



Ares I-X Segments Leave Center, Bound for Space Flight

The upper stage simulator for the Ares I-X test rocket, designed and built by NASA Glenn engineers and technicians, left the center last month to take a 12-day river journey bound for NASA Kennedy in Port Canaveral, Fla. This will be the first flight test vehicle of NASA's next generation launch vehicles.

On October 22, the full-scale components of the Ares I-X were offloaded from a flatbed truck onto the Delta Mariner vessel docked on the Ohio River in Wellsville, Ohio. The vessel took the space flight hardware down the Ohio and Mississippi Rivers and into the Gulf of Mexico, and then on to Florida where the parts will be assembled and sent on a test launch in 2009.



Photo by Michelle Murphy

C-2008-3548

During a two-day period, 12 tractor-trailer rigs arrived at Glenn to load the 11 steel cylinders that are 18 feet wide.

Photo by Quentin Schwinn

C-2008-3200



"This is the first time we've shipped cargo of this magnitude," said Logistics Manager Jeanine Hanzel, SGTI/Logistics and Technical Information Division. "These major rivers provide ports deep enough to accommodate a ship and safe routes to reach Kennedy."

In advance of shipping the hardware, Glenn's Community and Media Relations Office scheduled outreach events in four cities along the Ohio River: Evansville, Ind., and Steubenville, Marietta and Cincinnati,

Continued on page 3

Birds-eye view of VIPs, left, and one of the Ares I-X segments being loaded onto the barge.

Inside

DIRECTORATE NEWS 2
Facilities and Test Directorate shares updates on Facility Master Plan

R&D 100 AWARDS 2
Glenn earns two "Oscars of Invention"

COMMUNICATIONS UPGRADES 3
Communications gets better and easier

BUILDING 500 & 501 UPDATE 3
Health hazard evaluation report

SPACE FLIGHT AWARENESS..... 4
Employees receive space flight safety awards

PLUS...Awards, Retirements, Obituaries and more

SALUTING OUR VETERANS





*Dr. Rickey Shyme,
Facilities and Test
Directorate Director*

Center Progressing In Facilities Master Plan

The Facilities and Test Directorate is making progress toward the center's 20-year Facilities Master Plan, which will ensure that Lewis Field and Plum Brook Station (PBS) facilities align with the center's mission.

Based on a plan that reduces infrastructure and overhead costs while focusing on investments in key facilities needed for our mission, the following activities are underway:

- Demolishing the Altitude Wind Tunnel, Propulsion Systems Laboratory 1 & 2 and the Logistics Management Building within the next 6 months.
- Designing a new Centralized Office Building, which will house offices for space flight integrated project teams, an auditorium and a conference center at Lewis Field. Construction to begin in 2010 at our new central campus area.
- Designing a new warehouse complex in the West Area to replace two aging warehouses at Lewis Field.
- Working toward closing the Development Engineering and Annex buildings by October 2009.
- Conducting modifications on the Space Power Facility at PBS to allow for integrated environmental testing of space flight vehicles.
- Preparing for construction of more secure main gates at Lewis Field and PBS. Lewis Field's design includes a new gate-house and a shipping/receiving building. Construction activities begin this calendar year and continue through 2011. The PBS main entrance will be relocated to a better location.
- Preparing conceptual designs for several new buildings: operations support, motor pool, employee services, administration, structures and materials, research and combustion laboratory and antenna testing.
- Exploring land-leasing options at PBS for alternative energy development with local partners. Currently communicating with a major energy provider to develop a wind turbine farm on a portion of PBS buffer zone land.

The Facilities and Test Directorate personnel continue to work diligently in making steady progress towards the implementation of this comprehensive facility plan for Glenn's future.

Two more makes 102

Glenn Technologies Tapped for R&D 100

BY S. JENISE VERIS

Glenn researchers and scientists received two of the prestigious R&D 100 Awards at the 46th Annual R&D 100 Awards Ceremony, Oct. 16. Winning the coveted "Oscar of Invention" is a mark of excellence recognized by industry, government and academia that often sparks interest in licensing for product or process development.

