

Glenn leads ion engine development

Glenn news release

NASA's Office of Space Science has awarded approximately \$21 million to Glenn to develop a next-generation ion propulsion system. This advanced system is an alternative to conventional chemical propulsion and could revolutionize the way we send science missions deeper into the solar system.

Glenn was selected to lead development of NASA's Evolutionary Xenon Thruster (NEXT) system, which will use xenon gas and electrical power to drive future spacecraft. The NEXT project is a two-part effort, with Phase I consisting of a 1-year undertaking to design, build, and test initial components. Phase II, dependent upon NASA's exercise of an option, would complete hardware development and integrate components into a full-scale system.

The major feature of NEXT is a thruster that utilizes design knowledge gained from the ion thruster that successfully propelled Deep Space 1 to a flyby of asteroid Braille and the comet Borrelly.

"NEXT more than triples the power level of Deep Space 1's ion thruster while increasing efficiency and system performance characteristics," said Mike Patterson, NEXT principal investigator, On-Board Propulsion Branch. "We have met our performance objectives with laboratory experiments of the 40-cm-diameter thruster."

Continued on Page 3

Dr. Earls named deputy director

Dr. Julian Earls has been selected as Glenn's new deputy director. His appointment, announced by Center Director Donald Campbell, became effective July 14.



Dr. Earls

"Julian has been a dedicated and enthusiastic change agent for the Agency," said NASA Administrator Sean O'Keefe.

Earls had been serving as deputy director for Operations and the acting director of Acquisition at Glenn since September 1995.

Continued on Page 5



2002 Honor Awards

On August 2, Center Director Donald Campbell presented the Agency's highest honors to Glenn employees (civil servants and onsite contractors). General Lester Lyle of Wright-Patterson Air Force Base was the guest speaker.

★ Outstanding Leadership Medal

Olga González-Sanabria: For outstanding leadership and vision in advancing NASA Glenn Research Center's organizational objectives and the implementation of program and project management processes.

Dr. Hugh R. Gray: For outstanding leadership in developing high-temperature materials for propulsion applications.

★ Exceptional Achievement Medal

Russell W. Claus: For exceptional technical leadership in developing an international computer-aided design (CAD) services standard that will simplify access to data from multiple CAD vendors.

Dr. Walter M. Duval: For exceptional scientific contribution to the computational modeling of mixing of liquids and

Continued on page 6

Inside

VOYAGER TURNS 25 3
 Spacecraft still exploring the outer edges of the solar system

SILVER SNOOPY 8
 Astronauts bestow personal tribute on employees

RISK REDUCTION TESTING 12
 Years of research verified in the world's largest vacuum chamber

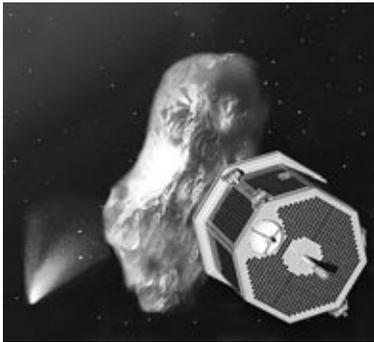
AeroSpace Frontiers has earned a prestigious award for publication excellence. See page 11.



NASA helps preserve the Nation's history

The United States' most important historical documents may be spared from irreparable deterioration thanks to the recommendations of a team of scientists from Langley Research Center. Working at the request of the National Archives and Records Administration, the team confirmed that too much water vapor had built up in the encasements for the Declaration of Independence, the U.S. Constitution, and the Bill of Rights, causing the glass to chemically decompose, which could lead to eventual deterioration of the documents. They applied the same noninvasive measurement techniques and instruments originally developed by NASA for atmospheric research to understand and protect Earth to ensure the stability of the Charters of Freedom. For more information on NASA's Earth Science Enterprise, visit <http://www.earth.nasa.gov>.

To the heart of the matter



Artist's conception of the Comet Nucleus Tour spacecraft with a closeup of a comet.

Launched on July 3, NASA's Comet Nucleus Tour (CONTOUR) mission is the second mission dedicated solely to exploring largely unknown members of the solar system. Its flexible 4-year mission includes encounters with comets Encke (November 12, 2003) and Schwassmann-Wachmann 3 (June 19, 2006) to examine each comet's "heart," or nucleus. Scientists believe the nucleus is a chunk of ice and rock, often just a few kilometers across and hidden from Earth-based telescopes beneath a dusty atmosphere and long tail. The eight-sided solar-powered craft will fly as close as 100 kilometers (62 miles) to each nucleus, to provide the first detailed look at the differences between these primitive building blocks of the solar system and answer questions about how comets act and evolve. Additional information about CONTOUR is available

on the Web at <http://www.contour2002.org>.

Unified effort underway to forecast cloud cover

The NASA Crystal-Face (Cirrus Regional Study of Tropical Anvils and Cirrus Layers-Florida Area Cirrus Experiment) is a large multiagency experiment that unites seven NASA centers (Headquarters, Ames, Dryden, Goddard, Jet Propulsion Laboratory, Johnson, and Langley), National Oceanic Atmospheric Administration, National Science Foundation, Department of Energy, Office of Naval Research, U.S. Weather Research Program, universities, and other government weather researchers in an effort to measure characteristics of cirrus clouds to determine how they alter the atmosphere's temperature over and around Florida. More than 400 researchers from around the world and six different research aircraft equipped with advanced scientific instruments will measure and compare ground-based radars, satellites, and results of advanced atmospheric models to improve the ability to forecast future climate change. For more information, visit <http://cloud1.arc.nasa.gov/crystalface>.

