness Center track, participants could make purchases from fresh, Ohio-grown produce, baked items, honey, oil and more. Acorn Food Services offered menu options as well. Eco-friendly bags were given to the first 350 walkers. Pictured, left, is George Seres, from the Blaze Gourmet, offering some spicy selections. The NASA Jam Band provided entertainment.

Education Outreach: Time Well Spent

Herb Schilling, Scientific Applications and Services team lead, fondly remembers the people who mentored him when he participated in the NASA Lewis Computer Technology Exploring Post as a high school student in 1975. That experience affirmed his desire to pursue a career with NASA and to mentor today's youth.

To Schilling, the time he has dedicated over the last 15 years as an Exploring Post advisor and in numerous other educational outreach opportunities has been time well spent and provided a great return on the investment.

"Mentoring truly is a 'win-win' situation—for students, teachers, parents, NASA and the mentor," Schilling explained. "I've learned so much about technology, about leading and about public speaking, all through sharing my skills and enthusiasm in science, technology, engineering and mathematics (STEM)-related careers. It's a wonderful feeling to see the growth and accomplishments of those I have mentored."

As a team lead, Schilling knows the challenges of carving out time in his schedule for educational outreach. But he also knows how valuable mentoring was for him as a youth and how much it means to the next generation of explorers.

"There is a great need for mentors and advisors to support educational events and projects," he said, "and I worry that sometimes students who have a desire to learn have to be turned away because there aren't enough people who make the time to help."

Why not plan to spend some of your time and talent to aid a student's career development or create awareness of the potential opportunities available in your field or other STEM-related careers? Become a mentor or tutor or serve as a subject matter expert or staff for future events supported by the Educational Programs Office (EPO). Experience the



Photo by Tim Dedula

Schilling, seated, works with students on a robotics activity during NASA Glenn's Young Astronauts Day.

satisfaction in knowing that you gave back and inspired the youth of your local community to Dream Big!

To discover a variety of opportunities to get involved, contact the EPO at 216-433-6656 or visit http://www.nasa.gov/centers/glenn/education/NASAStaffOpportunities_GRC.html.

Sign up now, because an investment in our STEM future is never time wasted.

—By Doreen B. Zudell



Retirements



DeAngelo

Debra DeAngelo, Institutional Resources Analysis Division, Office of the Chief Financial Officer, retired June 2, 2012, with 37 years of NASA service.



Lekan



Sosoka

Jack Lekan, Space Communications Office, Space Flight Systems Directorate, retired Sept. 3, 2012, with 35 years of NASA service.

Don J. Sosoka, IT Mission Support, Office of the Chief Information Officer, retired Sept. 3, 2012, with 33 years of NASA service.



In Appreciation

Thank you to all who attended my retirement celebration. It was great to see the many friends I've made at Glenn over the years. Special thanks to my coworkers for putting together a memory I will always treasure.

—Sally Harrington

I wish to thank my NASA colleagues and friends for their kind words, prayers, and expressions of sympathy for my sister, MaryJane Vallo, who passed Sept. 16. This helps make a difficult time bearable.

—Sally A Weiland

The Holidays are Coming!
Exchange Online Gift Shop
www.nasagiftshop.com



Awards, Honors and Promotions



Pokatello, center, is presented an award by Astronaut Terry Virts, left, and NASA Marshall Space Flight Center's Acting Director Robin Henderson.

As a Space Flight Awareness (SFA) honoree, **John Pokatello** participated in an event held in conjunction with the Expedition 30 & 31 Welcome Home ceremony at NASA Johnson Space Center, Aug. 23-24.

Pokatello, a manufacturing contract specialist in Glenn's Manufacturing Division, was recognized for his diligence and attention to detail in the procurement of commercial parts and materials for flight hardware that contributed significantly to the safety and success of the Ares I-X and many other missions.

The SFA is one of NASA's most prestigious awards presented to NASA civil servant and contract employees who have made contributions above and beyond to ensure astronaut safety and mission success.

