

**Glenn Expands Scope of Inflatable Antennae Systems**

# Technology Transfer Aids Disaster Relief Efforts

Recent natural disasters demonstrate how immediate and reliable communications becomes a lifeline for the victims and their families.

Dr. Robert Romanofsky, senior research engineer in Glenn's Antenna and Optical Systems Branch, has spent the past 5 years in an ongoing technology transfer relationship to help improve technology that now leads critical on-the-ground communications support for disaster recovery efforts in Haiti.

Inflatable satellite antenna technology, with its roots in Glenn's Small Business Innovation Research (SBIR) program, is the source of a compact inflatable antenna system licensed by GATR Technologies® that enables Internet access, cell coverage and phone lines—critical tools for supporting disaster relief efforts—for certified first responders.

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Photo courtesy of GATR Technologies

GATR's David Hoffman deploys an inflated antenna on the roof of the World Concern office in Port au Prince, Haiti.

## Main Gate House Construction Impacts Traffic Patterns

Lewis Field's Main Gate Security Project is underway. The new facility will provide safer and more efficient access for employees and visitors. To accommodate construction, the center has closed Walcott Road, between Underpass and Brookpark Roads, for an extended period. During construction, Underpass Road is serving as the main route into the center. The existing gate house remains open and NASA and RTA bus routes will not be affected.

The project includes the construction of the new 4,000-square-foot gate house with an integral control booth at both the inbound and outbound traffic lanes, as well as a freestanding control booth that divides two inbound lanes. Additionally, a vehicle shelter for random inspections and a passenger shelter for public transportation and

NASA shuttle transfer will be constructed. The existing gate house, parking lot and abandoned portions of existing Walcott and Underpass roads will be demolished following the completion of the new construction. The new gate house will be located west of the existing facility, adjacent to the Hangar.

David Ebner, project manager for the Lewis Field Main Entrance Construction Project, said the Facilities Division Project Team examined several factors when designing the new facility. "Safety and security improvements at the new gate house were the primary design objectives of this project," Ebner explained. "The project team also had to contend with an extremely constricted site with

the airport lying to the east, the existing NASA Hangar to the south, the valley to the west, Brookpark Road to the north, and plans for a new shipping and receiving facility to be built on the site,

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# Technology Helps Save Lives

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GATR entered into a 2006 Space Act Agreement (SAA) to acquire Romanofsky's services and the use of Glenn test facilities to meet Federal Communications Commission (FCC)-licensed requirements for their ground-based antenna technology. Romanofsky and his colleague, Kevin Lambert, made recommendations and conducted testing on GATR improvements to meet FCC criteria for operating the 2.4-meter inflatable antenna and fine-tuning its surface through surface metrology to increase data rates and improve performance.

"It's our (NASA's) mission to develop technology for the benefit of all mankind. From Hurricane Katrina to the earthquake in Haiti, the work that GATR has done is just phenomenal, and we're glad that we've been able to help with that in some way," said Romanofsky.

A 1998 Glenn SBIR contract awarded to SRS Technologies (now ManTech Nexolve) of Huntsville, Ala., enabled

NASA assistance based on their work developing large aperture inflatable antennae needed for NASA's Space Communications and Navigation (SCaN) program. In 2004, GATR was formed and teamed with SRS to expand the existing antenna concept into a FCC-licensed product for ground-based communications.

Glenn's Technology Transfer and Partnership Office, part of NASA's Innovative Partnerships Program, helped coordinate the 2006 Space Act Agreement (SAA) among technical contracts with the SCaN Program, and with GATR and Glenn facilities personnel.

As part of the second SAA signed in 2009, GATR will be working with Glenn on the development and characterization of a 5-meter version of the inflatable antenna beginning this spring.

At NASA Glenn, communications is a core competency reflected in a wide range of expertise and award-winning technological innovation in

antenna, microwave and optical systems and techniques developed to meet NASA's communication needs for space and ground applications.



*Dr. Romanofsky*

For more information about Glenn's technology transfer opportunities contact Kathleen Needham, 216-433-2802.

—BY S. JENISE VERIS  
AND CINDY DREIBELBIS

## Be Alert: Main Gate House Construction



Continued from page 1

along with keeping newly constructed structures out of the overlying Airport Runway Protection Zone. In addition, the project team sought to maintain traffic flow in and out of the existing Main Gate during construction."