NASA images aid wildfire location

New images of Arizona's Rodeo-Chediski wildfire, reported to be the largest in the state's history, were acquired from NASA's Moderate Imaging Spectroradiometer Airborne Simulator (MODIS) instrument aboard NASA's ER-2 high-flying aircraft. The images showed the extent of the burn area and pinpointed areas of active burning. They were obtained while flying at an altitude of 64,000 feet over northeast Arizona and were made available to the U.S. Forest Service for potential use in post-fire damage assessments. They will also be used to validate rapid response wildfire maps produced by a MODIS instrument aboard the Terra spacecraft. Photographs are available at www.earthobservatory.nasa.gov/NaturalHazards.

World Space Congress 2002

Members of the international space community will reconvene at the World Space Congress (WSC) to examine and explore the present and future of space. Held for the second time in 10 years, the WSC is set for October 10 to 19, 2002, at the George R. Brown Convention Center in Houston, TX.

As a supporting sponsor and NASA's lead for human space flight, Johnson Space Center will play a heightened role in WSC-2002. Johnson will sponsor numerous presentations, expert speakers, and educational outreach and distance learning activities.

"International Space Station Utilization-The Microgravity Environment" is one of many special sessions that will be offered at WSC-2002. Cosponsored by the Physical Sciences Division, Office of Biological and Physical Research at NASA Headquarters and Glenn's Principal Investigators Microgravity Services (PIMS) project, the session will explore the microgravity environment and measurement techniques on the space station.

Additional information is available at www.aiaa.org/wsc2002/. ♦

Webby Awards

NASA press release

Two NASA Internet sites were recently honored with Webby Awards, sponsored by the International Academy of Digital Arts and Sciences. The Webby Awards recognize Web sites that are aesthetically exceptional and utilize technology to help build communities.

The NASA Home Page (<http://www.nasa.gov>), which serves as the Agency's entryway into its more than 4 million public Web pages, won the Webby's People's Voice Award in the Government & Law category. The Earth Observatory, an interactive site that highlights news and imagery about NASA's Earth Science research, won the People's Voice Award for Science (<http://earthobservatory.nasa.gov>). ♦

Voyager celebrates 25 years

Now in its 25th year, the Voyager mission is still in full swing. Originally built to last 5 years, the twin spacecraft, Voyager 1 and Voyager 2, continue to explore the unknown in the vast regions of the edges of the solar system.

Voyager 2 launched first on August 20, 1977, followed by Voyager 1, which launched September 5 on a faster, shorter trajectory. The mission took advantage of a rare geometric arrangement that occurs only every 175 years to explore the four outer planets, Jupiter, Saturn, Uranus, and Neptune. Using a gravity-assist technique of increased velocity built up with the flyby of each planet, the spacecraft were able to swing from one planet to the next without large onboard propulsion systems.

The Voyager mission was one of the most notable Glenn-managed launches—among a variety of communications, weather, planetary exploration, and scientific payloads—from 1963 to 1998. Both spacecraft were launched into space aboard a Titan-Centaur expendable rocket (pictured). Glenn's pioneering rocket engine and propellant technology advanced the development of Centaur, NASA's liquid-hydrogen-fueled upper stage, which enabled it to become the workhorse for Atlas and Titan rockets and one of the Center's most significant achievements. Glenn continues to support industry by developing and testing new launch vehicle technologies and hardware through cooperative programs.

Now, in 2002, Voyager 1 is the most distant human-made object in the universe with Voyager 2 nearly as distant, controlled by and returning data via the Deep Space Network, a global spacecraft tracking system operated by NASA's Jet Propulsion



Photo courtesy of Glenn Archives

Laboratory. The two spacecraft have already shared the wonders of all the giant outer planets of the solar system, 48 of their moons, and the unique systems of rings and magnetic fields those planets possess. For more information on the Voyager mission, visit <http://voyager.jpl.nasa.gov/>. ♦

NEXT system will use xenon gas and electrical power

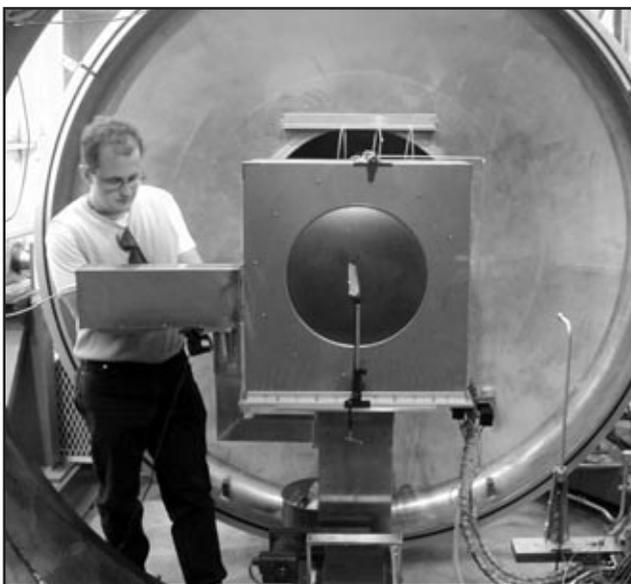


Photo by Christian Carpenter

Matthew Domonkos, On-Board Propulsion Branch, is pictured in this bottom view of the Deep Space 1 spacecraft (prior to launch), which shows a 30-cm xenon ion thruster mounted within two concentric gimbals.

