National Aeronautics and Space Administration

AEROSPACE Frontiers

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Glenn leads, supports CEV efforts

BY DOREEN ZUDELL

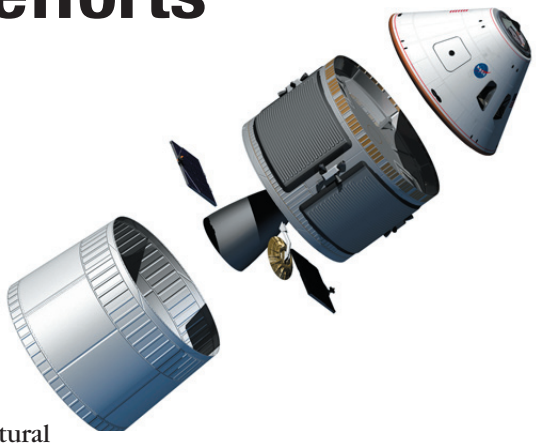
This is the first in a series of articles highlighting Glenn's role in the agency's Constellation Program.

Under NASA's Constellation Program, Glenn is providing critical leadership to the Crew Exploration Vehicle (CEV) Project in the agency's efforts to develop the next generation human-operated spacecraft.

Consistent with how Constellation uses capabilities from across NASA, the CEV Project Office at Johnson Space Center in Houston has incorporated technical and management expertise from Glenn as formal elements of the CEV Project structure. Glenn's CEV Project Office, led by Bryan Smith, is organized to implement the CEV work within the following elements: Service Module, Spacecraft Adapter, Vehicle Integration, Test and Verification and Crew Module.

Glenn is managing the development of the Service Module and Spacecraft Adapter. This involves prime contractor oversight and independent analysis, which will utilize key discipline expertise in propulsion, electrical power, communications, structures, materials and thermal management.

"The Service Module is a critical element in the CEV," said Jim Free, Service Module project manager. "It will serve as the primary propulsion system in low Earth orbit and Earth return on lunar missions. The Service Module also provides the power generation for the CEV using solar arrays as well as the primary heat-rejection system using radiators."



Right: Pictured bottom to top, Spacecraft Adapter, Service Module engine with electrical power generating arrays and Service Module.

The Spacecraft Adapter is a structural element that will integrate the Ares I (formerly called the Crew Launch Vehicle) within the CEV. Glenn has prime oversight on the hardware development of this vital component. The adapter also separates the CEV from the Ares I launch vehicle once the CEV is placed in orbit.

Glenn has multiple leadership and support roles in CEV Vehicle Integration. These activities will include performing analysis to support development of CEV system requirements, interface requirements and integration of all parts of the CEV. This will ensure that the requirements can be achieved and that the CEV as a whole can perform as intended.

"Vehicle Integration is currently focused on preparing for the System Requirements Review," said Julie Grantier, Glenn Vehicle Integration lead. "Glenn is performing systems analysis and systems engineering to create a set of requirements that the prime contractor will use to develop and deliver a system design concept in Spring 2007."

This fall, NASA will select a prime contractor for the CEV. The prime contractor

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will design and produce multiple vehicles for the International Space Station as well as future lunar missions. While the formal contract management and direction remains with the CEV Project Office at Johnson, Glenn will have technical review and oversight authority over the contractor for the CEV Service Module and Spacecraft Adapter throughout the life cycle from system requirements through production and operations.

Under Test and Verification, led by Fred Elliott, Glenn is supporting the CEV Abort Flight Test Project for the Launch Abort System (LAS). The LAS provides propulsion and control necessary to separate the CEV from the Ares I in the event of a life-threatening launch emergency. The Test Project will demonstrate the performance of the LAS in a series of test flights over a range of flight conditions. Glenn will design, develop and deliver a cold gas reaction control system for these flight tests. In addition, the center is supporting requirements development, interface definition/control and instrumentation development, and is an integral part of the agency in-house team proposing to develop and provide an Abort Test Booster for some of these tests.

Glenn is supporting the development of the Crew Module, which will carry the crew, controls, life support and re-entry systems. The center will provide specialty expertise for items such as seals, fire detection and suppression and displays and controls.

"Glenn's involvement with the CEV demonstrates our ability to support the development of human space flight hardware," Smith said. "It is a critical step on the path to obtaining larger projects and roles in the agency's Vision for Space Exploration."

Editor's note: *Glenn's CEV Project Office currently reports directly to Center Director Dr. Woodrow Whitlow, Jr. The office is expected to be part of the newly formed Space Flight Systems Directorate once it is fully established.* ◆

Improving Shuttle Safety

This is the second in a series of articles highlighting Glenn's research and test efforts in improving space shuttle safety.

