



AEROSPACE *Frontiers*

President Bush offers new vision for NASA

Headquarters news release

President Bush has unveiled a new vision for space exploration, calling on NASA to "gain a new foothold on the Moon and to prepare for new journeys to the worlds beyond our own."

In a speech at NASA Headquarters in Washington, DC, the President said that the "new course for America's space program would give NASA a new focus and clear objectives for the future."

"We do not know where this journey will end," said Bush, "yet we know this: Human beings are headed into the cosmos."

The President's plan for steady human and robotic exploration is based on a series of goals.

First, he said, America will "finish what it started," completing the International Space Station by 2010. Research on the

station will be focused on studying the long-term effects of space travel on humans and preparing for the longer journeys of the future. After the station is complete, the space shuttle would be retired, after nearly 30 years of duty.

Second, the United States will begin developing a new manned exploration vehicle, called the Crew Exploration Vehicle (CEV). The first craft to explore beyond Earth orbit since the Apollo days, CEV would be developed and tested by 2008 and conduct its first manned mission no later than 2014. Though its main purpose would be to leave Earth orbit, the vehicle would also ferry astronauts to and from the International Space Station after the shuttle was retired.

Continued on page 9

Columbia crew memorialized on Mars

Headquarters news release

The signal of *Spirit's* safe arrival on Mars January 3 revived not only the scientists and engineers working round the clock but also an awaiting public eager to share the thrill of exploration. *Spirit* is the first of two Mars Explorer Rovers (MER) sent to explore its barren landscape to determine the Red Planet's suitability to sustain life.

Among the extraordinary images of its new surroundings transmitted by the rover was the image of a memorial plaque to *Columbia's* astronauts and the STS-107 mission. Mounted on the back of *Spirit's* high-gain antenna, the plaque is aluminum and approximately 6 inches in diameter. It was designed by Chris Voorhees and Peter Illsley, MER engineers at NASA's Jet Propulsion Laboratory, and

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This plaque, mounted on the back of Spirit's high-gain antenna, honors Columbia's astronauts. The high-gain antenna is a tool used for communicating directly with Earth.



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HQ management alignment

Headquarters news release

In a move designed to align the Agency with the new exploration agenda outlined by President George W. Bush, NASA Deputy Administrator Frederick D. Gregory announced a comprehensive restructuring of the offices within Headquarters in Washington.

The alignment impacts NASA management, the strategic Enterprises, and the Agency's functional offices. The new alignment goes into effect immediately and reflects the new vision and the results of a comprehensive review of Headquarters operations, which first began when Gregory became Deputy Administrator in 2002.

"The changes are consistent with NASA's ongoing responses to the management and cultural issues addressed by the Columbia Accident Investigation Board," said Gregory. "We live in a different world than we did just a few years ago, and our management structure should reflect the priorities and objectives of our commitments."

Retired U.S. Navy Rear Admiral Craig E. Steidle is the new Associate Administrator, Office of Exploration Systems, established to set priorities and direct the identification, development, and validation of exploration systems and related technologies. Users and technologists will work together to enable a balancing of factors between requirements, program schedules, and costs.

Dr. J. Victor Lebacqz is the new Associate Administrator, Office of Aeronautics, which was previously known as the Office of Aerospace Technology, where he served as acting associate administrator. This Office was created to reflect NASA's commitment to aviation research and aeronautics technologies for the Nation's civil and defense interests.

The Office of the NASA Administrator will be streamlined to allow for more independent leadership in areas vital to the execution of NASA's vision and mis-

"Ask the Director" to premier on-line

A primary objective of Center Director Dr. Julian Earls is effective communication. This encompasses not only communication regarding programs and projects, but also the vast array of institutional and administrative information critical to employees. As a tool to aid Center communication, the Director is implementing an "Ask the Director" feature, now available on the Web IntraNet@Glenn (WING).

Employees can access the "Ask the Director" page by clicking the text link under "Corporate Focus." An online form is available to submit questions. The individual questioner will receive a response via e-mail and the question and answer will be posted on the "Ask the Director" site. Employees should monitor the Web page to access valuable information and to avoid submitting duplicate questions. Employees may also choose to send anonymous questions in unmarked envelopes to the Internal Communication Officer Jim Giomini at MS 3-5. All questions should be concise.

The goal is to respond to questions within 7 working days. However, a high volume or especially complex questions may require additional time. In this case, an acknowledgment will be posted that a response is pending. Employees are encouraged to take advantage of this opportunity to improve Center communication.

In support of Director Earls' communication effort, the *AeroSpace Frontiers* will publish some of the questions that have a Labwide focus in the newsletter each month. ♦

sion. Among the changes, four new independent offices will be created.