Dr. David Chao, Dr. John Sankovic and Dr. Nengli Zhang (OAI), from the Space Processes and Experiments Division, were honored for the design and development of the

Multidimensional Contact Angle Measurement Device (MCAMD). The MCAMD is a breakthrough in measurement technology that will enable a vast number of industries to measure interaction of a transparent liquid drop on a solid surface in a 360-degree angle. Although MCAMD is being developed for future space missions, it also has potential

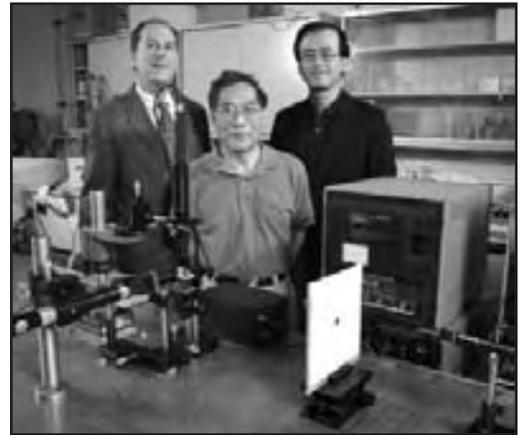


Photo by Marvin Smith

C-2008-2679

Pictured with their MCAMD, left to right, are Dr. Sankovic, Dr. Zhang and Dr. Chao.

for industrial applications such as film cooling, biological cell adhesion and boiling heat transfer.

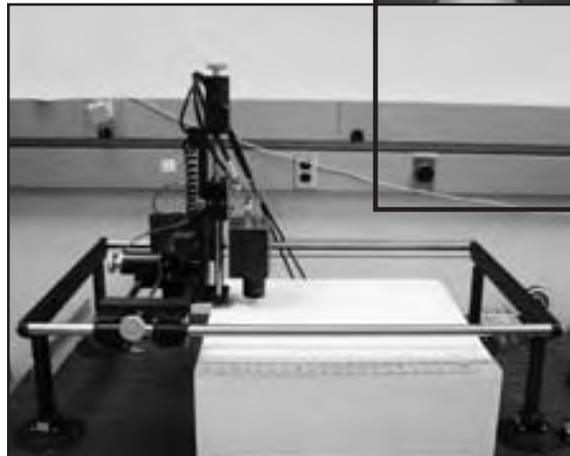


Photo by Don Roth

Dr. Roth, inset, with the Terahertz Imager.

Dr. Donald Roth, Optical Instrumentation and NDE Branch, and his partners Dr. William Winfree from NASA Langley with Jeffrey Seebo of Lockheed Martin Space Systems in Hampton, Va., were honored for the design and development of the Terahertz Density Thickness Imager (Simultaneous Non-Contact Precision Imaging of Microstructural and Thickness

Variation in Dielectric Materials). Using revolutionary methods and software, this technology paves the way for nondestructive evaluation of non-conducting materials or products such as foam, which play a major role in space travel as thermal protection systems. Although

Continued on page 4

Space Flight Hardware Leaves Center

Continued from page 1

Ohio. Exhibits were set up at each of these cities for visitors to learn about NASA's plans to return to the moon.

"The Wellsville Intermodel Facility provided NASA with world-class service to transfer the USS-1 segments to the ship," said Center Deputy Director Ray Lugo.

"The professionalism of the port staff and the hospitality of the Wellsville community made the difficult task safer to perform and reduced the effort of the staff involved."

These components represent completion of the first manufacturing activity at Glenn of a full-scale space launch vehicle demonstrator in two decades.

For more details on the preparations for the river trip, visit http://www.nasa.gov/centers/glenn/moonandmars/ares_river.html.

Your Job Just Got Easier!

Glenn's Office of the Chief Information Officer and ODIN staff want to make your job easier by improving the way you send and receive information. Over the past several months, the staff has been working on projects that address Glenn's infrastructure and Information Technology needs. Here's a brief summary of three projects designed to make sure you are well connected at work:

Public Kiosks

Prototype public kiosks offering secure, easy-login access to Web-based services for NASA employees and guests were installed at Lewis Field last month. The kiosks, which are fully supported by ODIN, allow users easy access to commonly used Internet sites while they are away from their office or laboratory. Public kiosks are currently located in the Employee Center on the upper level of the Cafeteria and near the Century Federal Credit Union. Some of the features include simple login, print capability and end-of-session system purge to maintain privacy.



Public kiosk located in the Employee Center.

Voicemail System Replacement: CallXpress

A new voicemail system, CallXpress, includes many updated and new features, such as longer message length, retention time and a larger message storage capacity. This upgrade also captures external caller IDs, unless blocked by the caller. (The existing Octel system will be available through early December for users to clear out saved messages.)