Bracket Ice Mitigation

A closeup view of the external tank with ice on bracket.

The Materials and Structures Division and the Engineering Development Division are supporting the multicenter NASA Engineering and Safety Center effort to mitigate ice formation on the space shuttle's external tank (ET) liquid oxygen feedline brackets. Currently, brackets that attach the 17-inch diameter feedline to the ET are prone to ice formation in the open space remaining between the tank and the bracket. A flexible foam solution is needed to prevent the ice from forming. Ice can become a debris source during launch and potentially impact the orbiter. Researchers in the Materials and Structures Division conducted thermal and mechanical testing and evaluation of candidate materials to establish desired property guidelines for potential material suppliers. Engineering Development Division researchers fabricated a full-scale feedline test article in house, which mimics the bracket motion and articulation relative to the feedline. Candidate foams were bonded to the bracket side of the article, filling a gap where ice would form prior to launch. Team leads: Dr. Brad Lerch and Dr. Lynn Capadona, Materials and Structures Division; Paul Trimarchi and George Harpster, Engineering Development Division

High-visibility construction scheduled

Employees will see a few more orange barrels and fencing throughout the center this construction season as Glenn's Construction of Facilities Program focuses its efforts on repairing, maintaining and upgrading parking lots, roads, roofs and various utility systems. In addition, two highly visible demolition projects are planned in the fall for the Altitude Wind Tunnel and the Sewer Pump House.

"These projects may affect traffic circulation and parking patterns on the lab, but they are necessary improvements to maintain the center's aging infrastructure," explained Gene Stygles, chief, Project Management Branch.

Photo by Doreen Zudell

Employees are encouraged to log onto the Facilities Division Web site at http://fd.grc.nasa.gov for specific information and location of the projects. Announcements will also be posted on Today@Glenn as the projects are scheduled to begin. ◆

One of the projects includes the Natural Gas Repair Project. Pictured, seated is Homer Pack of Don Wartko Construction, while Wartko's Kevin Pramik, center, flanked by Glenn's Bill Spilker, left, and Dennis Veverka, right, review plans. Digging is Wartko's Bill Callum.

Glenn extends best wishes to two senior managers

BY S. JENISE VERIS

Glenn recently said farewell to two valued members of its leadership team. Robert Fails, associate director, and Dr. Arun Sehra, director of the Programs and Projects Directorate, retired from their respective posts this summer.

Fails: a legacy of leadership

Robert "Bob" Fails, who has served as Glenn's associate director since 2003, retired on August 3 after 28 years of federal service. While at Glenn, Fails became widely respected for his extensive knowledge and experience with accounting systems and management processes.

Fails joined NASA in 1978 after transferring from the Defense Contract Audit Agency, where he began his federal career as an auditor in 1973. There he gained valuable experience with federal acquisition processes.

During his tenure at Glenn, Fails developed progressive innovations and improvements for resources management, managed difficult center funding reductions and encouraged and supported programmatic work force planning integration and internal skill needs assessment related to the budget formulation process. He also provided guidance and stability to the Office of the Chief Financial Officer (1995 to 2003) and to the center management team.

"I've enjoyed a good career full of opportunity," Fails said. "All the center directors for which I served realized the importance and value of a strong financial management organization. They've always understood that I was working in the best interest of the center."

Fails is credited for Glenn's selection as one of two centers to pilot the agency's new accounting system, including integration of the Core Financial module, considered the backbone of NASA's Integrated Financial Management Program. The program, since renamed the Integrated Enterprise Management Program, is a bold technological initiative designed to modernize NASA's financial and administrative systems and processes for greater connectivity and accountability across all the field centers.

Agencywide respect for his counsel and advice earned him recognition and awards, including NASA's Exceptional Service Medal (1994) for his significant role in decentralizing the center's budget management process. Fails also earned the prestigious Presidential Rank Award of Meritorious Executive in 2000.

Fails noted that a personally gratifying highlight of his career was serving the past 12 years as chairman of NASA's Employees Benefit Association, an employee-operated life insurance association for NASA employees and military detailees.

Fails

In retirement, Fails looks forward to spending more time with his wife, Janet. He also plans to devote more attention to his woodworking hobby. In fact, he is putting the finishing touches on a cradle for his first grandchild, due in September. ◆

Dr. Sehra provided industry viewpoint

Dr. Sehra

Dr. Arun Sehra, who joined NASA in 1998 at the invitation of Dr. Carol Russo, Glenn's former Aeronautics director, retired on July 31. During his NASA career, Sehra provided an important industry viewpoint for Glenn's contributions to the agency's aeronautics blueprint.