Continued from page 1

The successful proposal for NEXT was developed by a team including Glenn Research Center, the Jet Propulsion Laboratory; General Dynamics Space Propulsion Systems, Redmond, WA; Boeing Electron Dynamic Devices, Torrance, CA; Applied Physics Laboratory, Laurel, MD; University of Michigan, Ann Arbor, MI; and Colorado State University, Fort Collins, CO.

Advanced power processing, xenon propellant management, and thruster gimbal technologies will also be developed by the team to complete the NEXT ion propulsion system.

The technology advances made by NEXT over the previously used system will provide benefits to solar system exploration missions. "For missions to outer solar system planets, a NEXT system can shorten the interplanetary trip times and make it possible to go to multiple destinations, with less than half the thrusters, compared to the system using capabilities that powered Deep Space 1," said Scott Benson, Glenn's NEXT project manager, Space Flight Project Branch.

NEXT was chosen from the Research Opportunities in Space Science 2001 NASA Research Announcement, under the In-Space Propulsion Program in the Solar System Exploration Division of NASA's Office of Space Science. The In-Space Propulsion Program is managed by the Office of Space Science at NASA Headquarters and implemented by the Marshall Space Flight Center. ♦

General Counsel visits

During a recent visit to the Center, NASA's General Counsel Paul Pastorek and Deputy General Counsel Bob Stephens became better acquainted with Glenn's people, programs, and facilities. Through meetings with the members of the Center's Office of Chief Counsel and discussions on NASA's legal function, Pastorek and Stephens gained a sense of the diversity and teamwork of Glenn's legal staff. Also during the visit, the guests toured several research facilities. Additional tours, such as the Aeronautics Educational Laboratory, conducted by Center Director Donald Campbell, provided insight into the Center's educational outreach. Glenn's Chief Council Bill Sikora noted that Pastorek and Stephens were particularly impressed with the Center's process for long-term tracking of participants in its education programs. Pastorek is shown with a student, Chelsea Macaskey, in the Aeronautics Educational Laboratory.



Photo by Marvin Smith

Wright kite dedication



Photo by Tom Jares

Dick Glueck, sixth grade science teacher from Orono Middle School, Orono, MA, recently delivered a scale replica of the Wright Brothers 1902 glider built by his students as part of their aerospace curriculum. A full-size 1900 Wright Kite replica delivered last fall has been used in various Glenn outreach events throughout the year to inspire students and excite the general public about the 100th anniversary of powered flight that will take place in 2003. Glueck, who was named a *USA Today* All American Teacher has provided step-by-step instructions for building a flying scale model of the Wright Brothers' 1902 aircraft to be included on the "Re-Living the Wright Way" program Web site, <http://wright.nasa.gov>, which is managed by Glenn's Office of Educational Programs. Pictured, left to right, are Space Director Gerald Barna, Glueck, and Aeronautics Director Arun Sehra examining the kite.

Decommissioning briefing

With the recent approval of Glenn's Decommissioning Plan by the U.S. Nuclear Regulatory Commission, the decommissioning of the closed Reactor Facility at Glenn's Plum Brook Station in Sandusky is underway. As part of its commitment to keep the community informed about the decommissioning, Glenn held a media briefing and tour of the Reactor Facility on June 26. Decommissioning Project Manager Tim Polich, Senior Project Engineer Keith Peacock, and other key Decommissioning Team members answered questions after the briefing and during the tour, with emphasis on NASA's number-one priority—safety of the public, the workers, and the environment throughout the project. Pictured (far right) is Peacock briefing media prior to entering the closed Reactor Facility.



Photo by Doreen Zudell



Director's Corner With Donald Campbell

NASA'S highest honors

During the 2002 Honor Awards Ceremony, I, along with our guest, General Lester Lyle of Wright-Patterson Air Force Base, had the privilege of recognizing many of our employees for their outstanding accomplishments from this past year. The fact that we have garnered these awards—NASA's highest honor—across a broad spectrum of categories reflects the outstanding talent and dedication of our people.

As we congratulate this year's recipients, let us recall our past achievements and successes, and look to these awards as inspiration to continue our superior work in support of the NASA mission. Together, moving towards the goals of the Center and the Agency, we can continue to achieve the recognition our successful efforts demonstrate.

News Notes

ONLINE BENCHMARKING EXCHANGE: The Office of Management Systems (Code J) recently purchased an Agencywide license to an online benchmarking and best-practices network. Any NASA employee can join the network free of charge. To find out additional information, go to <http://www.benchnet.com>.

FEMALE RETIREE LUNCHEONS: Glenn (Lewis) female retirees interested in meeting for lunch on a regular basis are invited to attend the first luncheon, which will be held on August 12 at noon at the Station House (formerly Pufferbelly) in Berea. For questions, call Irene Furman, 440-843-8306.

FOCUS ON PROJECT MANAGEMENT: A knowledge-sharing community of practice group, focused on project manage-

ment, is getting off the ground at Glenn. The second bimonthly meeting was held on July 9. At that meeting, Michael Jansen, Johnson's ISS Program Assistance business manager, and Roy Malone, Marshall's deputy director of the Safety and Mission Assurance Office, shared their experiences and lessons learned. For information on the next meeting, contact Harvey Schabes, 3-5309.