Network Upgrades Project

A comprehensive networking upgrade project will increase the speed of the network and modernize the wiring within and between buildings at Lewis Field. The first two phases, set for completion in mid-Fiscal Year 2009, will increase the bandwidth for large data set transfers supporting both center and agencywide efforts. The first phase involves installing newer, faster equipment within various buildings. Phase two increases the speed between buildings by a factor of 10. The project, once completed, will increase the center's capacity to accommodate additional users, devices and improve staff mobility.

For questions about these projects, contact ODIN customer outreach, 216-433-0720, coa@grc.nasa.gov.

No Health Hazards Identified in Buildings

On Oct. 8, the results of a Health Hazard Evaluation report of the Development Engineering Building (DEB) and Annex Building were presented to employees and the media. According to the National Institute for Occupational Safety and Health (NIOSH): the number and various types of cancer among employees did not appear unusual; the different types of cancers do not lead to a common exposure; no significant hazardous exposures were identified; and the evidence presented leads to non-occupational causes. Further, the report called the rates typical of cancer, which strikes about half of U.S. males and a third of U.S. females.

NIOSH Medical Officer Dr. Elena Page presented these findings during a morning and afternoon session in the DEB Auditorium. The report was prepared in response to concerns raised by employees that a high cancer rate among building occupants was tied to environmental issues with the DEB and DEB Annex buildings.

Safety and Mission Assurance Director Thomas Hartline encourages employees to follow Dr. Page's advice regarding cancer. "Employees should educate themselves about their personal risk and risk factors for cancer, avoid these risks and take advantage of recommended cancer screenings that are offered by their healthcare provider."

Excellent information on cancer risks and preventions can be found at the American Cancer Society Web site, <http://www.cancer.org/> and the National Cancer Institute Web site, <http://www.cancer.gov/>.

Innovation Blog

What if...? "Momentum" is a bi-monthly blog that encourages employee exchange of ideas on strategic innovation and management. Visit <http://newbiz.grc.nasa.gov/blogcfm>.

CFC and America Recycles: Examples of Civic Responsibility



Photo by Marvin Smith

C-2008-3354

Left: CFC committee members perform a skit at the Breakfast/Rally. Right: A lineup of classic, modern and unusual vehicles drew crowds at the Cruise-In.



Photo by Marvin Smith

C-2008-3358

Glenn's 2008 Combined Federal Campaign (CFC) got a rousing start with the Taylor Road Block Party and the Breakfast/Rally at the Employee Center on Sept. 22. Live entertainment, a sidewalk sale and the annual Cruise-In and Ice Cream Social, drew a steady crowd to the block party on Sept. 18. Luncheon specials benefiting Glenn's CFC attracted some employees to venture into the Main Cafeteria, while others browsed CFC Agency Fair booths that offered "food for thought" on charitable organizations that participate in the CFC. An additional attraction to the day was the variety of booths in observance of America Recycles Day informing employees of products and processes that add to our quality of life while preserving the environment.

At the CFC rally on Sept. 22, Jeff Golz, LMIT/Office of the Chief Information Officer, and Sandy Barrow, Facilities and Test Directorate, shared personal stories about the two CFC charities they support. The committee thanked employees whose participation contributed to the 50/50 raffle, which netted \$1400 to jumpstart donations to this year's campaign goal of \$360,000. To learn how you can make a pledge, visit <http://cfc.grc.nasa.gov/>.



Photo by Eli Abumeri



Photo by Eli Abumeri

Above: Steve Kozelka, SAIC/Safety, Health and Environmental Division, far left, talks to Tim Harlow and Matt Scubab of J&L Management Corp. about products created from recycled excavation materials. Left: Middleburg Early Education, American Red Cross and City Mission of Cleveland were some of the CFC charities represented in the Main Cafeteria.

Employees Recognized for Space Flight Safety

Astronaut and Ohio native, Sunita Williams, visited Glenn in August to acknowledge the contributions of center employees in the area of human space flight safety.

Fourteen NASA and contract personnel received the Silver Snoopy Award. The Silver Snoopy is the highest award presented by NASA astronauts to only the top 1 percent of qualified nominees for outstanding efforts contributing to the success of crewed spaceflight missions. They include:

Robert Brock, ZIN Technologies, Inc. (ZINT)/ International Space Station and

Human Research Project Office, for excellent technical leadership to ensure the Fluids and Combustion Facility was successfully completed for safe and reliable operation.

Michael Capelety, Safety and Mission Assurance Directorate, for outstanding leadership in the approval of the Fluids and Combustion Facility bound for the International Space Station.