Because the project takes place in an area that services a high magnitude of traffic, every option has been considered by the project team to reduce disruption to vehicular and pedestrian traffic. However, there will be some impact to the center in order to complete the project. Construction Manager Bart Vauter, Facilities Division, who is overseeing

the day-to-day activities of the project, stresses the importance of employees and visitors doing their part to alleviate problems during the construction.

"Motorists and pedestrians should pay close attention to all traffic signs and signals, which will change throughout the phases of construction," Vauter said. "Remember that this is a construction zone, so everyone needs to be patient, take it slow and allow for minor delays. Employees should also consider using the West Gate as an alternative route and/or adjusting their arrival/departure times." The West Gate will be staffed between the hours of 5:30 a.m. and 8:00 p.m.

Employees are encouraged to visit the facilities Web site at <http://fd.grc.nasa.gov/activeprojects.cfm> to learn more about the project, and monitor *Today@Glenn* for up-to-date changes in traffic patterns. Additional questions or concerns can be addressed to Vauter at 3-3436.

—BY DOREEN B. ZUDELL

## University Develops Future Leaders

What makes a great leader? You don't have to go far to find out. The new onsite GRC Leadership University program will help to develop the skills and knowledge to assume key leadership roles at the center.

Conducted through the center's Human Capital Development Branch (HCDB), this unique program focuses on developing high-potential employees for leadership roles by leveraging existing training and development techniques, programs and opportunities in a cohesive and holistic manner. Applications are due by May 6 for this 18-month program that starts in July 2010.

Civil servant participants can choose from four leadership tracks—supervisory, technical, project and executive—that will help them recognize potential to serve as a future leader.

Take the challenge. Find out more about this exciting leadership program by attending the April 14 or April 28 Lunch-and-Learn session in building 14, room 141-G, from 11:30 a.m. to 12:30 p.m. Your organization can also request a presentation by HCDB. Call Antoine Moss at 216-433-2600 or visit <http://www.grc.nas.gov/WWW/HCDB> for more information.



# News and Events

## Good Luck Dr. Whitlow!

The center gathered on March 15 for a farewell celebration for Dr. Woodrow Whitlow Jr. He served as Glenn's Center Director since December 2005 and has assumed a new position as Associate Administrator for Mission Support at Headquarters. Along with Glenn employees and family members, several mayors from surrounding communities attended to wish Whitlow good luck in his new endeavor.

*Pictured, left to right: Dr. Whitlow watches as his granddaughter, Annessa, opens one of his gifts. Acting Center Director Ray Lugo looks on. • Dr. Valerie Lyons, Power and On-Board Propulsion Division chief, beads the line of well-wishers. • The past three Glenn Center Directors gather: Dr. Julian Earls, Whitlow and Donald Campbell.*



Photos by Michelle Murphy C-2010-1106



C-2010-1120



C-2010-992 Photo by Bridget Caswell

## Comfortable Meeting Spaces

The center celebrated upgrades to the Small Dining/Conference Room and Upper Level Café during an open house on March 9. The facilities offer comfortable and convenient onsite meeting space. During the open house, Center Director Dr. Woodrow Whitlow Jr. recognized employees for their contributions to the project. Pictured are employees, left to right, Patricia Michalski, Phillip Hamrich, Herman Ezell and Gail Starcher enjoying the soft, comfortable seating in the Upper Level Café.

## A Stellar Celebration

Over 600 NASA Glenn employees and guests celebrated the relocation of the Visitor Center to the Great Lakes Science Center (GLSC) during *A Stellar Celebration* on March 18. The event gave employees a chance to tour the newly relocated NASA exhibits and view the IMAX HUBBLE movie. A recognition ceremony with NASA Glenn and GLSC managers thanked employees for their mentoring and outreach support. Acorn Food Services provided refreshments, including popcorn for the movie!



C-2010-1191



C-2010-1200



C-2010-1184

Photos by Bridget Caswell

*Pictured, clockwise: The NASA logo, which signifies the GLSC-NASA partnership, was added to the exterior of the GLSC. • The NASA Return to the Moon gallery includes 14 exhibits commemorating the 40th anniversary of the first landing on the moon and looking ahead to future space travel. • David Spry, Sensors and Electronics Branch, and his son Christopher took time to view the projection room outside the OMNIMAX Theater. • The recognition ceremony took place on the lower level of the GLSC.*

## Focus on Sustainability:

# Glenn's Green Energy and Fuel Initiatives

Executive Orders 13423 and 13514 call on federal agencies to reduce greenhouse gas emissions, conserve resources and reduce waste. To meet these directives, Glenn has been implementing technologies that reflect the center's dedication to more sustainable forms of energy, while improving efficiency and reducing emissions. In celebration of the 40<sup>th</sup> anniversary of Earth Day (April 22) and upcoming Earth Awareness Week Activities, *AeroSpace Frontiers* is highlighting a few of the center's projects that address these strategies.



