National Aeronautics and Space Administration

MARSHALL STAR

Serving the Marshall Space Flight Center Community

April 2, 2009

King retires, Lightfoot acting Director

HQ news release

David King, director of the Marshall Space Flight Center, is retiring from the agency to accept a position as executive vice president of Dynetics in Huntsville. Robert M. Lightfoot, Marshall's deputy center director, is serving as acting director until a successor is named.

King has been the center director at Marshall since June 2003. His departure ends a 25-year career with NASA that began in 1983 at NASA's Kennedy Space Center in Florida, where he served as director of space shuttle processing and shuttle launch director.

For a look back on David King's career at Marshall, please see pages 4-5.

"David's expertise and dedication will be sorely missed, not only at Marshall, but across the entire agency," NASA Acting Administrator Chris Scolese said. "As sad as we are to see him leave, we wish him the very best in all of his future endeavors."

*See **King** on page 6*

David King, right, director of the Marshall Center, announces his retirement from the agency during a press conference with local media March 26. Robert M. Lightfoot, left, Marshall's deputy center director, will serve as acting director until a successor is named.

Farewell message from Dave King

It is with mixed emotions I send this last message to you as your Center Director. After almost six years in that position and 25 years with NASA, I am retiring from Federal Government service.

NASA has been a huge part of my life since I graduated from college. I have had the opportunity to be a part of the truly amazing adventure of space exploration, and can't think of anything else that could have been so challenging and rewarding. The best part of it has been working with the people of NASA; it has been my great privilege to be associated with each and every one of you.

Now as I look forward to spending more time with my wife and daughters, and exploring new opportunities outside of NASA here in Huntsville, I do so content in the knowledge that Marshall Space Flight Center will continue to play a vital role in NASA's exploration mission. NASA's mission is clear, and the Marshall Center's future is bright. We have built a great team, and I am leaving the Center in great hands as Robert Lightfoot assumes the position of acting Center Director. I know Robert will do a superb job and that you will give him the same support and cooperation which you have given me, and for which I will always be grateful. Farewell.

Dave

Director's Corner

Rising to the challenge – past and future


Robert Lightfoot

I know you all join me in wishing Center Director Dave King the best as he retires from federal service. It has truly been a privilege for me to work with Dave and share his passion for NASA and the extraordinary work we do here at Marshall.

I've heard Dave say more than once that he has enjoyed doing things others only dream of – and his excitement for his work has shown through the center's numerous accomplishments during his time here and through his personal dedication and sacrifice in meeting challenges.

With 25 years of service to NASA, Dave has been an invaluable asset to the agency and to Marshall Space Flight Center. In 2003, he accepted the very difficult assignment to direct the recovery of debris from the space shuttle Columbia after its destruction during re-entry. He has a lot of accomplishments to his credit, but I think this is one of his greatest. Truly, from a national perspective, he was a hero to lead this effort in East Texas – a daunting task our nation had never faced before.

During Dave's tenure at Marshall, beginning in 2003, the agency adjusted its focus from performing space station missions to developing advanced rockets and planning for long duration trips to the moon and Mars. This change had a huge impact on the work at Marshall, and Dave's leadership enabled us to tackle the job of developing Ares I and Ares V while still supporting the shuttle operations.

Today, as Dave prepares to start a new chapter of his life, he leaves behind a strong foundation – a foundation built on the deep commitment of every employee at Marshall. And it is that commitment that will keep us moving forward. We will continue our efforts to safely fly the shuttle and see the program through until retirement. We will advance our scientific research and missions of discovery. And we will move forward with the very important work of designing and building our nation's next launch vehicles.

To say I am honored to have the opportunity to lead this dedicated organization is an understatement. It is an honor, and a privilege. But the success of any leader lies in the strength of the people who make it all possible. With this in mind, I have no doubt that we will rise to the challenges ahead of us and complete them with the level of excellence for which Marshall Space Flight Center is widely known.