The new offices include the Office of Chief Engineer to ensure Agency development efforts and mission operations are planned and conducted using sound engineering; the Office of Health and Medical Systems to ensure the well-being of the NASA workforce and to provide independent oversight authority for healthcare, related research and information; the Office of the Chief

Information Officer to manage Information Technology (IT) investments, lead the development of an IT strategic plan, and create a roadmap to guide the Agency's IT programs and policies; and the Office of Institutional and Corporate Management to lead the oversight of NASA's management systems, institutional, and corporate activities.

For more information about NASA and management programs, visit <http://www.nasa.gov>. ♦

Hardees and Carl Jr.'s share "cool" facts

Hardee's and Carl Jr.'s Cool Kids Combos meals now include fun NASA facts and collectible space-theme toys that share NASA's devotion to exploration and discovery. The promotion runs through February 24 at participating restaurants. The toys are designed for children between the ages of 6 to 10. Four different collector cards, each covered with eye-catching graphics, will share facts about planets, NASA's missions, spacecraft, and discoveries. Action toys include a Mars rover vehicle; *Cassini* Meets Saturn, a pullback *Cassini* spacecraft that orbits a model of Saturn; and a Cool Comet Mission flywheel spinner. Kids will also enjoy Space Flight, a double-sided puzzle. ♦

Safety is a 'One NASA' endeavor

This is the fifth in a series of articles that feature an employee from each NASA center who has a "One NASA" story to share.

By MARNEY SKORA
Langley Research Center

The investigation of the *Columbia* tragedy revealed the need for NASA to improve its ability to verify engineering and safety standards; share technical information, practices, and talent; and independently assess the ability to achieve mission success.

To this end, last summer Administrator Sean O'Keefe announced the establishment of the NASA Engineering and Safety Center (NESC). As chartered, the NESC will provide independent technical expertise to evaluate problems and supplement safety and engineering activities for Agency programs and projects.

That is a big order. It is also a stimulating One NASA opportunity.

"The NESC will draw on the engineering talents of the best minds across the Agency's 10 field centers," said Langley Director Roy D. Bridges, Jr.

Administrator O'Keefe has tasked Bridges with the development and startup of the NESC.

"Roy's experience as an aviator and shuttle pilot and his intimate knowledge of the intricate shuttle system and other advanced aerospace systems make him the right person to lead this critical initiative," said O'Keefe.



Photo courtesy of NASA Langley

Langley Director Roy D. Bridges, Jr., has been charged with the development and startup of the NASA Engineering and Safety Center.

Cheston chosen as NESC chief engineer

Derrick Cheston, Thermal and Fluid Systems Design and Analysis Branch, has been chosen as a NASA Engineering and Safety Center (NESC) chief engineer.



Cheston

"The role of a NESC chief engineer will evolve as the new organization gets established," Cheston explained. "However, my primary responsibility is to identify the technical issues within the projects at the Center that the NESC can help resolve by providing independent technical assessments through testing and analysis. The NESC chief engineer is your avenue to identify any issue you feel needs a second technical review."

While the NESC is finalizing the processes by which it will identify and prioritize future technical assessments, core discipline teams—called super problem resolution teams (SPRTs)—are being formed across the Agency to be a ready source of expertise when the need arises. These teams will comprise experts from across the country and be led by NESC discipline specialists. Cheston will continue to foster the involvement of Glenn expertise and facilities in these NESC SPRTs.

"We will focus on high-risk critical issues across the Agency and across various programs. The chief engineer will work to identify issues through proactive interaction with programs, projects, and performing organizations here at Glenn. I will work closely with the Safety and Mission Assurance Directorate as well as the Systems Management Office," Cheston said.

The NESC will take policy direction from Bryan O'Connor, Associate Administrator for the Office of Safety and Mission Assurance.

"In addition to NASA expertise, the NESC will also tap the Nation's top experts in industry, Department of Defense, national laboratories, and universities," said O'Connor. "We have a responsibility to make our programs as safe and reliable as we know how. The NESC enables us to more completely fulfill our commitments for assessing risk and making better risk acceptance decisions."

The NESC will provide centralized management of independent engineering assessment. NESC experts will use state-of-the-art tools and methods and will have the benefit of adequate funding to perform truly independent assessments and trend analysis. Because NASA will fund the NESC at the corporate level, an unprecedented level of independence will exist.