As a member of NASA's Mars Exploration Rovers (Spirit and Opportunity) mission team, **Dr. Geoff Landis**, Photovoltaics and Power Technologies Branch, was recently honored with the Haley Space Flight Award at the American Institute of Aeronautics and Astronautics (AIAA) Space 2012 Conference and Exposition. The award is presented for outstanding contributions by an astronaut or flight test personnel to the advancement of the art, science or technology of astronautics. The team was cited for "new techniques in extraterrestrial robotic system operations to explore another world and extend mission lifetime."



Dr. Landis



Dr. Lvovich

Dr. Vadim Lvovich has been selected chief of the Electrochemistry Branch. Lvovich brings a diverse portfolio of industry and academia experience, including working at Lubrizol, where he led research and development on electrochemical sensors, and at the Cleveland Clinic Lerner Research Institute, while serving as an adjunct professor in Case Western Reserve University's Chemistry Department. He was most recently employed as chief principal engineer with Crane Aerospace of Elyria.

William Furfaro, Management Integration Office, has been selected Glenn Engineering and Scientific Support (GESS) co-contracting official technical representative (COTR) for the Engineering Directorate. Furfaro previously served as the alternate for the Technical, Facility, Operations, Maintenance and Engineering (TFOME) contract supporting Glenn research and development programs test operations.



Furfaro



Rubeck

Jacquelyn Rubeck has been selected Administrative Officer for the Engineering Directorate. Rubeck most recently served in the Management Integration Office on detail from her position as management support assistant of the Mechanical and Fluids Division.



In Memory

Harry J. Decker, 50, a U.S. Army Research Laboratory mechanical engineer supporting NASA Glenn's Tribology and Mechanical Components Branch, died Sept. 13.

During his 27 years of service, Decker's work primarily focused on diagnostics research for rotorcraft (helicopter) drive systems under NASA's Subsonic Rotary Wing Program. Decker's Branch Chief James Zakrajsek recalls Decker as an innovative and resourceful member of the branch.

"Harry advanced a local gear damage detection method capable of predicting damage in advance of catastrophic failure, and assisted fellow researchers at Glenn in developing a unique high-cycle gear bending fatigue rig for advanced research," Zakrajsek said. "As an officer in the Society for Mechanical Failure Prevention Technology (MFPT), Harry worked tirelessly to help disseminate advanced health management technologies to government and industry members, alike."

Contributions to a memorial for his three children's scholarship fund can be made at any Lorain National Bank branch.



Decker



Balazi

Andrew "Andy" J. Balazi, 98, who retired in 1973 with 33 years of NASA service, died Aug. 8. After serving in the U.S. Army's Field Artillery and Air Corps Air Service Command, Balazi joined NACA Lewis in 1943. Early on, he served as a member of an aircraft maintenance team that assisted the Army Medical Corps in the transport of patients from Military Air Transport planes to ambulances waiting in the Hangar. Balazi's certification as an aircraft mechanic-inspector and master sheet metal mechanic was an asset in procuring two AJ-2 "Savage" Attack Bombers and outfitting them as weightlessness research facilities in 1960. Balazi, later became a member of the Test Installation Division and worked in the area of ion and rocket propulsion. By 1966, he was named head of the Electric Propulsion Service, Section B, where he remained until retirement.

Clifford E. Siegert, 78, who retired in 1995 with 32 years of NASA service, died Aug. 15. A veteran of the U.S. Army and mechanical engineer, Siegert contributed to some of center's most significant accomplishments. He was a member of the 40-person team from the Spacecraft Technology and Test Installations Division that performed 9 days of around-the-clock, in-orbit testing of the Lewis-developed high-efficiency 200-watt traveling wave



Siegert

tube amplifier for the transmitter of the communications technology satellite (CTS), launched in 1976. The Emmy Award winning satellite was a joint project of the United States and Canada. Siegert also was a member of the NASA Lewis/Sverdrup project team that received the agency's Group Achievement Award (1991) for the design and development of the Space Acceleration Measurement System (SAMS), an essential instrument for measuring vibrational disturbances on the space shuttle and the International Space Station. Siegert retired as chief of the Flight Experiments Branch.

Article Submissions

News items and brief announcements for publication in the November issue is noon, Oct. 19. Larger articles require at least one month notice.