Kind regards,

Robert Lightfoot
Marshall Center
Acting Director

Call for 2009 Software of the Year award under way

The annual call for the 16th NASA Software of the Year award is under way. The award recognizes developers of exceptional software created for or by and owned by NASA.

The award includes the NASA Software Medal, a certificate signed by the NASA administrator and a cash prize of up to $100,000.

For more information, visit http://inside.msfc.nasa.gov/announcements/soty_nom-call.html.

The deadline for entries is May 21. Team members may submit to:

MSFC Award Liaison Officer, LS01
James McGroary
4200/149J

For questions, please call McGroary at 544-0013 or Caroline Wang at 544-3887.

Marshall's Structural Design & Analysis Division helps prepare space shuttle and Ares for future flights

By Megan Norris Davidson

The Marshall Space Flight Center's Structural Design & Analysis Division in the Engineering Directorate is working to assure structural integrity for the next 10 scheduled launches of the space shuttle. It is involved in the structural design and analysis of the next era of vehicles leading the way back to the moon and beyond.

"Supporting NASA's mission of continuing space exploration and discovery is very important to our organization," said Pravin Aggarwal, division chief of the Structural Design & Analysis Division, part of Engineering's Spacecraft & Vehicle Systems Department. "We work diligently to make sure we deliver quality products on schedule to continue successful missions.

"Once the space shuttle is retired, this nation needs new vehicles to continue to support the critical work being done on the International Space Station and to facilitate the exploration of our solar system."

Some of the division's main tasks include structural and mechanical design, and structural, thermal and aeroscience analysis for the Space Shuttle Program and Ares Projects. Ares Projects is responsible for the design and development of the Ares I rocket – the vehicle that will carry astronauts to the moon and beyond – and the Ares V heavy cargo launch vehicle. Ares V will deliver large-scale hardware to space, from the lunar landing craft and materials for establishing a moon base, to food, fresh water and other staples needed to extend a human presence beyond Earth orbit.

"All the analyses that our branches perform, coupled with development and qualification testing and data from the Ares I-X flight test, will be used to ensure that design and performance requirements are met," said Sheryl Kittredge, deputy division chief. The Ares I-X flight, scheduled later this year, will be NASA's first flight test of the Ares I rocket.

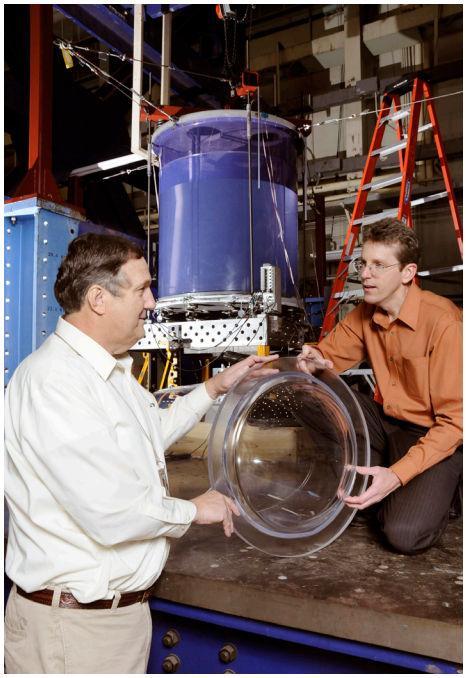
Branches of the Structural Design & Analysis Division

About 90 civil service employees and 150 contractors make up the Structural Design & Analysis Division's four branches – Dynamics, Loads and Strength; Structural and Mechanical; Aerosciences; and Thermal Analysis and Control. The branches are organized by analytical disciplines focused on shuttle and Ares flight and development activities.

The Dynamics, Loads and Strength Branch is responsible for structural dynamics and loads modeling and analyses; stress modeling, strength and life analyses; and dynamics and strength test planning and support. The branch is currently conducting stress and dynamic analyses for the Ares I upper stage and first stage. The first stage – part of an in-line, two-stage rocket configuration – provides the main thrust or propulsion component, enabling liftoff from Earth.