The NESC does not relieve program managers from their responsibility for

Continued on page 8

Expanding fuel cell development

Members of the Electrochemistry Branch recently held a ribbon-cutting ceremony to announce the completed construction of the Fuel Cell Test Facility, building 334. Located next to the building 333 annex, the facility will support the testing of high-power fuel cell systems for current and future projects in aeronautics and space. It houses three test cells (1400 sq. ft. total area) and is designed to test complete fuel cell, electrolyzer, and regenerative fuel cell systems up to 25 kW. Over the following months, the test cells will be set up to accommodate hydrogen, oxygen, and nitrogen tube trailers that will permit unattended, continuous operation.



C-2004-182

Photos by Christine Bodi



C-2004-183

Pictured at left is Deputy Director of Research and Development Dr. Jih Fen Lee and Electrochemistry Branch Chief Dr. Marla Perez-Davis awaiting the ribbon-cutting for the test cells. Pictured above, left to right, is Lisa Kohout (5420), Herman Ezell (7530/OWM), Thomas Hinshaw (7310), and David Herb (7350) looking at fuel cell-related hardware.



C-2004-125

Photo by Marvin Smith

New employees welcomed

Glenn's Office of Human Resources and Workforce Planning (OHR) hosted a New Employee Welcome Breakfast in the Main Cafeteria on December 9. Employees who have been hired, transferred, or converted since August 2002 enjoyed breakfast and conversation with some of Glenn's senior executives. OHR Deputy Chief Rick Bailer provided welcoming remarks. Center Director Dr. Julian Earls and Associate Director Robert Fails shared their excitement about and support for the new hires, encouraging them to take full advantage of the training and mentoring opportunities available at the Center. Pictured is Acting Director of Space Rudolph Saldana, standing and talking with new employees, left to right, Sue Kiley (8410), Jennifer Forde (0400), Karen Nussbaum (0410), and Trey Carlson (0400) at the breakfast.

FIRST Frenzy

The Cleveland SEMAA Team consisting of nine middle school students recently competed in the FIRST (For the Inspiration and Recognition of Science and Technology) Lego™ Regional Robotic Competition held at the Wright-Patterson Air Force Base in Dayton. A second-place finish, in a field of 33 teams participating in local competition, enabled the team to advance to the state-level competition. The team successfully competed with their rover, McCORE, which stands for **M**ars, **C**rater, **C**anyon and **O**rbital **R**obot **E**xplorer.

"FIRST Frenzy" is both the state of mind and name of the game dominating high school students and mentors gearing up for the 2004 National FIRST Robotics competition. Sixty-three of these high-energy teams will test their robot and strategy by first competing in Cleveland's Buckeye Regional to be held from March 25 to 27. Among the 31 NASA-sponsored competitors will be 15 local teams. For more information on the event and participating schools, see www.firstbuckeye.org.



Photo courtesy of Cuyahoga Community College

Pictured, left to right, are SEMAA Team members Jeremy Whitson, Brian Munguia, James Horton, and Jake Young practicing assembly of their rover for one of the missions.

News and Events

Glenn role in President's vision

In a follow up to President George W. Bush's January 14 announcement of a new vision for space exploration, on January 21 Center Director Dr. Julian Earls addressed questions from the local media on this exciting challenge. Accompanied by Deputy Director Rich Christiansen and Associate Director Robert Fails, Earls expressed confidence that with Glenn's capabilities and track record on performance the Center would play a significant role in supporting new initiatives. The panel also affirmed that while the President has called for expanded space exploration, aeronautical research would continue to be a priority for the Agency that Glenn will support. Pictured are members of the local media, left, John Mangels, The Plain Dealer; and Mark Meszoros, The News-Herald; along with Glenn's News Chief Lori Rachul, Center Director Dr. Julian Earls, and Deputy Director Rich Christiansen.



Photos by Quentin Schwinn

News Notes

ONSITE ASTRONAUT MEMORIAL:

Glenn's onsite Visitor Center (VC) has established an astronaut memorial in the main lobby. In remembrance of the February 1, 2003, STS-107 Space Shuttle *Columbia* tragedy, a book will be available for visitors to share condolences and support during the month of February, which will be forwarded to the Astronaut Office in Houston. The VC will host two sessions, 11 a.m. and 1 p.m., of a weekend program entitled "Space Heroes" on February 21. For details, contact the VC, 216-433-2000.

LESA MEETING: LESA/IFPTE, Local 28, will hold its next monthly membership meeting on Wednesday, February 11, at noon in the Employee Center, room 101.

AFGE MEETING: AFGE Local 2182 will

hold its next monthly membership meeting on Wednesday, March 3, 2004, at 5 p.m. at Denny's Restaurant, 25912 Lorain Road, North Olmsted. All members are encouraged to attend.