Joyce Dever, Research and Technology Directorate, for outstanding leadership in developing test and calibration practices to simulate space solar ultraviolet exposure.

Continued on page 6

R&D 100 Awards

Continued from page 2

currently used exclusively by NASA, future application for the density-thickness imager technology might be inspection of plastics, wood, paper, ceramics and pharmaceutical materials.

With these two winning technologies, Glenn continues to lead NASA's centers in earning the most R&D 100 awards for more than 40 years. The Technology Transfer & Partnership Office coordinates Glenn's R&D 100 award nominations. Applications for the next round of competition will be due March 2009. For more information, contact Laurie Stauber, Award Liaison officer, 216-433-2820.

News and Events

Japanese Explorers Visit

Kaoru Mamiya, vice president of the Japanese Aerospace Exploration Agency (JAXA), and several other members of the agency visited Lewis Field and Plum Brook Station on Sept. 18. While touring, the visitors observed the construction of Constellation hardware, the preparation of Constellation test facilities and met with Center Director Dr. Woodrow Whitlow and Space Flight Director Robert Moorehead and his staff. Therese Griebel, chief of Glenn's Manufacturing Division, and David Stringer, Plum Brook Management Office director, both pictured right, talked with the JAXA visitors in the Ares Manufacturing Facility during a tour.



Photo by Marvin Smith

C-2008-2950



Photo courtesy of Billy Bass Photography

CCPL Reading Program Winners

The grand prizes for the Cuyahoga County Public Library (CCPL) *Imagine and Explore 2008 Summer Reading Program Game* were awarded during Glenn's Star Gazing event at the Visitor Center on Sept. 20. NASA Glenn co-sponsored the summer program, which drew over 30,000 people of all ages. Grand prize winner, Crystal Davis, 11, of Bedford, received four VIP passes to view a space shuttle launch and a behind-the-scenes private tour of NASA Kennedy. Allison McKenna, 10, of Bay Village, won the runner-up prize of a Meade 80 mm Altazimuth Refractor telescope. Pictured, left to right: Dr. Howard Ross, acting director of Glenn's External Programs; Jeanne Sapir, manager, CCPL Bedford Branch; Davis; Madeline Brookshire, CCPL marketing director; McKenna; and Mack Thomas, public affairs specialist, Glenn Community and Media Relations.

Awareness Event Focuses on Careers

What's being done to increase and advance the careers of Hispanics in the federal workforce? During Glenn's Hispanic Heritage Observance on Sept. 22, keynote speaker Ramon Suris Fernández, director of the Civil Rights Center, U.S. Department of Labor, answered this question by describing the agenda for an October Federal Hispanic Career Advancement Summit. He also cited NASA's support for this initiative, along with the agency's excellent record of innovative recruiting activities. Music by Los Tres Sonidos, pictured, right, and Viva Dance Studio dancers provided cultural ambience to the event, sponsored by Glenn's Hispanic Advisory Council and the Office of Equal Opportunity Programs.



Photo by Michelle Murphy

C-2008-3011

Photo courtesy of Developing Professionals Club



Team Raises Cancer Awareness

A Glenn team joined over 20,000 determined Ohioans who ran or walked to help raise funds for cancer research during the 2008 Komen Northeast Ohio Race for the Cure® on Sept. 13. Glenn's Developing Professionals Club organized a 23-member team, which raised \$838 and won the corporate T-shirt design contest. Pictured, left, some of the members of the Developing Professionals Club, along with family and friends, at the Race for the Cure. Right, the winning T-shirt.



Silver Snoopy, Space Flight Awareness Awards Given

Continued from page 4

Dr. Walter Duval, Research and Technology Directorate, for his outstanding contributions to the Coarsening in Solid-Liquid Mixtures Experiment.

Catherine Frey, ZINT, for exceptional support of Binary Colloidal Alloy Tests and Coarsening in Solid-Liquid Mixtures Payloads.

Robert Green, Research and Technology Directorate, for outstanding contributions to the Capillary Flow Experiments conducted in the maintenance workarea aboard the International Space Station.

Dr. DeVon Griffin, International Space Station and Human Research Project Office, for outstanding contributions in developing space flight medical hardware and computational simulations of human physiology to ensure the health and safety of crew members during long-duration exploration missions.

Michael Herlacher, Analex Corporation (ANLX)/Engineering Directorate, for exceptional contributions to development of automated testing and reporting processes that significantly improved electromagnetic compatibility verification.