PBS REUNION: The Plum Brook Station Reunion is Saturday, September 21. A luncheon, program, and tours are planned. Contact Bill Brown at 419-433-3448 (huronbill@aol.com) or Jack Crooks at 419-433-0340 (Jackcrooks@aol.com).

LESA MEETING: LESA/IFPTE, Local 28, will hold its monthly membership meeting on Wednesday, August 14, at noon in

Exchange Corner

- Summer time is running out. Cedar Point and Six Flags amusement park tickets for the 2002 season as well as discount movie tickets for Regal Cinema, General Cinema, and Cinemark theaters are available in the Exchange Store. Tickets can be purchased with most credit cards.
- Save 20 percent off all clothing during the Exchange Store's Back-to-School Sale, which runs Monday, August 12 through Friday, August 16. NASA shirts and hats make great school apparel.

Glenn has new deputy director

Continued from page 1

"Julian is an invaluable asset to Glenn and the Agency," said Center Director Campbell. "His devotion to the Center and its employees is demonstrated not only through his technical and leadership abilities, but also through his interaction with and development of employees and his noteworthy contributions to the community."

In his new position, Earls will share with the Glenn Director responsibility for planning, organizing, and directing the activities required in accomplishing the missions assigned to the Center.

Earls began his NASA career at Glenn in 1965 as a physicist. At the age of 25, he became the youngest section head in the history of Glenn. He was also the first black employee to serve as office chief, division chief, and director of in the Center's history.

Earls earned his bachelor's degree in physics from Norfolk State University, his master's degree in radiation biology from the University of Rochester School of Medicine, and his doctorate degree in radiation physics from the University of Michigan. His doctoral thesis was titled "Radiation Protection Guides for Long Range Space Missions: Radiological Health Aspects of Fabricating Operations with Thoriated Metals." He also earned the equivalent of a second master's degree in environmental health from the University of Michigan and is a graduate of the Harvard Business School's Program for Management Development. In addition, he was awarded the Honorary Doctor of Science Degree by the College of Aeronautics in New York and the Honorary Doctor of Pedagogy Degree from Nova Southeastern University in Florida.

He is the author of 27 publications, both technical and nontechnical. In addition, he wrote the first health physics guides used at NASA. He has twice been awarded NASA medals for exceptional achievement and outstanding leadership. He also received the Presidential Rank Award of Meritorious Executive. ♦



2002 Honor Awards

Continued from page 1

crystal growth in the presence and absence of gravity.

Nancy Rabel Hall: For exceptional and exemplary contributions in educational outreach.

David L. Krause: For outstanding leadership and creativity in the development of innovative methods to evaluate structural fabric materials and derived structures for NASA and Department of Defense applications.

Thomas M. Lavelle: For successful development and transfer of propulsion systems simulation to industry as engineering lead of the Numerical Propulsion Systems Simulation Production Team.

Diane L. Linne: For numerous technical achievements as well as shaping the technical strategy and approach of many space transportation programs.

Charles K. Smalley: For outstanding efforts over the last 9 years in the training of interns, cooperative students, and apprentices from a variety of trades as well as welfare-to-work people as machinists.

Don J. Sosoka: For significant contributions to the implementation of the Outsourcing Desktop Initiative for NASA (ODIN), one of the first large Federal initiatives to privatize the desktop environment.

★ **Exceptional Service Medal**

Dr. Kul B. Bhasin: For outstanding technology and programmatic management for the NASA Glenn Research Center Space Communications Program.

Dr. Isaiah M. Blankson: For outstanding contributions to developing technologies for high-speed flight.

Dr. Raymond K. Burns: For outstanding power technology management efforts at Glenn Research Center.

Terry L. Ferrier: For exceptional service in the areas of thermoelectric instrumenta-

tion and microelectromechanical systems that contribute significantly to the efficiency and success of NASA Glenn Research Center projects.

Dennis L. Huff: For leading NASA's engine noise reduction programs over the past 10 years, which has resulted in technologies that are being used to design next-generation turbofans.

Dr. Lennart S. Hultgren: For theoretical contributions in the area of transition, receptivity, and unsteady flow physics, leading to better models for engineering applications.

Helen J. Kabak: For exceptional secretarial leadership, professionalism, and dedication that are indispensable to the Glenn Research Center and to the operation of its largest and most diverse Directorate, Engineering and Technical Services.

J. Anthony Powell: For exceptional accomplishment and leadership in performing pioneering research to develop silicon-carbide as a high-temperature semiconductor material.

Dr. Steven M. Sidik: For exceptional service in bringing major computational services to the NASA Glenn Research Center.

Dr. Bhim S. Singh: For outstanding technical and managerial leadership, which has enabled significant enhancements in the breadth, status, and value of the Microgravity Fluid Physics Program.

Marjorie M. Trujillo: For outstanding contributions to the operation of the Research and Technology Directorate at the NASA Glenn Research Center.

Dr. Kim A. Veris: For continuous and dedicated service to the Agency and the Glenn Research Center's technology transfer and resource management objectives.

Robert J. Zakrajsek: For his unique contributions and exceptional ability to

conceptualize, design, and integrate high-level successful demonstrations of communications technology for a variety of launch vehicles and spacecraft in support of NASA missions.