"I saw Glenn as a place of creative freedom—a birthplace of innovation," said Sehra.

Sehra brought to Glenn 27 years of gas turbine expertise that he acquired while working in private industry at General Electric and four other aircraft engine companies. Prior to joining NASA, he led the development of high-performance propulsion system components and oversaw development of advanced design methods to significantly reduce component cycle time.

Sehra's industry expertise and international recognition proved invaluable in developing a strategy for the future of NASA's airbreathing propulsion, which earned him the prestigious Presidential Rank Award of Meritorious Executive in 2003. However, he considers his greatest area of impact to be selecting visionary leaders who will work together to shape NASA's future.

"Placing the right people and providing them training and opportunity ensures that I am able to delegate and expand our scope of knowledge and influence," he explained.

Although he credits Dr. Julian Earls for direction, Sehra oversaw the integration of Glenn's aeronautics and space programs as a homogenous organization under the Programs and Projects Directorate. This effort ultimately laid the groundwork for sharing resources, cross training in space-related projects and work readiness to transition to the Vision for Space Exploration.

Sehra and his wife, Promila, have moved to North Carolina and are now serving as preceptors (spiritual instructors) for those interested in learning the benefits of meditation. ◆

Straight *from the* Director

NASA Honor Awards: Everyone counts

A healthy, functional family recognizes and values the role of each individual within the family. The "NASA family" operates under the same philosophy. Each of our employees has unique and individual strengths that collectively enable us to achieve the NASA mission.

Photo by Marvin Smith

Dr. Whitlow and Dr. Camarda at the Glenn Honor Awards Ceremony.

Some of the members of the Glenn workforce were recognized for their exceptional role within the NASA family during the NASA Honor Awards Ceremony on July 18. Astronaut Dr. Charlie Camarda and I presented medals, awards and honors to employees who contribute to the mission of this great agency in the diverse career fields of scientists, technicians, support assistants, managers, researchers, communicators and engineers. In addition, many of the group awards recognized our onsite contractors, industry and academia partners.

During my career with NASA, I have had the privilege of getting to know many of the recent honor recipients, as well as learning their backgrounds and how hard they have worked to become outstanding members of the Glenn team.

As this center moves ahead in support of a new era of space exploration and aeronautics research, our success will rely greatly on the contributions of all employees. Each of us has a different yet equally important role to play. Everyone counts! ◆

Contest winners

Photo by Doreen Zudell

Center Director Dr. Woodrow Whitlow chose "Straight from the Director" as the name of his *AeroSpace Frontiers* column from nearly 100 entries in a centerwide contest. Winners Eric Baumann, Exploration Systems Division, and Ruben Ramos, Research & Development Labs Technical Branch, whose submissions were combined to make the new name, recently enjoyed lunch with the Director. Pictured, left to right, are Whitlow, Baumann and Ramos at Salmon Dave's Pacific Grille.

Editor's note: *The graphic depicting the new name was designed by Kelly Shankland, RSIS/Logistics and Technical Information Division.*

C-2006-1196

Celebration Picnic

Center management hosted a gathering at the Picnic Grounds on July 20 to celebrate the assignment of the new space vehicle project work to Glenn. Hundreds of civil servant and onsite support service contractor employees joined in on the fun.

C-2006-1199

C-2006-1201

C-2006-1197

C-2006-1198

Photos by Michelle Murphy

News and Events

High Tea for Dr. Keith

To thank Dr.Theo "Ted" Keith, Jr., for his service as Director of Research and Technology, the Directorate borrowed an idea from Astronaut Don Pettit, who celebrated High Tea on the International Space Station. Glenn's High Tea sendoff included hot tea in fine china, iced tea in crystal, traditional scones and cucumber sandwiches. Keith led the directorate from August 2004 through June 2006 under an Intergovernmental Personnel Agreement with the University of Toledo where he is now a Distinguished University Professor Emeritus. Keith also worked as Vice President for Workforce Enhancement at the OAI from 1990 to 2000. In retirement, Keith is completing a book on heat transfer.

Photos by Susan Hennie

Top, center, Dr. Keith shares tea with Glenn well-wishers. Right, an array of "High Tea" pastry and sandwiches added to the festivity.