Dr. Jerry Myers Jr., International Space Station and Human Research Project Office, for outstanding technical leadership of the Integrated Medical Model used to forecast risks associated with specific missions, equipment and consumables that might impact crew health.

Scott Numbers, Safety and Mission Assurance Directorate, for outstanding contributions to the Supplier Assurance for the Space Shuttle Program.

Paul Passe, ANLX/Engineering Directorate, for outstanding contributions to the Acoustical Testing Laboratory enabling effective and efficient acoustic emissions verification testing on a broad range of space flight payloads.

Photo by
Michelle Murphy
C-2008-2138



Astronaut Williams, center; with left to right and front, Tolbert, Numbers, Griffin, Tin, Owens, Frey, Havenbill and Redding. Center, left to right, Zang, Kocsis, Frankenfield, Powell, Edwards, Zampino, Blech, Cleary, Cronin and Passe. Back, left to right, Baumann, Brock, Greene, Capelety, Sampson, Dever, Herlacher and Stewart.

Chip Redding, Engineering Directorate, for contributions to design concepts advancing NASA space flight capabilities including the solid model concepts for the crew seating safety on the Crew Exploration Vehicle.

Sherice Sampson, Sierra Lobo, Inc. (SLI)/Facilities and Test Directorate, for exceptional support of several research projects delivered and scheduled for deployment aboard the International Space Station.

Edward Zampino, Safety and Mission Assurance Directorate, for exceptional leadership of the Reliability and Maintainability engineering on the NASA Fluids and Combustion Facility Project.

Space Flight Awareness Team Award Honorees

Astronaut Williams graciously extended her visit to include a presentation of a Space Flight Awareness (SFA) Team Award to members of Glenn's ARES I Upper Stage Purge and HazGas Team. The SFA Team Award is used to recognize small groups of employees that have demonstrated exemplary teamwork while accomplishing a particular task or goal in support of the human space program.

Glenn's Ares I Upper Stage Purge and HazGas Team was recognized for the process of developing preliminary designs for flight-critical systems, and initiating testing of engineering model

hardware. The Purge System provides a noncombustible, thermally conditioned environment to the Crew Launch Vehicle Upper Stage compartment volumes prior to launch. The SFA Team Award was presented to:

NASA employees Carol Tolbert, Space Flight Directorate; and Eric Baumann, Bruce Frankenfield, Karen Edwards, Joseph Powell, Chip Redding, Louis Spinelli and Ted Tin of the Engineering Directorate. Contract personnel include Analex's Marian Cronin, Robert Kocsis and Emily Owens in the Space Flight Directorate; N&R Engineering's Richard Blech, Research and Technology Directorate, and Jan Swider; Science Applications International Corporation's Maria Havenhill, NASA Safety Center, and Patrick Clearly; Arctic Slope Regional Corporation's Mark Stewart, Research and Technology Directorate; and Plum Brook Operations Group's John Zang.

More information is available at <http://www.nasa.gov/centers/glenn/news/>.

Retirements

Harriet Gilbert, Enterprise Applications Office, retired on Sept. 30, 2008, with 32-½ years of NASA service.



Gilbert

People

Dr. Jih-Fen Lei, Glenn's director of Research and Technology, was one of 13 women inducted to the Ohio Women's Hall of Fame on Sept. 18. The ceremony marked the 30th anniversary of the Hall of Fame, which was established to recognize women across the state and from all walks of life who have demonstrated extraordinary commitment to excellence, achievement and service to others. Lei's inspirational leadership, technological accomplishment and mentorship were cited as valuable contributions to our state and nation.



Dr. Lei

In Memory

Betty Bechtel, 85, who retired in 1975 after 14 years of NASA service, died July 11. Bechtel worked for the Exchange Council's commissary (PX) where she was admired for her friendly demeanor and ability to recall customers' names. She is survived by her husband, Frank, who retired from NASA's Flight Research Division.

Calendar

DECEMBER THIRD SATURDAY EVENT: Get a unique view of exploration during the "Space in 3D" Third Saturday Program. This special holiday event will be held on Tuesday, Dec. 30. Contact the Visitor Center at 216-433-9653 or log on to <http://www.nasa.gov/centers/glenn/events/vcevents.html>.

RETIRED WOMEN'S LUNCHEON: The November NASA Retired Women's Luncheon will be Thursday, Nov. 20 at noon at Mapleside Farm Restaurant, 924 Pearl Road, Brunswick. Please contact Gerry Ziemba, 330-273-4850, if you plan to attend.