C-2008-4056

Photo by Marvin Smith

Biofuels made from biomass grown in saltwater is the focus of research in Glenn's BioFuels GreenLab. The two principal sources being investigated are seawater algae and arid land halophytes, which do not affect the human food supply or fertile soil.

*Dr. Bilal Bomani, left, shows Dr. Ruben Del Rosario and Langley's Fay Collier salt-tolerant plants studied as alternative aviation fuel.*

The Stirling engine, a heat engine that can provide long-term low-maintenance power for space applications, was the focus of Glenn "low emissions" car engine research in the 1970s. Stirling engines can utilize a wide range of fuels (sun, waste heat, biomass, etc.) and is cleaner, quieter and more efficient than gasoline and diesel engines. Stirling power has also been used in private sector commercial products such as generators and coolers.



The Ohio Green Fleets and 100 Best Fleets Program recently recognized Glenn for improving the overall efficiency and emissions profile of its fleet. About 77 percent of Glenn's 125 fleet vehicles use alternative fuels, including compressed natural gas, B20 biodiesel (blends of 20 percent biodiesel from soy and 80 percent standard diesel) and E-85 (motor fuel blends of 85 percent ethanol and just 15 percent gasoline).



C-2009-4922

Photo by Michelle Murphy

*Thermal testing of potential blended fuels are performed with the Hot Liquid Process Simulator pictured above.*

Glenn's Alternative Fuels Laboratory, housed in the Heated Tube Facility, supports research using the Fischer-Tropsch process to convert energy sources such as natural gas (methane) and biomass into a cleaner and more economical alternative to traditional commercial jet fuel.



GRC Image Archive

*Stirling Laboratory*

*An acoustic detector is installed, right, on PBS's meteorological tower for an impact study of a proposed wind farm.*



Photos by Aaron Green, SAIC

Glenn has completed feasibility studies and is beginning impact studies for a proposed wind farm at Plum Brook Station (PBS). The wind farm could provide renewable electrical power to aid the agency in meeting renewable energy goals. A meteorological tower was erected to collect the wind data. The tower was recently lowered to attach a system that will collect data to determine if there might be impacts to birds and bats. Other studies that need to be completed are: operational noise, shadow flicker disturbances and visual impacts. These studies are expected to take 18 to 24 months to complete.



Currently 20, 300-foot-deep wells are being drilled at Plum Brook Station to install the piping loops of a Ground Source Heat Pump (GSHP) system at the Space Power Facility's Office Building. Since ground temperature varies marginally, GSHPs can realize a 30 to 40 percent reduction in energy usage. Another GSHP system is planned for the new Main Gate at Lewis Field.



C-2009-04244 Photo by Michelle Murphy

Mark Hoberecht, center, demonstrates a solar-powered hydrogen fuel cell to Cleveland Foundation President/CEO Ronald Richard. Dr. Kim Veris, left, looks on.

Glenn is the focal point for NASA's fuel cell research and development enabling the use of Proton Exchange Membrane (PEM) fuel cell and regenerative fuel cell systems for primary power and energy storage needs associated with Lunar Surface Systems operations. This key technology is also used for passenger vehicles, buses, fuel cell-powered equipment and stationary power generation. A PEM fuel cell converts the elements hydrogen and oxygen into water, and produces electricity via that chemical reaction.

—BY S. JENISE VERIS  
AND LINDA SEKURA, SAIC

Glenn's Photovoltaics and Power Technologies Branch and a local small business, GreenField Solar Corp., are developing a grid-tied, tracking solar-concentrator and PV thermal system to produce electricity and hot water. The system, erected next to building 302, demonstrates two prototype units that will soon be used by the commercial sector.



C-2009-4245

Photo by Michelle Murphy

GreenField's Neil Sater, left, gives tour of PV solar concentrators to Cleveland Foundation visitors. Dr. Jib-Fen Lei, foreground, looks on.