The Structural and Mechanical Branch is developing the design and pyrotechnic systems for the Ares I upper stage and first stage. A pyrotechnic system is a series of high-reliability devices with a very efficient energy source, which uses expanding hot gases or a detonation shock wave. The energy source is typically either an explosive material or a propellant. The branch also conducts meteor debris and shuttle debris impact assessments.

The expertise of the Aerosciences Branch lies in aerodynamics and aerothermodynamics for every space shuttle flight. Aerodynamics is the study of the motion of air, while aerothermodynamics examines the thermodynamic properties of gases. Branch team members are conducting numerous wind tunnel tests for the Ares I configurations for acoustics, aerodynamic and aerothermodynamic environment generation, and Ares I-X re-entry analysis.



John Townsend, left, an aerospace engineer in the Dynamics, Loads & Strength Branch, and Jeff Lindner, a Gray Research Inc. principal engineer supporting the Structural Dynamics Test Branch, discuss the large-scale liquid oxygen damper test setup at the Environmental Test Facility in Building 4619. The tests will be used to develop and characterize new damper hardware that can mitigate vibration on the Ares I rocket.

The Thermal Analysis and Control Branch provides testing, analysis and design work for the space shuttle, space station and Ares vehicles. Some of their tasks include thermal design and mathematical modeling, which predicts expected operating temperature ranges of launch vehicle and spacecraft structures and components. Analysts then recommend thermal control techniques such as heaters, insulations, protection materials and coatings.

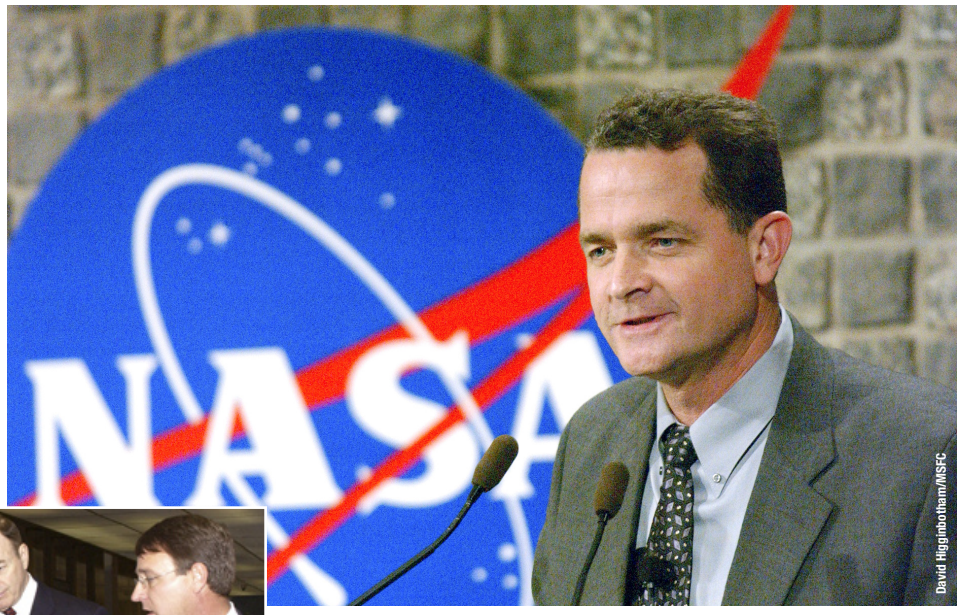
"Successful completion of our division's responsibilities is a result of the excellent talent and work ethic exhibited by our civil service and contractor employees," Aggarwal said. "My hat is off to them!"

Davidson, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

A Look Back

Marshall Space Flight Center Director David A. King

June 2003-March 2009



David King addresses team members May 23, 2003, after being named the 10th director of the Marshall Space Flight Center. The center was founded in 1960.