R&T REPORT ONLINE: The 2007 Research and Technology (R&T) Report selectively summarizes NASA Glenn's research and technology accomplishments for fiscal year 2007. It is now available online at <http://www.grc.nasa.gov/WWW/IRT/>.

CENTER HOLIDAY RECEPTION: Mark your calendar for Dec. 5, when Dr. Woodrow Whitlow Jr. and senior leadership will host the 2008 Center Holiday Reception from 2 to 4 p.m. in the Main Cafeteria. Announcements will be posted on Today@Glenn.

AFGE MEETING: AFGE Local 2182 will hold its next monthly membership meeting on Wednesday, Dec. 3 at 5 p.m. at Denny's Restaurant, 25912 Lorain Road, North Olmsted.

LESA/IFPTE, Local 28, will hold its next monthly membership meeting on Wednesday, Dec. 10, at noon in the Employee Center.

Carolyn Coles-Hamilton, 47, who retired in 2007 with 23 years of NASA service, died Sept. 1. Hamilton was an aerospace engineer. She worked in aeronautics research as a project engineer for the Ultra-Efficient



Coles-Hamilton

Engineering Technology Program, and previously as a COTR for projects under the General Aviation Propulsion Program and the Low Emissions Power Project. Hamilton was a strong advocate on behalf of women and minorities at Glenn and through the National Technical Association.

Dr. John C. Liwosz Jr., 79, who retired in 1986 with 31 years of NASA service, died Sept. 22. Liwosz was a nuclear engineer and an attorney who shared both talents at NASA—first as manager for Plum Brook Station's Reactor Technology Programs, and later, as a small business officer in the Procurement Division at Lewis Field. Liwosz was a veteran of the Korean War, where he served as an Air Force pilot.

Peggy L. Yohner, 82, who retired in 1989 with 40 years of NASA service, died Sept. 23. Yohner served in the Computer Services Division where she rose through the ranks—from a "human calculator," a title given to people who manually verified all the calculations for experimental applications, to the center's first female in the senior executive service (SES). Coworkers recall her as an inspirational leader. She was instrumental in procuring the center's first CRAY XMP and YMP computers.



Yohner

In Appreciation

I would like to say "thanks" to all my friends and colleagues at NASA who were able to attend my retirement luncheon and "launching" me into retirement. Thank you for the wonderful gifts and many cards. I also want to thank everyone for all the little things you have said and done throughout my 43 years at NASA Glenn and all you have meant to me. You have made a difference in my life, and thanks can never start to say what is in my heart. I will cherish the memories.
—Adele Szuhai

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. Circulation: 6,000.

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

DEADLINES: News items and brief announcements for publication in the January issue is noon, December 12. Larger articles require at least 1 month notice. Submit contributions to the editor via e-mail, doreen.b.zudell@nasa.gov, fax 216-433-8143, phone 216-433-5317 or 216-433-2888, or MS 3-11. Ideas for news stories are welcome but will be published as space allows.



Employees Celebrate Health and Fitness

Singleton Health Services hosted a Health Fair in celebration of Glenn's Fitness Program's 25-year anniversary on Sept. 10. The event, held at the picnic grounds, drew a crowd of 600 participants. Attendees could visit with 30 vendors representing a wide range of topics from fresh healthy foods to acupuncture. Other activities included a rock climbing wall, speakers, demonstrations and "Are You Fitter than a Fifth Grader?" fitness challenges. Even after 25 years, the services offered through the fitness center are still FREE! Interested civil servants, contractors and retirees are welcome to call 216-433-6313 for more information.



During the Health Fair, employees and retirees who have been members of the Fitness Center since its inception gathered together for this photo. Pictured, left to right, front, Denise Varga, Larry Schroeder, Jim Liebel, Bob Ensign, Rod Chima, Renee Barrett (Fitness Center director), Dan Cica, Dan Buttler, Gene Addy, Jose Davis. Back Row: William Young, Mary Tharp, Chris Snyder, Kathy Zona, Monica Palivoda, Pete Pachlhofer, Oral Mehmed, Stanley Klima, Charles Lawrence, Susan Johnson, Craig Williams, Annie Easley, Klaus Gumpto and Bob Grossman.

Pictured, right, adventures participants enjoyed rock climbing while, below, all enjoyed the informative displays and giveaways.



Photos by Eli Abumeri and Doreen Zudell



National Aeronautics and Space Administration
John H. Glenn Research Center at Lewis Field
21000 Brookpark Road
Cleveland, Ohio 44135

VOLUME 10 ISSUE 11 NOVEMBER 2008