AFRICAN-AMERICAN HERITAGE MONTH OBSERVANCE:

Dr. Bernice Powell Jackson, executive minister of the Justice and Witness Ministries for the United Church of Christ, will be the featured speaker for the 2004 African-American Heritage Month program to be held February 10, from 9 to 11 a.m. in the Administration Building Auditorium. An activist on behalf of civil



Dr. Jackson

rights, women's rights, and human rights issues around the world for more than a quarter of a century, Jackson will speak to the theme of "Brown v. Board of Education (50th Anniversary)." This event is sponsored by Glenn's Black Women's Advisory Group.

CONNECTING WITH ENGINEERS:

Glenn is teaming with the Cleveland Area National Engineers Week (N.E.W.) Committee and local engineering firms to present an Engineering Exposition at the Great Lakes Science Center (GLSC) on February 21. The Expo kicks off N.E.W. from February 22 to 28, a week of activities designed to celebrate the contributions and the importance of maintaining a tradition of excellence in the field of engineering. Aided by resources presented at Glenn's Educational Programs Office N.E.W. Speaker Workshop, 78 Glenn engineers along with other local engineers will speak to over 7300 students in 88 classrooms across Northeast Ohio. Highlighting the week is the annual N.E.W. Award Reception held February 27 at the GLSC recognizing engineering professionals and students who have excelled in their fields. For more information, contact Glenn's Linda Little, 216-433-9071 or visit the N.E.W. Web page at <http://www.eweek.org>.

CORRECTION: Dr. Mary Zeller, who was recognized in the January issue, page 10, was incorrectly identified as chief of the Instrumentation and Controls Division. Zeller is chief scientist of the Division.

Exchange Corner

- The Exchange Store will hold a Valentine's Day sale from Monday, February 9 through Friday, February 13. Save 20 percent off most items at the Exchange Store.
- On Thursday and Friday, February 12 and 13, the Exchange will hold an Olympia Candy Sale in the Main Cafeteria alcove from 10 a.m. to 2 p.m. Save 10 percent off their retail store price.
- A lunch special will be served in the Main and DEB cafeterias from 11 a.m. to 2 p.m. on February 19 in honor of Black History Month.

AeroSpace Frontiers

2003 Year in Review

Graphic by Jim Lucic

On August 26, 2003, Administrator Sean O'Keefe received the report of the Columbia Accident Investigation Board (CAIB). The report is the result of an independent review of the Space Shuttle Columbia accident. Recommendations will guide NASA in future space flight endeavors.



Campbell



Christiansen



Dr. Earls



Dr. Whitlow

Glenn managers stepped up to new positions in 2003: Donald Campbell, Special Projects Office for Nuclear Power Systems; Dr. Julian Earls, Glenn Center Director; Rich Christiansen, Glenn Deputy Director; and Dr. Woodrow Whitlow, Deputy Director Kennedy Space Center.



The seven-member STS-107 crew of the Space Shuttle Columbia, who visited the Center twice to train on Glenn-developed hardware, lost their lives February 1, 2003, on their way home from their 16-day mission. Glenn sponsored events on and offsite to remember the fallen heroes.

Glenn took the lead for the Inventing Flight Celebration, held from July 3 to July 20 in Dayton, OH. The event was a centerpiece to a series of year-long activities commemorating 100 years of powered flight. Through the support of employees throughout the Agency, thousands of people were exposed to NASA's efforts to continue the Wright Brothers' legacy through technological advances.

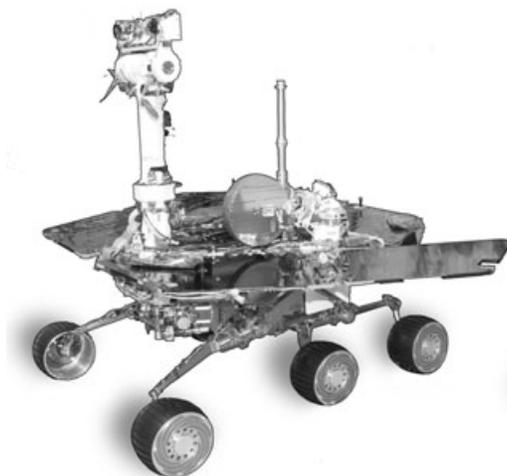


Seven laboratories in building 309 were refurbished to support research and development of electromechanical systems—specifically fuel cells and batteries that provide power and energy storage for NASA's aeronautics and space missions.





Some of Glenn's early pioneers gathered in Cleveland from October 10 to 12 for the National Advisory Committee for Aeronautics (NACA) 10th reunion. The event included a visit to Glenn, where participants toured several facilities.