"Space" teachers visit

Photo by Marvin Smith C-2006-1159

During the week of July 10, Glenn's Educational Programs Office hosted 20 of the newest members of NASA's Network of Educators Astronaut Teachers for a workshop devoted to translating Glenn's unique research in the area of power and electric propulsion generation. They participated in activities demonstrating fuel and solar cell cars, pictured, Stirling engines and wind turbines.The exercises were designed to help elementary through secondary students experience NASA missions in a fun way.These teachers are among the 200 finalists who competed for an Educator Astronaut position in the NASA Astronaut Corps.

Professional imagery

Glenn's Logistics and Technical Information Division's Imaging Technology Center (ITC) showcased its wide array of services during an open house on June 21.Tour stops throughout the offices and studios provided demonstrations in the areas of multimedia, digital photography, animation, audio visual, video production and the new digital photography archival system. They also highlighted the capabilities of the Mobile Television Production Van, which is operated in partnership with the Educational Programs Office and provides digital production facilities for live events and taped programs. ITC's Eric Mindek (RSIS) is pictured demonstrating 3-D animation services.

Photo by Marvin Smith C-2006-1207

Photo by Doreen Zudell

Explorer Schools partnerships

Teachers from the 2006 NASA Explorer Schools watch as JoAnn Charleston, chief of the Educational Programs Office, and Robert Lawrence, acting director of External Programs, both seated, formalize a three-year partnership with NASA.Through this agreement, the agency will provide technology assistance, teacher training and student opportunities to improve science, technology, engineering, math and geography instruction.Teachers and administrators from each school spent a week at Glenn in July learning about the center's research, facilities and resources. Standing, left to right, are representatives from the schools: Jackie Blumer, Greenville Elementary School, Greenville, Ill.; Aleta Damm, Middle School at Parkside, Jackson, Mich.; and Leanne Barton, Saginaw Chippewa Academy, Mt. Pleasant, Mich.

2006 HONOR AWARDS

NASA astronaut Dr. Charles "Charlie" Camarda joined Center Director Dr. Woodrow Whitlow in bestowing the agency's most prestigious medals and coveted center awards during Glenn's annual Honor Awards Ceremony, held July 18.

The following people were recognized for outstanding contributions and dedication to NASA and for support of Glenn goals to aid the agency in critical space flight systems, important aeronautical research and numerous supporting functions.

Exceptional Achievement Medals

Dr. Milind A. Bakhle
For exceptional contributions to research in propulsion aeroelasticity that have led to computational methods in aeroelasticity and computer codes to model turbomachinery blade flutter and forced response vibrations

Dr. Gerald V. Brown
For research and technology contributions beyond the previous disciplinary limits of structures, electromagnetics, and cryogenics

William D. Ivancic
For outstanding contributions by performing pioneering research in secure mobile networking technologies that have influenced the development of revolutionary space and aeronautical communications architectures

Lee S. Mason
In recognition of achievements in developing nuclear power system concepts and design tools for future NASA missions

Laura Maynard-Nelson
For exemplary contributions to the development and implementation of flight software for microgravity science experiments and to the advancement of software engineering within NASA

Mark E. McNelis
For sustained engineering excellence and leadership in providing structural dynamic expertise to NASA Glenn Research Center's space flight experiments programs

Sandi G. Miller
For outstanding contributions to the development of advanced power and propulsion materials—in particular, polymer-clay nanocomposites

Richard L. Patterson
For improving reliability and reducing the cost of NASA missions by developing new electronics that will operate in the very cold environment of deep space

Frank J. Ritzert
For leading the development of the metallic overwrap concept for on-orbit repair of space shuttle orbiter wing leading edges

Exceptional Engineering Achievement Medal

Dr. John W. Slater
For outstanding work in supersonic inlet design and analysis and for contributions to the continuing distribution and application of a primary U.S. flow solver code

Exceptional Service Medals

Raymond F. Beach
For exceptional service in the advocacy and development of aerospace flywheel technology

Robert J. Boyle
For significant and sustained contributions in turbine heat transfer measurement, analysis and modeling, leading to improved understanding and accuracy

Dr. Renato O. Colantonio
For significant and sustained performance in partnership development and project management towards the successful advancement and transfer of NASA aerospace technologies

Dr. Daniel L. Dietrich
For sustained leadership in microgravity combustion, bioscience and spacecraft fire suppression

Michael A. Ernst
For exceptional and sustained engineering design and modification activities for

Dr. Bakhle

Beach

Blech

Boyle

Dr. Brown

Dr. Colantonio

Dr. Dietrich

Ernst

Hamley

Hanes, Jr.