★ **Exceptional Engineering Achievement Medal**

Dr. Rebecca A. MacKay: For outstanding materials engineering achievements for the aerospace propulsion community.

Claudia M. Meyer: For pioneering the development of advanced diagnostics technologies and their application to propulsion health management for space transportation systems.

David W. Plachta: For significant technical contributions to NASA's goal of safe and affordable access to space.

Dr. Steven J. Schneider: For significant engineering contributions toward the achievement of high-performance chemical propulsion for NASA's planetary science missions with the development of high-performance iridium-coated rhenium rocket technology.

★ **Equal Employment Opportunity Medal**

Dr. Michael A. Meador: For sustained, outstanding mentoring of students and advocacy of research partnerships with Historically Black Colleges and Universities and Other Minority Universities.

★ **Public Service Medal**

Paul R. McMasters: For outstanding and exemplary support of the Space Communications Office business activities and continuous efforts to improve their quality.

Hee-Mann Yun: For significant contributions toward development of silicon-carbide fiber and its application to ceramic matrix composites for aerospace application.

★ **Group Achievement Awards**

Traveling Wave Tube Amplifier Team: For exemplary performance in solving the many technical problems in the traveling wave tube amplifier design, which



Graphics by Kelly Shankland

led to an innovative and very successful traveling wave tube program at NASA Glenn Research Center. Team members include **Dr. Carol L. Kory, Karl R. Vaden, Dr. Jeffrey D. Wilson, and Edwin G. Wintucky.**

Code Parallelization Team for the Average-Passage Turbomachinery Code: For reducing turbine engine compressor analysis time by a factor of 2400:1 relative to 1992. Team members include **Dr. John J. Adamczyk, Mark Celestina, Isaac Lopez, Richard A. Mulac, and Joseph P. Veres.**

Intelligent Life Extending Control Team: For development and demonstration of Intelligent Life Extending Control technology for commercial aircraft engines. Team members include **Dr. Sanjay Garg, Dr. Ten-Huei Guo, Carl F. Lorenzo, Kevin J. Melcher, and Khary I. Parker.**

DOE/NASA Stirling Technology Assessment Team: For providing a critical technology evaluation that resulted in the selection of the 55-We Stirling convertor as the near-term advanced power system for NASA's deep-space missions. Team members include **Timothy D. Best, Scott B. Cutlip, Richard M. Deppish, Dr. Dale C. Ferguson, Steven M. Geng, Eric L. Gollither, Thomas W. Goodnight, Timothy J. Heineke, Richard Hemler, Michael D. Herlacher, William O. Hughes, Patrick A. Loney, Richard T. Manella, Lee S. Mason, Mark E. McNelis, Kenneth D. Mellott, Michael H. Packard, Stephen V. Pepper, Mary A. Salvo, Sergey Samorezov, Noel B. Sargent, Jeffrey G. Schreiber, Robert Secor, Robert J. Sefcik, Richard K. Shaltens, Ronald L. Shaw, Paul A. Steve, Vincente J. Suarez, and Lanny G. Thieme.**

Turbomachinery Disk Alloy Development Team: For developing a new turbomachinery disk alloy that will advance the state of the art for commercial and military airplane turbine engines. Team members include **Robert D. Draper, David L. Ellis, Dr. Timothy P. Gabb, Anita Garg, Dr. John Gayda, Jr., Pete T. Kantzos, William J. Karpinski,**

Brian J. Shannon, and Ignacy Telesman.

In addition to NASA Honor Awards, recipients of the following awards were recognized at the ceremony.

Senior Scientific and Professional Corps: **Howard D. Ross**, senior microgravity combustion research engineer, and **James L. Smialek**, senior materials research engineer.

Senior Executive Service Appointments **Harry A. Cikanek**, chief, Space Transportation Project Office; **Olga D. González-Sanabria**, director, Systems Management Office; **Dr. Dhanireddy R. Reddy**, chief, Turbomachinery and Propulsion Systems Division; **Dr. Gary T. Seng**, director, Aeropropulsion Research Program Office; and **Jaiwon Shin**, deputy director, Aeronautics.

Distinguished Publication Award

Timothy P. McCartney, Gary S. Williamson, and A. Robert Porro: In recognition of the excellence and value of their publication entitled "Experimental Investigation of Supersonic Inlet Unstart and Local Flow Field Disturbance Due to Engine Compressor Stall."

Abe Silverstein Medal

Mark P. Wernet: For efforts in the development and application of Particle Imaging Velocimetry (PIV) systems for aerospace propulsion systems.

Steven V. Szabo Engineering Excellence Award

Stirling Engine Vibration Test Team: For efforts in advancing the technical readiness level and future use of the Stirling engine convertor. Team members include **Jeffrey G. Schreiber, Thomas W. Goodnight, William O. Hughes, and Mark E. McNelis.**

Craftmanship Awards

George J. Saad: In recognition of his innovative approach to designing and packaging the silicon-carbide high-temperature anemometer. **Daniel S. Gorman, Jr. and Stephen J. Hayes:** In recognition of the skill, knowledge, and

attention to detail that was demonstrated in preparing the Twin Otter icing research aircraft for the Piloted Icing Flight Simulator Flight Test.