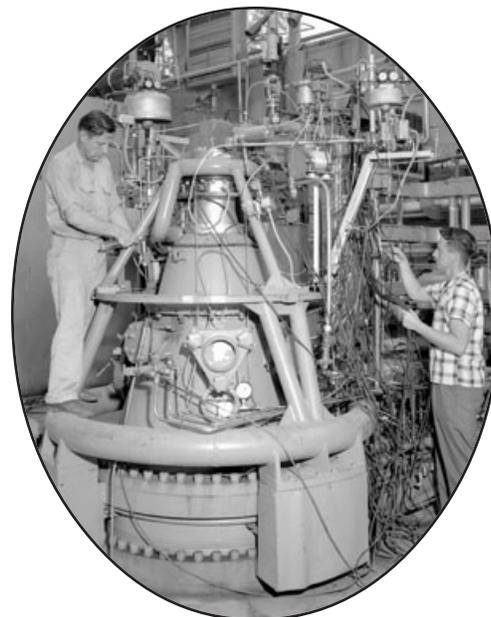


NASA announced the launch window for the Mars Exploration Rover (MER) in May, naming Glenn's Dr. Geoffrey Landis one of the mission scientists. The twin rovers Spirit and Opportunity landed on schedule in January 2004!



Filed in Cleveland, "Measurement, Ratios, and Graphing: Who Added the 'Micro' to Gravity," a program in the NASA CONNECT series, was awarded a 2003 Emmy by The Cleveland Chapter of the National Academy of Television Arts and Sciences. The episode featured Glenn's Dr. Sandra Olson, highlighting microgravity research.

With Glenn's successful completion of system integration of an ion propulsion system in August 2003, the Nation is one step closer to being able to send science missions into far reaches of the solar system with much greater ease.



Proclaimed a National Historic Landmark in 1984, the Rocket Engine Test Facility is recognized for its role in advancing lightweight, regenerative-cooled hydrogen-fueled engines and for advancing propulsion technology in NASA missions and programs. The closed facility was demolished in August 2003 to make way for the Cleveland Hopkins Airport expansion.

Dr. Strazisar named Glenn's chief scientist

BY DOREEN B. ZUDELL

Although Dr. Anthony Strazisar is passionate about his research, when he was asked to serve as Glenn's chief scientist it was a compelling opportunity to be a bridge between researchers and senior staff.

"Strong communication between our senior management and scientists is crucial in recognizing and building on this Center's technical competencies. The chief scientist can play a key role in helping senior staff respond both knowledgeably and quickly to research needs," explained Strazisar, who took on the role of chief scientist in November.

In addition to serving as one of the Center Director's primary advisors on scientific and basic research issues, Strazisar will counsel senior management and officials at other levels. And not only will he play a central role here, but he will act as a principal interface between the Director and the international research community.

Strazisar began his career at Glenn as a research engineer in 1976, and has become internationally known in the field of compressor fluid mechanics and experimental measurement methods. Although Strazisar has held supervisory positions early in his career, he continued to pursue his research on a daily basis. His experience as a researcher has enabled him to establish close relationships with engineers and technicians throughout the Center and maintain a realistic view of the demands of the work that goes on in the field.

Under Center Director Dr. Julian Earls' leadership, the chief scientist position will be assigned on a rotational basis. Strazisar will serve as chief scientist for a period of 3 to 5 years, at which time he will return to his research and a new chief scientist will be appointed. He replaces Dr. Marvin Goldstein, who served as chief scientist for 25 years. Goldstein is returning to his research in the area of aeroacoustics.

"One of the most valuable actions we can take at this Center is to frequently take a fresh look at how well we accomplish our mission. This is one of the essential roles that a center chief scientist can play for a research and technology organization," explained Deputy Director Rich Christiansen. "Julian and I have decided that the chief scientist position should become a rotational assignment to gain that fresh perspective. The additional benefit is that we do not keep our premier research scientists too long from conducting noteworthy research."

"Tony comes to this position as one of the country's leading researchers. That, together with his passion for how research is best accomplished made him the best choice for this assignment. We expect Tony to make significant contributions to the Center's strategic planning and improvements in our research and technology work," he added.

Although Strazisar is knowledgeable about work in his own discipline, he is keenly aware that he must learn a great deal more about the myriad technical activities taking place throughout the Center.

"My goal is to get out and talk to division and branch chiefs and program managers to see what is happening on a Labwide basis so that I can maintain a fair and impartial voice," Strazisar said. ♦



Dr. Strazisar

NESC will stress technical expertise

Continued from page 3

safety. Instead, NESC initiatives will complement the engineering and safety efforts of programs and centers. The NESC's credibility and its independent chain of command will assure consideration of all points of view on complex technical issues.