Photo by Dennis Eichenberg

PV power system on the roof of B8, above, and 1970s PV research field next to building 333, still used today.



C-1977-2022

GRC Image Archive

Pioneering use of solar power in areas with no electricity, combined with the results of a 2kW prototype grid-tied photovoltaic (PV) power system at building 333A, inspired a larger 12-kW direct current grid-tied PV power system. The system was installed on the rooftop of building 8, and to date has generated in excess of 20,000 kWh of energy—enough energy to power 638 homes a day. This reduces Glenn's utility demand and produces surplus power.

## Employee Earth Awareness Week Activities

- Now thru April 18—**Celebrate Water**—"Drink Local. Drink Tap." Glenn's Earth Day Committee is supporting "Sustainable Cleveland 2019," a regional effort to promote tap water as the most Earth-friendly drinking water choice. (Find out more at Glenn site below.)
- April 13—**Plum Brook Day, Engineering Building/Cafeteria/Assembly Area**, 11am to 1 pm: includes a variety of displays and demonstrations on rain barrel use, sustainable living, gardening, composting, animals and much more.
- April 15—**Lewis Field, Main Cafeteria, B15**, 11am - 1:30 pm: includes a variety of displays and demonstrations: test driving hybrid vehicles, composting, sustainable living and recreation, energy and water efficiency at Glenn and home, and much more.
- April 16—**Garlic Mustard Pull, B302 parking lot**, 12 to 1:30 pm: Enjoy a sample of a garlic mustard recipe on April 15 at the B15 Cafeteria event.
- Lewis Little Folks events (at Lewis Field)—A curriculum of Earth Day activities is planned for Earth Awareness Week, April 12-18.
- April 18—**Earthfest at the Zoo, Cleveland Metroparks Zoo**—10 am-5 pm: Glenn will support the national theme: "40<sup>th</sup> Anniversary/Climate Change Solutions" with displays highlighting Glenn's renewable power projects, [http://www.earthdaycoalition.org/programs\\_earthfest.php](http://www.earthdaycoalition.org/programs_earthfest.php).

<http://earthday.grc.nasa.gov/calendar2010.html>

## People



*Lugo*

Ramon "Ray" Lugo, NASA Glenn's acting center director, has been selected one of the 2010 Most Important Hispanics in Technology by the editors of *Hispanic Engineer & Information Technology (HE&IT)* magazine. *HE&IT* editors ranked Lugo among an elite group of highest-achieving Hispanic executives, technologists and researchers across industry, government and academia that have demonstrated leadership in the workplace and in their communities. He will be honored during a celebratory dinner in July. More information on the list of the

2010 Most Important Hispanics will be published in the April edition of *HE&IT* available online at <http://www.hispanicengineer.com/>.

Dr. Robert Okojie, Sensors and Electronics Branch, received the Outstanding Technical Innovation Award from the National Society of Black Engineers (NSBE) for his paper and presentation entitled, "Silicon Carbide Microsystems for Engine Applications." The paper was submitted to the Avionics and Software Track at NSBE's Inaugural Aerospace Systems Conference in February.



*Dr. Okojie*



*Calhoun*

Cynthia Calhoun, deputy chief of the Program and Project Assurance Division, has been selected to the Ohio University Alumni Association Board of Directors. Calhoun, who is a 1988 graduate of the School of Electrical Engineering and Computer Science, begins her 4-year term on July 1.

## Employees Chosen as SFA Honorees

Four Glenn employees were recently named Space Flight Awareness (SFA) honorees and invited to attend the STS-130 launch activities. The SFA award is one of the most prestigious awards available to NASA civil service and contract employees, who have contributed beyond their normal work requirements to achieve a goal or major cost savings; helped develop material that increases reliability, efficiency or performance; or were instrumental in developing a process or operational improvements in support of human space flight. They include:

Diana Centeno-Gomez, Fluid Systems Branch, and Dr. Emily Nelson, Biosciences and Technology Branch, for providing technical expertise in the area of fluid mechanics in support of the Space Shuttle Program. This ensured safe operation of the Purge, Vent and Drain subsystem of the orbiter for several shuttle missions.

Joshua Freeh, Chief Engineer's Office, for his leadership as engineering lead for Lunar Surface Power, and his role in helping develop NASA's Lunar Architecture to return humans to the moon.