READ US ON THE INTERNET:

<http://aerospacefrontiers.grc.nasa.gov>

Hermes
Award
2009-
2012



Calendar

DISABILITY AWARENESS EVENT: The Disability Awareness Advisory Group will host its annual observance on Tuesday, Oct. 30 at 1:30 p.m. in the Administrative Building Aud. POC: Kathy Clark, 3-8354.

CFC BASKET RAFFLE: Head over to the Glenn Café to enjoy the annual Combined Federal Campaign Basket Raffle from 8 a.m. to 1:30 p.m., Wednesday, Oct. 31. Costumes welcomed!

TONY STRAZISAR SYMPOSIUM: Mark your calendar for a daylong celebration of Tony Strazisar's career with a symposium on Thursday, Nov. 1 at the Ohio Aerospace Institute. Guest speakers will make a series of presentations from 9:30 a.m. to 5:00 p.m., with lunch at the 100th Bomb Group from noon to 1:30 p.m. (Registration required, cost \$25). Please visit www.oai.org/Retirement/ for more information and to register. Registration deadline is Monday, Oct. 29.

2012 NARFE HEALTH FAIR: The Cleveland/West, Chapter 470 of the National Active and Retired Federal Employees Association (NARFE) will be sponsoring a Health Fair on Friday, Nov. 2, from 1 to 3 p.m. at the North Olmsted Community Cabin, located at 28114 Lorain Road. Various health, dental, and vision carriers (under the FEHB program) will provide information on the plans for 2013. Membership in NARFE is not required to attend the Health Fair.

IFPTELOCAL 28, LESA MEETING: LESA will hold its next membership meeting on Wednesday, Nov. 14 at noon in the Employee Center's Small Dining Room.

NATIVE AMERICAN MONTH OBSERVANCE: NASA Glenn's Advisory Group for Native Americans will host U.S. Senate Solicitor of the Department of the Interior Hilary Tompkins, Wednesday, Nov. 14, from 9:30 to 11:30 a.m. in the Administration Building Aud. To learn more about Solicitor Tompkins, visit <http://www.doi.gov/whoware/hilarytompkins.cfm>. Cultural performances are also planned.

National Aeronautics and Space Administration

John H. Glenn Research Center at Lewis Field

21000 Brookpark Road
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 Community and Media Relations Office in the interest of the Glenn workforce, retirees, government officials, business leaders and the general public. View us online at <http://aerospacefrontiers.grc.nasa.gov>. Submit contributions via e-mail to the editor: doreen.b.zudell@nasa.gov or 216-433-5317.

Editor: **Doreen B. Zudell**, SGT, Inc.
Assistant Editor: **S. Jenise Veris**, SGT, Inc.
Managing Editor: **Kelly R. DiFrancesco**



VOLUME 14 ISSUE 10 OCTOBER 2012

Activities Kick Off 2012 Combined Federal Campaign

NASA Glenn's Combined Federal Campaign (CFC) Committee opened its 2012 campaign with two exciting events that addressed the theme: "Give a little. HELP A LOT."

The Sept. 13 Block Party featured the annual Car Show and Ice Cream Social. A highlight included a "Pie the Director Contest" in which four managers were served a special pie. Chief of Avionics and Electrical Systems Division Therese Griebel earned 352 votes and Chief Information Officer (CIO) Randy Humphries tallied 315 votes to "face" the pie. The event raised \$440. Other highlights included the John Shaw High School marching band, NASA Band and CFC-sponsored institutions.

Associate Director Janet Watkins and other speakers endorsed the campaign during the Sept. 17 kickoff. The event focused on how everyone can become a hero by supporting his or her favorite institution(s). Glenn's own Officer Arthur Brown, LXGS/Office of Protective Services, shared his compelling story of his struggle and ultimate triumph over cancer with the support of a CFC charity. Several committee members dressed as "superheros" to dramatically announce the 2012 CFC goal of \$416,000.

The campaign runs through Dec. 14. Visit the CFC website at <http://cfc.grc.nasa.gov/> to learn more about how you can be a hero by participating in the campaign.



C-2012-4307



C-2012-4325

Photos by Marvin Smith



C-2012-4278



C-2012-3243



C-2012-3898



C-2012-4222