The NESC will be based at the Langley Research Center, Hampton, VA, and will have a management office consisting of approximately 30 to 40 full-time employees.

Another 30 to 50 senior engineering and safety experts will be located at the centers but assigned full-time to the NESC. This workforce will be supplemented through partnerships with external organizations.

Finally, "ready-experts" at each field Center will be a vital part of the team. From across the Agency, 150 to 200 experts in a variety of technical specialties will be called upon for peer review and critique of flight rationale, mission requirements, testing, trending, lessons learned, and the like.

Bridges has chosen Ralph Roe as his special assistant to develop the NESC's implementation plan.

"It's a tremendous responsibility but a stimulating opportunity," said Roe. "While the NESC is one of several initiatives in returning the shuttle to safe flight, its broader objectives include strengthening and expanding the Agency's safety and mission assurance and engineering disciplines for major NASA programs. The NESC is a One NASA effort that will involve all NASA facilities and the top technical experts in NASA and our partner institutions." ♦

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online at
[http://AeroSpaceFrontiers.
grc.nasa.gov](http://AeroSpaceFrontiers.grc.nasa.gov)

Dr. Earls commemorates astronauts through painting

BY DOREEN B. ZUDELL

Center Director Dr. Julian Earls recently teamed up with local artist Ann Vandervelde and produced a painting entitled *Columbia: Hope, Joy & Inspiration*, commemorating the lives of the astronauts of the Space Shuttle *Columbia*. The collaboration was part of the American Diabetes Association's (ADA) third annual Celebrity Art Auction Gala, a fundraiser that links local celebrities with local artists.



Photo by Linda's Lenses

Center Director Dr. Julian Earls teamed up with local artist Ann Vandervelde and produced a painting entitled *Columbia: Hope, Joy & Inspiration*, commemorating the lives of the astronauts of the Space Shuttle *Columbia*.

During Glenn's Silver Snoopy Awards Luncheon last November, representatives from the ADA recognized Director Earls for his involvement and the auction of his painting at the fundraiser. During the luncheon, the couple who purchased the artwork, Jenny and Trevor Jones of Bratenahl, donated it to NASA. The painting currently resides in Glenn's Administration Building lobby. The painting may eventually be part of a national memorial located near the Space Shuttle *Challenger* memorial within Virginia's Arlington Cemetery.

This fundraiser had another NASA connection as well. Local photographer, Linda M. Ford, wife of Bill Ford, Informa-

tion Systems Division, donated her services to photograph all 10 celebrity-artist teams. Some other business and community celebrities who teamed up with artists for ADA this year included County Commissioner Jimmy Demora, *Cleveland Magazine* publisher Frank Bird, and Ellen Stern Mavec, chief executive officer of Potter and Mellen, Inc. The teams crafted everything from sculptures to paintings. Buyers bid on the artwork in a live auction, raising a total of \$115,000 for the ADA. ♦

Spirit holds tribute to Columbia

Continued from page 1

attached March 28, 2003, at the Payload Hazardous Servicing Facility at NASA's Kennedy Space Center. In addition, NASA Administrator Sean O'Keefe announced the area in the vast flatland of the Gusev Crater where *Spirit* landed will be called the Columbia Memorial Station.

"During this time of great joy for NASA, the MER team and the entire NASA family paused to remember our lost colleagues from the *Columbia* mission. To venture into space, into the unknown, is a calling heard by the bravest, most dedicated individuals," said O'Keefe. "As team members gazed at Mars through *Spirit's* eyes, the *Columbia* memorial appeared in images returned to Earth, a fitting tribute to their own spirit and dedication. *Spirit* carries the dream of exploration the brave astronauts of *Columbia* held in their hearts."

Spirit's twin, *Opportunity*, which reached Mars on January 25, began a similar examination of a site on the opposite side of the planet. ♦

President Bush on NASA

Continued from page 1

"Our third goal," Bush said, "is to return to the Moon by 2020, as the launching point for missions beyond." He proposed sending robotic probes to the lunar surface by 2008, with a human mission as early as 2015, "with the goal of living and working there for increasingly extended periods of time."

Bush said lunar exploration could lead to new technologies or the harvesting of raw materials that might be turned into rocket fuel or breathable air.

"With the experience and knowledge gained on the Moon," he said, "we will then be ready to take the next steps of space exploration: human missions to

Mars and to worlds beyond."



President George W. Bush

The proposed funding for the new exploration initiative will total \$12 billion over the next 5 years,

with much of it coming from reallocation of \$11 billion within NASA's current 5-year budget. The President called on Congress to increase the Agency's budget by roughly \$1 billion spread over the next 5 years.