40 Years of Government Service

Karen L. Arcuri, Clifford H. Arth, Paul G. Asmond, Bruce M. Auer, Michael Baldizzi, Ernest Bertone, James T. Bowser, Robert J. Bozich, James E. Cairelli, James W. Cery, James E. Dockrill, Norman R. Fallert, Dennis J. Fischbach, Joseph D. Gaby, John R. Gallagher, Robert F. Geil, Louis J. Goldman, Laurence J. Heidelberg, Ihor Kramarchuk, Edward T. Kremser, Wayne W. Larceny, Gary G. Lesny, Wayne L. Lippert, Gary V. Lorenz, Frank Savino, Albert C. Shott, Ronald J. Sobolewski, Herbert G. Stannert, Robert M. Suhay, John J. Svoboda, Dr. Roy C. Tew, and Karen J. Wester.

45 Years of Government Service

John T. Halloran, Robert C. Hendricks, David M. Herb, Bonnie J. McBride, and Erwin V. Zaretsky.

NASA One (Project Noah) Team

For contributing to the review of the NASA information technology infrastructure at the request of the special assistant to the administrator for information management, which resulted in a report that laid out a sound technology foundation for a modern, secure, low-cost NASA telecomputing environment that can be implemented in a timely manner. Team members include **Anthony A. Facca, Les G. Farkas, Michael A. Heryak, Richard S. Kurak, and Don J. Sosoka.**

Special Achievement Award for Mission Assurance

Frank Robinson, Jr.: For outstanding program support for the initial implementation and deployment of the Process Based Mission Assurance Knowledge Management System. **Dr. Lois J. Scaglione:** For outstanding leadership in managing a multi-contractor team responsible for the rollout deployment of the Process Based Mission Assurance Knowledge Management System at all NASA centers. ♦



Astronauts' personal tribute

Silver Snoopy Awards

Seventeen Glenn employees received the surprise of a lifetime the morning of June 7. Astronauts Lee Morin and Jerry Ross came to employees' offices to present a Silver Snoopy Award, the astronauts' personal tribute to individuals whose single effort or long-term outstanding performance contributed to flight safety and mission success—the main priorities for human space flight.

Employee peers and management submitted nominations for the winners who were selected for the following achievements: accomplishing goals that have significant impact on the attainment of a particular shuttle, payload, or International Space Station goal; contributing to one major or a series of lesser cost savings effort; assisting in modifications to a system or equipment that increases reliability, efficiency, or performance; and being a key player in developing a beneficial process improvement of significant magnitude.

The 2001 awards recipients (postponed due to safeguards for astronaut travel following the last year's terrorist attack) include the following:

Penni Dalton, Space Flight Project Branch, for support as Plasma Contactor Unit manager for STS-92, Floating Potential Probe project manager for STS-97, and space station Battery Subsystem manager for a November 2000 launch.

Maria Havenhill, (SAIC) Risk Management Office, for support as system safety engineering lead for the floating potential probe installed on the space station in December 2000.

Catherine Lewis, (ANLX) Instrumentation and Data Systems Branch, for support as the Combustion Module-2 and the Water Mist project engineer.

Michael Patterson, On-board Propulsion Branch, for support as Plasma Contactor Unit team lead.

Ronald Sicker, Microgravity Environment and Telescience Branch, for support as the Space Acceleration Measurement System project manager.

Dr. Gregory Zimmerli, Microgravity Fluid Physics Branch, for support as project scientist of the Critical Viscosity of Xenon experiment flown on STS-85 as well as his work on the Adiabatic Fast Equilibration experiment on STS-67.

The 2002 award recipients include the following:

Gregory Blank, Research Instrumentation and Sensor Technology Branch, for contributing to the success rate and the safe and reliable operations of numerous flight payloads as lead engineering technician.

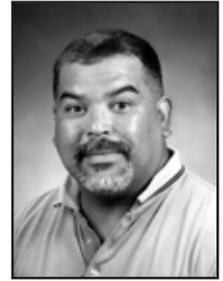
John Calderon, Space Support Branch, for support as lead electrical technician on an array of glovebox experiments flown on Spacelab, the shuttle, and the Russian space station, Mir.

Ann Delleur, Analysis and Management Branch, for working on the critical analysis of the space station electrical power system as a member of the Glenn System Power Analysis for Capability Evaluation team.

Dr. Timothy Gabb, Advanced Metallics Branch, for helping to resolve a critical cracking problem in the turbine housing of the space shuttle main engine alternate turbopump



Blank



Calderon



Dalton



Havenhill



Hudach



Lewis



Parina



Patterson



Sicker



Wagner

development (SSME ATD), which averted a possible loss of engine and/or extensive damage to the vehicle prior to its maiden flight.

Daniel Gotti, (NCOMR) Microgravity Science Division, for design of the Interface Configuration, Angular Bridge, and the ICE-3 successful glovebox experiments.

Kenneth Hrovat, (ZINT) Microgravity Environment and Telescience Branch, for leadership as a vibratory analyst and for development of a Matlab code to perform detailed analysis of acceleration data, in addition to 12 specialized techniques, which has formed the basis to address the needs of almost any analysis requests.

Thomas Hudach, Space Support Branch, for support of the Combustion Module-2 conversion to the Spacelab carrier and the incorporation of the Water Mist modifications.

Pete Kantzos, (OAI) Life Prediction Branch, for his metallographic and fractographic analysis in the resolution to a critical cracking problem in the turbine housing of the SSME ATD fuel pump.

Claudia Meyer, Controls and Dynamics Technology Branch, for developing the quantitative analytical redundancy sensor validation technique demonstrated on the SSME Technology Testbed Engine and currently incorporated into the Advanced Health Management System for shuttle upgrade.