Ivancic

Dr. Johnston

2006 HONOR AWARDS

NASA aircraft, resulting in higher levels of flight safety and significant dollar savings

John A. Hamley
For exceptional engineering, management and leadership service across many organizations at NASA Glenn Research Center

Earl R. Hanes, Jr.
For outstanding contributions toward establishing world-class laboratory facilities for advanced ceramic materials research at NASA Glenn Research Center

Dr. James C. Johnston
For outstanding contributions to the development of advanced materials through the application of advanced spectroscopic techniques and computer science

Gary A. Klann
For outstanding service in managing the Nation's premier propulsion wind tunnels and aeronautics engine systems ground test facilities at the NASA Glenn Research Center

Bruce A. Manners
For innovation and service in developing and guiding the agency's space power projects

Michelle A. Manzo
For sustained accomplishments in advancing the state of the art of energy storage system technologies for aerospace applications

Nancy B. McNelis
For sustained excellence in engineering and project management in aerospace programs

Angel M. Otero
For outstanding program and project management and managerial leadership in enabling the success of major NASA Glenn Research Center spaceflight programs and projects

Ann P. Over
For outstanding service to NASA in enabling Exploration research through space experiments and technology development by innovative project management

Lori J. Rachul
For outstanding contributions in the development and implementation of media campaigns to promote NASA, NASA Glenn Research Center and its people, projects and programs

Benjamin Rodriguez
For exceptional sustained performance in support of the research and development labs, demonstrating a high commitment to technical achievement, employee development, safety and organizational excellence

Dr. Donald J. Roth
For exceptional contributions in research and leadership of internationally recognized teams of experts in the field of nondestructive evaluation

Dr. Herbert W. Schilling
For exemplary contributions to software engineering projects and outstanding efforts to inspire young minds

George L. Stefko
For outstanding and innovative leadership of the Research and Technology Directorate branches and technical contributions over the past 25 years

Linda L. Yavoich
For exceptional administrative leadership, professionalism and dedication that have significantly contributed to the efficiency and effectiveness of the Office of the Chief Information Officer

Exceptional Technology Achievement Medal
Richard A. Blech
For outstanding contributions to the early demonstration of advanced computational technologies that have reduced aerospace simulation and design time while improving the quality of results

Continued on page 8

Kakiris

Klann

Lauderdale, Jr.

Manners

Manzo

Mason

Maynard-Nelson

McNelis

McNelis

Miller

Otero

Over

2006 HONOR AWARDS

Outstanding Leadership Medals
Dallas Lauderdale, Jr.
For outstanding leadership as a steward for a safe and effective infrastructure in support of the research mission of the Center

Stephen N. Simons
For excellent leadership of space flight projects, development of space flight project managers and maintenance of the space flight culture at NASA Glenn Research Center—which have positioned the Center for the capture of new flight projects

Public Service Medal
Barbara L. Kakiris
For unprecedented and outstanding contributions toward the marketing and outreach of NASA's people, programs and facilities

Group Achievement Awards
One hundred thirty-one employees representing Glenn, NASA Headquarters and Kennedy; onsite support service contractors, and industry, institution and university partners collaborated on the outstanding efforts cited in the following 11 groups.

Composite Fan Engine Containment Systems Team
For outstanding contributions to the development of affordable, lightweight and durable composite fan engine containment systems

Distance Learning Team
For technical achievement, excellence, and innovation in broadcast technology and programming

Engine Aeroelastic Analysis Team
For the exceptional effort in developing and validating a computer code for the high-fidelity modeling of aeroelastic vibrations in turbomachinery of propulsion systems

Forward Technology Solar Cell Experiment Electronics Design Team
In recognition of significant contributions to the successful completion of the Forward Technology Solar Cell Experiment, part of the MISSE–5 package on the International Space Station

GRC Aviation Safety Team
For significant and sustained NASA Glenn Research Center team performance in support and completion of the first phase of NASA's aviation safety program

Glenn Structural Seals Team
For exceptional team effort in providing critical technical and experimental support to engineers from the Johnson and Kennedy Space Centers in the investigation and resolution of space shuttle main landing gear door seal problems

Ka-Band High-Power, High-Efficiency Space Amplifier Team
For exemplary performance in solving the many technical problems associated with the development of a Ka-Band high-power, high-efficiency amplifier technology for deep-space communications

Large Aperture Inflatable Antennas Working Group
For outstanding contributions to the coordination, development, and demonstration of large aperture inflatable antennas for high-data-rate space- and ground-based NASA communications