The President also announced the formation of a commission, headed by former Secretary of the Air Force Pete Aldrich, to advise him on the implementation of the new vision.

Bush closed by acknowledging the sacrifices of fallen astronauts and looking to the future.

"We choose to explore space because doing so improves our lives and lifts our national spirit," Bush said. "So let us continue the journey." ♦

People



Dr. Gabb



Kantzos



Dr. Miranda



Dr. Okojie

Patents

The Office of Aerospace Technology proudly announces patents recently awarded to the following Glenn researchers for innovative and low-cost technology.

U.S. Patent No. 6,647,809 titled "Silicon Carbide High Temperature Anemometer and Method for Assembling the Same" was awarded to the team of **Dr. Robert Okojie, George Saad, and Gus Fralick**. This sensor technology has already been adopted by the Air Force for their high-temperature, high-load, and high-impact ammunition testing.

U.S. Patent No. 6,660,110 titled "The Dual Microstructure Heat Treatment Process" was awarded to the team of **Dr. John Gayda, Dr. Timothy Gabb, and Pete Kantzos**. It is a new method that enables production of super-alloy turbine disks with a dual grain at a significantly lower cost.



Saad



Dr. Simons

U.S. Patent No. 6, 667,725 titled "Radio Frequency Telemetry System for Sensors and Actuators" was granted to **Dr. Rainee Simons** and **Dr. Felix Miranda**. This invention integrates radio frequency (RF) technology with novel micro-inductor/antennas and signal processing circuits for wireless transmitted data from microelectromechanical(MEMS)-based implantable sensors. This technology is applicable to aerospace, but is particularly useful in the biomedical area.

Promotions



Peddie



Schabes

Catherine Peddie was selected deputy director of the Systems Management Office. Since joining Glenn in 1991, she served as assistant manager of the Ultra-Efficient Engine Technology Program Office, led the formulation and establishment of the Turbine-Based Combined Cycle program and the High Speed Re-

Continued on page 11

In Memory

William "Bill" Nieberding, 68, who served 36 years at the Center, recently died. Nieberding worked as deputy chief of the Instrumentation and Controls Division prior to his retirement in 1995. He was nationally recognized as an authority in the development of advanced instrumentation used in aeronautics and space research for which he received a NASA Exceptional Service Medal. For his outstanding contributions to Glenn's power experiments on the first Mars rover, *Sojourner* (1997), his name was among a select few on a plaque electronically stored on the rover that remains a permanent resident on the surface of Mars. He is survived by his wife, two children, and two brothers including John J. "Joe", who once headed the Advanced Space Analysis Office and retired in 1999.



Nieberding

Robert "Bob" Nagy, 72, who served 27 years at the Center, recently died. Nagy was an electronic system mechanic leader in the Test Installation Division prior to his retirement in 1981. Nagy was an accomplished accordionist who, over two generations of employees, performed at many of the NACA/NASA mixer dances and picnics. He was a member of the Twilight group.



Nagy

Robert K. Manning, 86, who had 28 years of Federal service, recently died. Manning served as a supervisory inventory management specialist in the Instrumentation Division. He was also known for his skilled watch repair through what is now known as the Exchange Store.

AeroSpace Frontiers is an official publication of Glenn Research Center, National Aeronautics and Space Administration. It is published the first 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. Its circulation is approximately 6700.

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DEADLINES: News items and brief announcements for publication in the March issue must be received by noon, February 13. The deadline for the April issue is noon, March 12. Submit contributions to the editor via e-mail, doreen.zudell@grc.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. View us online at <http://AeroSpaceFrontiers.grc.nasa.gov>.



People

Continued from page 10

search Phase II-A Engine Technology Demonstration Program. She has also served as project manager in the microgravity and space station programs. Prior to her NASA career, she served as a U.S. Air Force flight commander.

Harvey Schabes was named systems management lead, Systems Management Office. He previously served the Office as space program lead for the alignment and

integration of the Space Program initiatives with Center programs and goals. Since joining Glenn in 1983, Schabes served the Space Station Office in a variety of lead positions and gained valuable experience

through the USDA Executive Potential Program as well as three NASA Headquarters details. Schabes is a member of the Glenn Speakers Bureau and the Review Board of *Academy Sharing Knowledge Magazine*.

In Appreciation

I want to thank all my NASA Glenn friends for their prayers, phone calls, e-mails, cards, and donations to the Alzheimers Association in honor of the passing of my mother, Esther Mayle.