John Parina, (AKAC) Space Support Branch, for his leadership in the repair of a fuel deployment arm on the Fiber Supported Droplet Combustion-2 glovebox experiment, in addition to oversight of 20 other Glenn glovebox experiments that have flown since 1992.

Ignacy "Jack" Telesman, Life Prediction Branch, for leadership in the assembly of a



Webb



Dr. Zimmerli

team of experts and coordination of activities to solve cracking problems in the SSME ATD fuel pump turbine housing prior to first flight.

James Wagner, Research Model Technology Branch, for designing, manufacturing, assembling, and testing of microgravity glovebox experiments conducted on the Russian space station, Mir, as well as on the shuttle.

Kathleen Webb, Space Systems and Grants Branch, for exceptional performance and customer service as a principal buyer of space hardware in support of microgravity experiments. ♦

ISO 9001-2000 recertification scheduled

Glenn's ISO 9001 audit is set for August 6 to 8. Two auditors from National Quality Assurance-USA (NQA) will conduct the audits at Lewis Field and Plum Brook.

DNV Certification, Inc., gave the Center a 3-year certification to the ISO 9000:1994 Standard in September 1999. Since then, NQA has become NASA's Agencywide ISO registrar and the ISO quality management system standard was modified. It is now known as ISO 9001-2000. The new standard includes all of the requirements of the previous version, plus additional requirements primarily for establishing work objectives and measuring processes.

"During a site visit in April, the NQA reviewed Center Level Procedures and a draft of the revised

" said Karen Meinert, ISO



NQA's auditors talk after the preassessment closing meeting. Standing, left to right, are Center Deputy Director (formerly Deputy Director of Operations) Dr. Julian Earls, NQA Auditor Glenda Howard, CPARS Manager Kelly Hall (7220), and NQA Lead Auditor Bill Hartman. Seated, left to right, are Systems Management Office Director Olga González-Sanabria and ISO Project Lead Karen Meinert (0160).

project manager. "When they returned the following month, their preassessment confirmed that the Center was on track for certification in August."

When auditing to the ISO 9001-2000 standard, NQA will continue to ensure compliance with the requirements of the 1994 version of the standard, such as document control, records control, calibration, training, and corrective and preventive action. In addition, they will ask questions about the Strategic Implementation Plan, internal customer agreements, project plans, the Key Process Model, process metrics, management review meetings, and customer satisfaction.

For more information regarding the audit, including online training to the new standard and Glenn's implementation of it, visit the BMS Web site at <http://www.grc.nasa.gov/WWW/iso9000>. ♦

People

SES appointments



Cikanek



González-Sanabria

Harry Cikanek III has been appointed chief, Space Transportation Project Office. Cikanek has superior knowledge and understanding of the programmatic, technical, and business challenges that must be addressed to achieve the goals of the Space Transportation Program. Cikanek is an effective communicator and builder of coalitions with other organizations, centers, and agencies, including the Department of Defense. He has a proven record of delivering high-quality products that meet technical, schedule, and cost requirements.

Olga González-Sanabria has been appointed director, Systems Management Office. González-Sanabria has more than 20 years of experience in research and development/project management, and implementation of institutional programs and processes. Her demonstrated leadership ability to promote a learning environment within her organization has maximized opportunities for employees to contribute to the organization's mission and Glenn's Key Values of a model workplace through commitment to Diversity, Quality, Integrity, and Openness.

HR chief selected

Robyn Gordon has been named chief of the Office of Human Resources. Gordon will lead the staff in implementing employment and personnel service. Gordon most recently served as assistant human resources director for the Cuyahoga County Public



Gordon

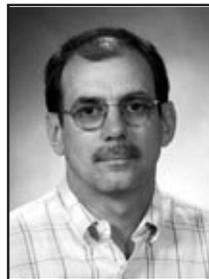
Library. She has held the positions of human re-sources administrator and labor relations officer with the City of Cleveland. *Editor's Note: AeroSpace Frontiers will talk with Gordon about her new position in a future issue.*

Achievements

Dr. Anthony Strazisar, Research and Technology Directorate, has been elected fellow of The American Society of Mechanical Engineers (ASME). The honor symbolizes exceptional engineering achievements and contributions to the engineering profession. Strazisar is internationally known for his research in gas turbine engine fluid dynamics, particularly his groundbreaking laser anemometer studies of transonic fan aerodynamics.



Dr. Strazisar



Schutte

is chartered in the public interest to monitor and periodically review NASA aviation activities for any deficiencies in, or deviations from, NASAwide policies, procedures, and guidelines, and the use of resources to ensure safe and efficient accomplishment of assigned missions and goals.

Glenn's Business and Professional Women's (BPW) organization recently announced the winners of its 2002 BPW scholarships. **Suzanne Aldrich**, Structural Systems Dynamics Branch, is a part-time honor student currently on the Dean's list at Lorain County Community College. She is pursuing an associate degree in Mechanical Design. **Elaine Pappas**, Space Communications Office, is a part-time honor student pursuing a



Aldrich



Pappas

bachelors degree in Communications at Baldwin-Wallace College. Both winners received \$300 for use toward tuition, books, or related expenses.

In Appreciation

Thank you to everyone that was thoughtful enough to express sympathy at the recent passing of my father. The cards, flowers, and donations that were sent were greatly appreciated.