Low-Conductivity Thermal Barrier Coatings/High Heat Flux Laser-Based Testing Rigs Research and Development Team
For exceptional success developing unique thermal gradient test capabilities and a new class of thermal barrier coatings from higher operating temperature turbine engine components

NASA/Industry Conservation Element/Solution Element (CE/SE) Method Development Team
In recognition of the development of the Conservation Element and Solution Element (CE/SE) Method, a revolutionary new capability for computational aeroacoustics

Patterson

Rachul

Ritzert

Rodriguez

Dr. Roth

Dr. Schilling

Simons

Dr. Slater

Stefko

Yavoich

Photos by Michelle Murphy, Marvin Smith and Quentin Schwinn

Student Support Team
For exceptional performance and contributions, impacting students across the Nation and inspiring the next generation of explorers

Continued on page 9

John H. Glenn Research Center Awards

Dr. Liou

Abe Silverstein Medal
Dr. Meng-Sing Liou
For outstanding contributions to the area of computational fluid dynamics (CFD) that have been adopted successfully into several NASA, commercial and other external organizations' computer codes

Trase

Steven V. Szabo Award
G2 Flywheel Team
Barbara H. Kenny, Kevin E. Konno, Walter Santiago, Larry M. Trase and Jeffrey J. Trudell
For the successful designing, building and testing of a revolutionary energy storage system based on flywheel technology

Szabo winners, left to right, Konno, Santiago, Kenny Trudel, and above, Trase

Craftsmanship Award
Manufacturing Technologies Category
Fan Trailing Edge Blowing Team
Herbert A. Lawrence and Jesus M. Lopez
For outstanding contributions in manufacturing technologies for the fan trailing edge blowing rotor blades

Lawrence and Lopez

Assembly and Buildup Technologies Category
Crew Exploration Vehicle (CEV) Service Module Mockup Team
Jose A. Ayala and Joseph F. Kerka
For leadership and an innovative approach to developing the full-scale CEV service module mockup

Ayala

Kerka

Distinguished Publication Award
Dr. Rajagounder M. Nallasamy (not pictured) and Dr. Edmane Envia
In recognition of advancing the capability to predict fan broadband noise generated by modern turbofan aircraft engines in their publication entitled, "Computation of Rotor Wake Turbulence Noise"

Dr. Envia

Robinson, Jr.

Diversity Leadership Award
Frank Robinson, Jr.
In recognition of significant contributions that encourage, promote and practice diversity in support of achieving an inclusive environment

One NASA Center Best Award
NASA Ballistic Impact Test Team
For the impact made to fly the shuttle as safely as possible

2006 HONOR AWARDS

Forty-Year Service Awards

Bruce A. Banks, Electro-Physics Branch
William K. Coho, Diagnostic and Data Systems Branch
James L. Dolce, Advanced Electrical Systems Branch
Dr. Julian M. Earls (Retired 01/02/06), Office of the Director
Dr. David P. Fleming, Systems Management Branch
Ernest R. Flower, Jr., Operations Management Branch
Robert J. Freedman, Facility Management and Planning Office
John B. Haggard, Jr., Mission Operations and Integration Projects Office
Pamela Kotlenz, CIO Policy and Planning Office
Hugh M. McLaughlin, Logistics and Technical Information Division
John A. Mihevic, Systems Management Branch
Dr. Stephen V. Pepper, Tribology and Surface Science Branch
John P. Riehl, Space Propulsion and Mission Analysis Office
Richard C. Spangle, Aviation Environments Technical Branch
Vincent J. Scullin, Experimental Data Software Branch
Charles M. Spuckler, Ceramics Branch
Adele C. Szuhai, Space Systems and Grants Branch
Sherrill K. White, Security Management and Safeguards Office

Editor's Note: *Recipients of other awards recognized at the ceremony were published previously in the* AeroSpace Frontiers. *They include Senior Executive Service Appointment, Presidential Rank Awards and Procurement Supervisor of the Year Award.*

People

Arida

Brown

Camperchioli

Dr. Johnson

Neumann

Severt

Sims

Steele

Promotions

Wade Arida has been selected Engine Research Building (ERB) facility engineer and combustion-flow physics technical lead, Aviation Environments Test Engineering Branch. Arida's experience includes implementing or supporting numerous projects and combustion tests throughout ERB and the Advanced Subsonic Combustor Rig.

Jeffrey Brown has been selected chief, Avionics, Power and Communications Branch in the Engineering Systems Division. Brown's experience includes more than 20 years of technical and project management along with a broad background in both aeronautical and space-related projects.