—Cindy Briggs-Babuder

I don't know how I would have made it through the numerous medical issues and deaths of family members this past year without the compassion of my friends at Glenn. Your cards, donations, and especially your words of support are sincerely appreciated.

—Mike Lupton

I would like to thank all my friends and coworkers for their sympathy, prayers, cards, and friendship during the sudden passing of my brother. Your kindness during this difficult time for me and my family was truly appreciated.

—Linda Norberg

We wish to express our gratitude to everyone here at NASA for your sympathy upon the passing of our father. Thank you for all the flowers and gifts. We will be making a donation to Hospice of the Western Reserve. Your thoughtfulness, prayers, and kindness are truly appreciated during this difficult time for both of us and our families.

—Louis Bernhardt and Irene Reitenbach

The family of Wayne Girard wishes to extend a warm thank you to all those who remembered him with emails, cards, phone calls, and gifts during his illness and to those who honored him in death with many forms and expressions of sympathy. Our sincere thanks to all of you.

—The Girard Family

Behind the Badge

a closer look at our colleagues

Paul Antczak



Job Assignment: I am currently a building manager of three research buildings—301, 302, and 309. I have been an aircraft technician for 15 years and a flight crew chief for NASA 5 aircraft.

Time at NASA: I am 6 months shy of 30 years.

Describe your family: My 19-year-old daughter, Amy, is currently studying at Gannon University to become a physician assistant. My son, Brad, is a 17-year-old senior at Holy Name High School and is looking forward to college next year to study computer engineering. My wife, Mandy, and I have been married for 25 years. She is currently working at Liverpool Elementary School.

Favorite quote: "Hang on to your Dreams. One of the secrets of life is to make stepping stones out of stumbling blocks."—Jack Penn

Dream job: My dream job involves time spent in a lot of cold, white stuff. I enjoy skiing and snowboarding and I would love to make this hobby a job at a ski resort in the Rockies. Because this is a dream, I would also work at the airport that hosted air shows with vintage and modern aircraft right next to the ski resort.

Social activities at Glenn: I have been a member of the Lewis Ski Club for 20 years and have served as a trip coordinator.

Hobbies/interests outside of NASA: As previously mentioned in my dream job, I enjoy downhill skiing, snowboarding, and hopefully one day telemarking. Telemarking is a nontraditional form of skiing. I also raise Christmas and hardwood trees on 3 acres of my property in Litchfield. I grow spruce, firs, and pine available for sale during December. I also grow beautiful maple, oak, ornamental crabapple, and flowering cherry hardwood trees that are available throughout the year. When I am not busy with the tree farm, I enjoy watching my children participate in sports, participating in the choir at the St. Martin of Tours parish in Valley City, and repairing any type of machinery. During the summer I enjoy gardening.

Food temptations: Food is my weakness. I love my wife's cooking and I'm a sucker for home-cooked Italian meals just like my grandmother used to make me when I was a child. I also like Mexican and Chinese food.

Stress buster: When times get tough, I turn to exercise. Running and yoga are especially useful in lowering my stress level.

African-American Heritage Month

February 2004



Manthey



Mayes

In recognition of African-American Heritage Month, *AeroSpace Frontiers* polled several employees on this question:

What person or event do you think has been (or will be) a source of significant impact in African-American history, locally or nationally?

Lori Manthey, Office of the Director. I admire Congresswoman Stephanie Tubbs Jones and Cuyahoga Community College President Dr. Jerry Sue Thornton for their intelligence and influence in the economic and educational development of our community and also as positive role models to inspire young women.



Sefcik



Thai

Linda Mayes, Space Flight Project Office. National Public Radio and late night television host Tavis Smiley is my hero! He has become one of the most important political voices on behalf of Black America. His daily commentary usually focuses on business and public issues that have awakened all of America to our value and inspired pride and participation, particularly voter registration, in our communities.

Robert Sefcik, Systems Management Office. The assassination of Dr. Martin Luther King propelled the civil rights movement forward. Unfortunately, most Americans were slow to embrace the message that he was trying to convey until he was gone.



Williams

Phouc Thai, Risk Management Office. If I'm limited to one, I have to pick the event that happened on December 1, 1955, when Miss Rosa Parks refused to give up her seat on the bus. I bow and tip my hat to her for courage, principle, and leadership in performing such a risk-taking act!

Raymond Williams, Aviation Environments Technical Branch. Marcus Garvey recognized the strength of Black Americans and devoted his efforts to teaching self-reliance and pride in our African heritage. I'm inspired by his call to action: "Africa for the Africans, those home and abroad. Up! Up! You mighty race. You can accomplish what you will!"

National Aeronautics and
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Volume 6 Issue 2 February 2004



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