Dr. Gary Ruff, Advanced Capabilities Project Office, for contributions as a spacecraft fire safety expert expanding fundamental knowledge through ground and flight testing, and developing new technologies for space applications, thus increasing crew safety for the space shuttle, International Space Station and future Exploration missions.



*Freeh, Ruff and Dr. Nelson and their guests attended the STS-130 launch and activities at NASA Kennedy.*

## Federal Women's Award



*Dr. Fagan*



*Liang*

Dr. Amy Fagan and Anita Liang are recipients of Glenn's 2010 Federal Women's Awards announced during the Women's History Month Program on March 24. The award honors two civil servants—supervisor and nonsupervisor—who are outstanding role models and mentors making significant contributions to the advancement of women at Glenn and in the community. Liang, who is deputy director of the Facilities and Test Directorate, received the supervisory award. Fagan, an electronics engineer in the Optical Instrumentation and NDE Branch, received the nonsupervisory award.

## Distinguished Alumni



*Over*



*Kerslake*

The Alumni Association of Berea and Midpark High Schools will induct NASA Glenn employees Ann (Kerslake) Over (1979) and Thomas Kerslake (1981), who are Midpark siblings, into their Distinguished Alumni Hall of Fame during a ceremony on April 29. Over, an aerospace engineer in Glenn's Space Flight Systems Directorate, serves as project manager of the Communication Navigation Network-

ing Reconfigurable Testbed (CoNNeCT) Project scheduled to begin operating on the International Space Station in 2011. Kerslake is an electrical power systems engineer in Glenn's Systems Engineering & Analysis Division. He currently serves as the Orion crew exploration vehicle solar array manager/designer. For ticket information, call 440-243-6000, ext. 6214.

## Calendar

**YURI'S NIGHT EVENT:** Glenn's Developing Professionals Club will host Yuri's Night on April 10, from 8 p.m. to 2 a.m. at the Great Lakes Science Center. Contact Stacey Bagg, 216-433-3792.

**AFGEMEETING:** AFGELocal 2182 will hold its next membership meeting on Wednesday, May 5 at 5 p.m. at Denny's Restaurant, 25912 Lorain Road, North Olmsted.

**IFPTELOCAL 28, LESAMEETING:** LESEA will hold its next membership meeting on Wednesday, May 12 at noon in the Small Dining Room of the Employee Center, building 15.

**CENTERWIDE SAFETY EVENT:** Mark your calendar for Thursday, May 20, when NASA Glenn will host a Safety Stand-Down/Safety Awareness Day in the Hangar, where every employee of the NASA Family will be reminded "SAFETY Starts With YOU."

**NASA RETIRED WOMEN'S LUNCH:** The next luncheon will be held on Thursday, May 20 at noon at Coppertop at the Cherokee Hills Golf Course, 5740 Center Rd. (Rt. 303) in Valley City. Call Gerry Ziemba at 330-273-4850 to reserve a seat.

**ASIAN/PACIFIC AMERICAN HERITAGE MONTH EVENT:** Members of the Asian Pacific Islander Advisory Council (APIAC) are looking for vacation digital photographs from countries represented by the APIAC to include in their slide show during the observance on May 21. Contact Fran Lawas-Grodek at 216-433-5052 for details on how to submit the photos.

**NASA NIGHT AT PROGRESSIVE FIELD:** Mark your calendar for Saturday, May 22 when the Cleveland Indians take on the Cincinnati Reds. Astronaut Mike Foreman will throw out the first pitch. Pregame and in-game activities are planned. Stay tuned to *Today@Glenn* for details on discounted tickets.

**STAFF NEEDED FOR OUTREACH EVENTS:** Staffers are needed to cover Community and Media Relations venues: Chippewa Valley Air Show, June 5-6, Eau Clair, Wis.; Spaceport USA, June 14-18, Rochester, NY; Boy Scouts of America Jamboree, July 26-Aug. 4, Ft. AP Hill, Va.; MERFI Air Show, Sept. 11-12, Urbana, Ohio. Contact Mack Thomas at 216-433-3057.

**LLF GOLF OUTING:** The annual Lewis Little Folks (LLF) golf outing will take place on Friday, June 25 at Bob-O-Links in Avon. All are welcome. For information, call 216-433-5264.

**VOLUNTEERS NEEDED FOR SCHOOL PARTNERSHIP:** The Educational Programs Office is recruiting volunteers to support the MC<sup>2</sup>STEM High School as part of a new center partnership. Volunteers are needed for tutoring, job shadowing, career presentations, and as subject matter experts for projects. Contact Carolyn Hoover at 216-433-6372.