Bill Camperchioli has been selected lead electrical engineer for microgravity facilities, Space Combustion and Microgravity Test Engineering Branch. Camperchioli's experience includes outstanding leadership and a broad range of designing and building microgravity experiments.

Dr. Dexter Johnson has been selected chief, Structural Systems Dynamics Branch in the Engineering Systems Division. Johnson brings over 19 years of NASA technical and managerial experience to the position along with a strong research and technology development background in both aeronautical and space-related projects.

Eric Neumann has been selected lead mechanical engineer for microgravity facilities, Space Combustion and Microgravity Test Engineering Branch. He offers extensive experience supporting microgravity facility testing.

Gwynn Severt has been selected ERB and 1- by 1-Foot Supersonic Wind Tunnel facility manager, Facility Management and Planning Office. She brings to her new position a strong background in project leadership spanning a large number of complex engineering tasks and activities.

Xynique Sims has been selected the benefits officer of the Program and Policy Office. She is responsible for providing advisory services regarding retirement, health benefits, insurance, leave, telecommuting, awards and performance management.

Gynelle Steele has been selected program manager of Glenn's Small Business Innovation Research/Small Business Technology Transfer Program. She brings unique experience facilitating NASA technology transfer as a former project engineer and technical monitor in the Technology Transfer and Partnership Office.

Patents

Dr. Mark McDowell, Bio Science and Technology Branch, was awarded the patent entitled, "Identification of cells with a Compact Microscope Imaging System (CMIS) with intelligent controls." CMIS provides techniques for scanning, identifying, detecting and tracking microscopic changes in selected characteristics or features of various surfaces.

Carlos Morrison, Structural Mechanics and Dynamics Branch, was awarded a patent for his invention of the magnetic bearing control technology entitled: "System for Controlling a Magnetically Levitated Rotor." The technology enables full rotor levitation and control of multiple-axis magnetic bearing configurations.

Dr. McDowell

Morrison

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.

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Managing Editor.....Kelly R. DiFrancesco

DEADLINES: News items and brief announcements for publication in the September issue must be received by noon, August 11. The deadline for the October issue is noon, September 15. 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.

2006 APEX® AWARDS FOR PUBLICATION EXCELLENCE

Correction: OAI was inadvertently omitted as a prime contractor and project manager of the GATE program featured on p. 5 in the July *AeroSpace Frontiers*. In addition, Patricia Grospiron was misidentified in the photo credit.

News Notes

LESA MEETING: LESA/IFPTE, Local 28, will hold its next monthly membership meeting on Wednesday, September 13, at noon in the Employee Center.

THIRD SATURDAY AT THE VC: On Saturday, August 19, Glenn's Visitor Center (VC) will host "NASA Photography Expo" from 10 a.m. to 3 p.m. NASA photographs will be on display and showcased in multimedia presentations. This will include a new mosaic of photos of the people, projects and technologies that have contributed to the space shuttle program over the past 25 years. Photographers will be on hand to discuss how techniques are combined to enhance and produce photographs. Presentations include: "The Most Extreme Photo Assignments," 11 a.m.; "Picture This!" 12:30 p.m. and "A Day in the Life of a NASA Photographer," 2 p.m. For reservations, call 216–433–9653. For details on this and other Glenn events, log on to glennevents.grc.nasa.gov.

WOMEN'S RETIREE LUNCHEON: The next luncheon for Glenn female retirees will be Thursday, August 17, noon, at Bucci's Restaurant in downtown Berea. For further information, contact Gerry Ziemba, 330–273–4850.

PBS REUNION SET: A Plum Brook Station (PBS) Fourth Reunion will be held on Saturday, September 23, at the Engineering Building Cafeteria. A luncheon, program and facility tours are being planned. Contact Bill Brown at 3911 James Ave., Huron, Ohio 44839, or e-mail huronbill@buckeye-express.com.

In Appreciation

I would like to thank and pray for all of the many people who have helped me through the past months.

—Eric Drotter

Newsletter recognized for publication excellence

Glenn's *AeroSpace Frontiers* newsletter has earned an Award for Publication Excellence (APEX) for the fifth year in a row. Editor Doreen Zudell and Assistant Editor S. Jenise Veris, SGT/Community and Media Relations Office, earned recognition for their coverage of Glenn's Return to Flight efforts, featured in the September 2005 issue.

The editors of "Writing that Works, The Business Communications Report," sponsor the contest. APEX awards are based on excellence in graphic design, editorial content and the ability to achieve overall communications excellence in print and electronic media.