In January 2004, David King, left, looks on as Tim Corn, right, now manager of the Facilities Management Office, explains the Marshall Center's 20-year master plan to U.S. Sen. Richard Shelby of Alabama, second from right. Goodloe Sutton of the Linden, Ala., Democrat-Reporter, looks on.

From left, David King and former Marshall Deputy Director Rex Geveden present their Marshall Association dues to team members Pete Rodriguez, Robin Henderson, Beth Cook and Roslin Hicks in February 2004.

David King, left, chats with Spelman College President Beverly Daniel Tatum, center, and Marshall's former Equal Opportunity Office Director Charles Scales, now NASA associate deputy administrator, during the center's Black History Month Celebration in February 2004.

NASA astronaut Ed Lu, left, receives a memento from David King during the International Space Station Expedition 7 crew's visit to the Marshall Center in March 2004.

David King, right, talks with students at Phenix City Intermediate School in Phenix City, Ala., a NASA Explorer School, during his visit in 2004.

From left, David King, Marshall engineer Sam Ortega and Mike Rudolphi, former manager of Marshall's Shuttle Propulsion Office, talk about finish times for the 2005 Cotton Row Run.

David King greets Lady, a therapy dog, while touring Therapy Partners Inc. in Huntsville during the 2005 Combined Federal Campaign.

Former NASA Administrator Michael Griffin, left, and former Deputy Administrator Shana Dale, center, join David King for a Marshall all-hands meeting in April 2007.

David King, left, and Alabama Gov. Bob Riley discuss NASA's Return to Flight activities during an Alabama League of Municipalities Conference at the Von Braun Center in Huntsville in 2005.

Great Moonbuggy Race is on!

Annual student engineering challenge April 3-4 at Space & Rocket Center

NASA's 16th annual Great Moonbuggy Race will be held April 3-4 at the U.S. Space & Rocket Center in Huntsville – and no one's more excited than Marshall Space Flight Center engineer Mike Selby and the dozens of Marshall volunteers supporting the event. Selby, at right with an original lunar rover at the rocket center, is an avionics technical assistant in Marshall's Engineering Directorate. A former moonbuggy racer himself – a member of the 1995 and 1996 teams from the University of Alabama in Huntsville – Selby has been head scorekeeper for the event since 2001. This year, some 75 high school, college and university teams from 20 states, Puerto Rico, Canada, Germany, India and Romania are slated to take the track. They'll compete against the clock and for numerous design, safety and team spirit awards. Marshall Center team members are encouraged to come out and show their support for these innovative young engineers of tomorrow. Racers will take the course from 7:30 a.m. to approximately 5:30 p.m. each day.

King *Continued from page 1*

King described his decision to leave NASA as one of the toughest of his professional career. "The opportunities NASA has given me are something most people only dream about," King said. "It was a privilege to work with some of the smartest people in the world for 25 years. I will miss them greatly."

King's acting successor, Lightfoot, has served as Marshall's deputy director since May 2007. A native of Montevallo, Ala., he has shared responsibility for managing Marshall, one of NASA's largest field centers. The center has more than 7,600 civil service and contract employees performing a wide scope of propulsion, scientific and space transportation activities.

"Robert's experience and leadership skills are exactly what we need to lead Marshall at this critical time," Scolese said. "I'm certain he will do a terrific job in this role as he has in all of his previous positions at NASA."

From 2005 to 2007, Lightfoot served as manager of the Space Shuttle Propulsion Office at Marshall, leading the organization with responsibility for the manufacture, assembly and operation of the primary shuttle propulsion elements: the main engines, external fuel tank, solid rocket boosters and reusable solid rocket motors.

For the two years prior to that, Lightfoot was assistant associate administrator for the Space Shuttle Program in the Office of Space Operations at NASA Headquarters in Washington. His responsibilities included space shuttle return to flight activities, budget formulation and integration of shuttle infrastructure into the Constellation Program, the new initiative of human exploration of the moon, Mars and beyond.