—Gloria Richards

The NASA Glenn BPW (Business and Professional Women) would like to thank Center employees for their support in the purchase of plants and pins from BPW. Without everyone's support through these fund raising events, our yearly scholarship awards would not be possible.

—BPW

I wish to express my heartfelt thanks to the many friends and coworkers of the late Tom Boone. Your support and generosity have been a great source of comfort to his son, Joshua, and his family. Tom enjoyed his many years at NASA and will be missed.

—Gloria McIlwain

DEADLINES: News items and brief announcements for publication in the September issue must be received by noon, Thursday, August 15. The deadline for the October issue is noon, Friday, September 13. Submit contributions to the editor via E-mail at doreen.zudell@grc.nasa.gov, fax 216-433-8143, phone 216-433-5317 or 216-433-2888, or send to Ideas for news stories are welcome but will be published as space allows.

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People

Seven employees were recently selected to serve as full-time building managers primarily responsible for assuring that any concerns, changes, impacts, or plans are effectively communicated to all occupants.
Denise Bluell,

Wayne Condo,

Patricia Fordosi,

Bonnie Hassel,

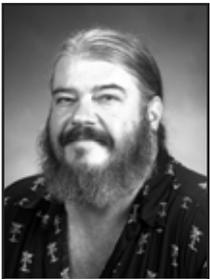
Luann Keys,

Robert Vanek,

Joseph Wilson,



Bluell



Condo



Fordosi



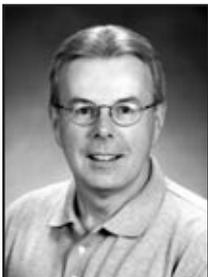
Hassel



Keys



Vanek



Wilson

AeroSpace Frontiers wins award of excellence



Glenn's *AeroSpace Frontiers* newsletter has earned an Award of Excellence in the 2002 Award For Publication Excellence (APEX) competition. The

editors of Writing That Works, The Business Communications Report sponsor the contest, which this year drew 5900 entries.

APEX awards are based on excellence in graphic design, editorial content, and the ability to achieve overall communications excellence in the areas of print and electronic media. *AeroSpace Frontiers* was one of 894 newsletter entries. Editor **Doreen Zudell** (IDI) and Assistant Editor **S. Jenise Veris** (IDI) Community and Media Relations Office, were recognized in the category of "One to Two Person-Produced Newsletters."



Veris



Zudell

In Memory

Raymond Eland, 85, who began his NACA/NASA career in 1954, and retired in 1974 with 20 years of service, recently died. Eland worked as an aerospace services operator.

Albert Powers, 70, who retired in 1989 with 34 years of service, recently died. He worked as an aerospace engineer.

Behind the Badge

a closer look at our colleagues

Ajay Misra



Job Assignment: Chief of the Ceramics Branch, Materials Division.

Time at Glenn: I have 20 years of service (including 12 years as a support service contractor).

Hometown: I was born and raised in India and came to the United States in 1979 to obtain my Ph.D.

Describe your family: My wife, Jayashree, and I have two sons: Anup, 19, a sophomore at

University Park, majoring in computer science and mathematics, and Amit, 15, a sophomore at

Career Alternative: Economist

Favorite food: Pizza

Favorite music: Indian music.

Favorite book or magazine: My favorite recent book is *Jack: Straight from the Gut*. My favorite magazine is *Time*.

What do you see as an area of expertise at Glenn: I'm very proud of the work the Center has done in the area of high-temperature materials. People don't always realize the impact materials research has on aerospace applications. The team at Glenn has made this Center a premier location for materials research.

New launch vehicle verified in Plum Brook's SPF

BY DOREEN B. ZUDELL

Risk reduction testing in Plum Brook Station's Space Power Facility (SPF) verified years of research and development on Lockheed Martin's new Atlas V launch vehicle. Developed under contract to Lockheed Martin by the Zurich-based Contraves Space AG, the 23.4-meter-long payload fairing was successfully jettisoned in the SPF—the world's largest vacuum chamber—on July 1.

"Failure of a launch vehicle to place its payload in the proper orbit could result in financial losses for the aerospace industry upwards of \$300 to \$500 million," explained Robert Kozar, chief, Plum Brook Management Office. "That's why when new launch vehicle components are developed, extensive risk reduction is performed in ground facilities such as the SPF to reduce the chances of costly in-flight failures."

Lockheed Martin's Atlas V is one of two launch vehicles chosen by the U.S. Air Force with the goal of streamlining the Nation's expendable launch vehicle fleet.

Risk reduction on Boeing's Delta IV payload fairing was successfully conducted in the SPF in January.

Kozar said that both launch vehicles are preparing for late 2002 launch dates. "Lockheed Martin's Atlas V will utilize a Centaur upper stage rocket, which was originally developed in Plum Brook's B2 facility in the 1960's and 1970's," he said. "Boeing's Delta IV will utilize an upper-stage launch vehicle similar to the one tested in the B2 Facility in February 1998."

Kozar said that Plum Brook will continue to use its unique, world-class test facilities to support essential risk reduction efforts for NASA, other Government agencies,

and the private sector, utilizing a market economy, full-cost recovery mode of operation. ♦



Photo by Chris Lynch

Daniel Luethi, Contraves Space, and Todd Schroeder, PBOS, inspect the restraint mechanism, which will absorb the energy from the payload as it jettisoned in the SPF.

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