"Gainsharing" program helps save money

Glenn employees who have participated in the Gainsharing Travel Savings Program (GTSP) pilot are being rewarded for saving the government money while on official travel.

- Applies to lodging and air transportation only
- Applies to civil servants only
- Senior Executive Service may participate but may not receive gainsharing rewards
- Other restrictions apply, see FAQ sheet on Intranet

The GTSP encourages employees to choose less expensive lodging, use frequent flyer benefits for airline tickets for official travel and/or purchase discount airfares that are less expensive than contract airfares. In return, employees receive a portion of the money saved.

GTSP Project Manager Patrick Iler, Office of the Chief Financial Officer, reported that Glenn employees who saved at least $50 per trip below the government contract rate and reached a cumulative savings of $200 by the end of the fiscal year received half of what they saved the center.

An analysis of the pilot period, May through September 2005, showed the center saved $29,000 in travel costs. Forty-four employees from across all directorates received an award averaging more than $300 each. Those savings have continued in 2006.

"Employees have achieved savings by staying with friends and family, sharing hotel rooms, finding cheaper fares or using personal frequent flier miles," Iler said.

The success of the program at Glenn has led the agency CFO to authorize its implementation NASAwide. Glenn employees who have not yet participated in the GTSP can learn more about the program by visiting http://cfo.grc.nasa.gov/gainsharedefault.asp. ◆

In Memory

Gizella H. Horvath, 100, who retired from NASA in 1973 with 11 years of service, has died. Horvath served as a telephone operator. She was the mother of Theresa Horvath, a Glenn retiree who served as executive director of the Federal Executive Board.

William O. Neidengard, 92, who retired from NASA Lewis in 1970 with 26-plus years of federal service, has died. Niedengard served as an aerospace mechanic for jet propulsion. His wife, Margaret B. Niedengard, who also retired in 1970 after serving 23 years as a library technician supervisor, preceded him in death.

STS–121 reopens the space frontier

BY S. JENISE VERIS

On Monday, July 17 the touchdown of Space Shuttle *Discovery,* STS-121, and its six-member crew successfully concluded the second mission in the Return to Flight sequence and reopened the space frontier.

During the 13-day mission, crew members Commander Steve Lindsey, Pilot Mark Kelly, and Mission Specialists Mike Fossum, Lisa Nowak, Stephanie Wilson and Piers Sellers tested new safety procedures and structural improvements for problem areas identified from Discovery's flight last year. Glenn provided significant input on a redesign of the shuttle external fuel tank's foam insulation by leading the External Tank Foam Thermal Structure Analysis team.

Glenn, in collaboration with researchers from Marshall Space Flight Center, OAI, QSS Group and Lockheed Martin, developed a physics-based code to perform finite-element analysis, down to the cellular level, of the foam that is sprayed on the external tank to understand the rate and effects of temperature fluctuation on the foam's structure.

Other structural improvements the crew addressed that will improve the reliability and safety of future missions include in-flight inspection of the shuttle's heat shield; improved imagery during launch; and the ability to launch a shuttle rescue mission, if needed.

Clockwise, from bottom center, ESA astronaut Reiter with STS-121 crew members: Fossum, Nowak, Lindsey, Kelly, Wilson, and Sellers aboard the International Space Station.

The Discovery crew bolstered the space station with several key repairs over the course of three space walks and delivered more than 28,000 pounds of equipment and supplies. European Space Agency (ESA) astronaut Thomas Reiter arrived to become a third member of the Expedition 13 crew.

Among the equipment delivered were the balance of parts for Glenn's Dust and Aerosol Measurement Feasibility Test (DAFT) and the Capillary Flow Experiment (CFE). A modified P-Trak, one of the two aerosol-monitoring devices that make up the main components of DAFT, was delivered to undergo performance testing between August 21 and 23. The test will determine P-Trak's suitability as a key diagnostic for the upcoming Smoke Aerosol Measurement Experiment (SAME). The final five units to CFE's suite of handheld fluid physics flight experiments was launched: Contact Line unit 1 of 2, Interior Corner Flow 1 and 2 and Vane Gap 1 and 2. Data from each of these units is crucial to developing fluid management systems, such as fuel and cryogen storage systems, thermal control systems (e.g., water recycling) and materials processing in the liquid state, to predict performance for future exploration missions.

Eight Glenn spacecraft materials environmental durability flight experiments also were delivered for the Materials International Space Station Experiment (MISSE) 3 and 4. They will be placed outside the International Space Station when MISSE 5 is retrieved during the STS-115 mission scheduled to launch August 28. ◆

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