**GET "MORE" OUT OF YOUR INTERNS:** Antoine Moss, a co-op and Ph.D. student in the Human Capital Development Branch, recently published a book titled, "Learn to Intern CEO Style." The book is available at the NASA Exchange Store and through the NASA Glenn Library.

## Summer Tours

NASA Glenn invites the general public to tour its laboratory and testing facilities on the first and third Saturday of each month this summer.

Tours are free to all ages, available to U.S. citizens and foreign national students in grades K-12. A NASA bus will start the tours from Glenn's Briefing Center at 10:30 a.m., and run every hour with the last tour departing at 1:30 p.m.

The April and May tours include:

April 17 & May 15—Zero Gravity Research Facility

May 1—Green Lab Research Facility

For further information and list of all the tours, or to reserve a spot, call 216-433-9653, or visit <http://visit.grc.nasa.gov>.

## In Memory



Yuhas

John M. Yuhas, 79, who retired in 1982 with 22 years of federal service, died Oct. 19, 2009. Yuhas worked in the Grounds Maintenance Section, where he was named section chief and earned several awards for safety. Prior to joining the NASA family, he worked in the construction industry. Yuhas was an active member in the center's Supervisors Club, including serving as president. He served in the U.S. Navy from 1948 to 1950.

### DEADLINES

News items and brief announcements for publication in the May issue is noon, April 16. Larger articles require at least 1 month notice.

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



Hermes Award



## Glenn Women Highlighted in Air & Space Exhibit

The International Women's Air & Space Museum, located at Burke Lakefront Airport in downtown Cleveland, will be celebrating the 100th anniversary of women in powered flight with an exhibit devoted to women from Ohio who have made contributions in aviation and space. The 100 Ohio Women in Air & Space will feature biographies, photographs and over 50 artifacts highlighting women in all facets of aviation and space, including pilots, flight attendants, astronauts and engineers. Glenn employees Kim deGroh, Tammy Harrington, Dr. Yolanda Hicks, Dr. Jih-Fen Lei, Adabelle Narvaez-Legeza, Ann Over and Olga Gonzalez-Sanabria are featured in the exhibit. The exhibit is scheduled to run April 24, 2010 to January 2, 2011.



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## Youth Serve as NASA Ambassadors

NASA has set up a “virtual community” of youth to further engage undergraduate and graduate students in NASA science, technology, engineering and mathematics, or STEM, research and interactive opportunities. The NASA Student Ambassadors Virtual Community includes interns from universities across the country.

**Ambassadors help to inspire and engage future NASA interns.**

Of the 105 high-performing fellows and interns selected 2010 Student Ambassadors, 10 are affiliated with NASA Glenn. Nominated by Glenn Higher Education program managers and mentors, the students were recently inducted into the 2010 class of the NASA Student Ambassador Virtual Community Program.

Becoming a NASA Student Ambassador is an honor and part of NASA’s new strategy to cultivate its future workforce. An Ambassador engages outstanding interns in an online network to mentor and interact with the exceptional talent of Gen-Y NASA students in a way they can easily relate. They also take requests to lead and facilitate discussions on current NASA events and research programs via instant messenger, message boards and real-time polls.

The Glenn-hosted fellows, interns and scholars are current and recent participants in (or representatives of) the Glenn Academy, Undergraduate Student Research Program, Graduate Student Research Program, NASA Science & Technology Institute Scholar Program, Lewis Educational and Research Collaborative Internship Program or Motivating Undergraduates in Science and Technology Program.

The Glenn 2010 Student Ambassadors include Denisse Aranda, Florida International Univ.; Jonathan Barr, Univ. of Michigan; Matthew Deans, Case Western Reserve Univ.; Anup Engineer, North Carolina A&T Univ.; Jamie Frasure, Baylor Univ.; Bryan James, Univ. of Illinois at Urbana-Champaign; Sidney Jones, Savannah State Univ.; Harkirat Sohi, Univ. of Washington; Michael Stauber, The Ohio State Univ.; and Shanita Wilburn, Tuskegee Univ.

For more information about the Student Ambassador Program visit <http://intern.nasa.gov>.



*Aranda*



*Barr*



*Deans*



*Engineer*



*Frasure*



*James*



*Jones*



*Sohi*



*Stauber*



*Wilburn*