In 2002, Lightfoot was director of the Propulsion Test Directorate at NASA's Stennis Space Center in Bay St. Louis, Miss. He began his NASA career at Marshall in 1989 as a test engineer and program manager for the space shuttle main engine technology test bed program, and the Russian RD-180 engine testing program for the Atlas launch vehicle program.

Lightfoot has received numerous awards during his NASA career, including a NASA Outstanding Leadership medal in 2007 for outstanding and exemplary leadership of the Shuttle Propulsion Office and assuring safety for the shuttle's return to flight. In 2006, he was awarded the Presidential Rank Award for Meritorious Executives – the highest honor attainable for federal government work.

"Robert is a tremendous leader and one of NASA's best," King said. "I leave with full confidence that Marshall will be in great hands."

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, April 9, is 4:30 p.m. Thursday, April 2.

Miscellaneous

Three side-by-side prime plots by flagpole at Huntsville Memory Gardens, $4,000. 881-3840

Firewood, $80 per truckload. 755-0050

Antique manual typewriter, case, Olympia Werke AG Wilhelmshaven, made in Germany, everything works, $80. 587-6343

Four Limousin/Angus Open Heifers, 1 year old, $750 each. 737-7246

Two matching leather couches, maroon, $400 each or $750 both. 832-928-6066

Pool table, 9 feet, Connelly, Snooker and Billiards, light, accessories, $2,250, pics at www.thewillettfamily.com/forsale/. 883-7021

R/C Electric Warbirds, Alfa F4U-1A Corsair, Ki-84 Hayate, equipment, $600. 508-1558

Paradigm stereo speakers, Studio 20 Reference series, built-in amplifiers, gamers or audiophiles, $725. 352-514-8405

Peavey Mark Viii Bass amp head, 210tx bass enclosure, 410tx bass enclosure, $400. 636-2978

Queen Anne oak dining table, six Fiddleback Windsor chairs, clear finish, photos available. 347-1674

New PC game, "Call of Duty, World at War," $40. 603-9827

Antique Grundig radio, $100; two Sharper Image air purifiers, $50 each or $75 pair. 551-0276

32-foot fiberglass ladder, $125. 464-9408

Photo Explosion Deluxe, version 3, comprehensive photo editing software, $20. 683-7683

Wurlitzer Spinet piano, matching bench, cherry finish, $500. 468-3749

Authentic Belgian Shrunk, $5,500. 352-255-1066

Couch, love seat, $225; entertainment center, $35; TV stand, $25; more. 461-7520

Vehicles

2008 Blue Honda Accord Coupe, loaded, black leather, ground effects, multi-CD/XM/iPod, 9k miles, $24,900. 604-9951

2007 Nissan Maxima SE, dark blue, loaded, 20k miles, $23,995. 426-2458

2005 Honda CRF70 motor bike, $1,000. 468-0305

2005 Ford Five Hundred sedan, leather, moon roof, fully loaded, 44k miles, $12,500. 975-1667

2005 Acura MDX, fully loaded, 39k miles, $21,000. 679-7985

2005 Pontiac Bonneville SE, V6, 54,400 miles, $10,500. 538-5420 or 458-0370

2003 Club Car golf cart, gas, beige, windshield, $2,250 obo. 682-6326

2002 Fifth Wheel camper, slide, sleeps eight, 30.5 feet, full amenities, $13,990. 721-1260

2002 Kawasaki four wheeler, 250cc, 2WD, red, $2,000. 431-5950

2001 PT Cruiser, leather, heated seats, power moon roof, 105k miles, $3,900 obo. 542-8179

2000 BMW Z3, loaded, white, tan leather, 57k miles, $13,500. 509-0130

1999 Lincoln Town Car Cartier, ivory, new battery, 30k miles, $7,000. 883-8522

1998 Nissan Sentra, four door, runs, needs work, $700. 658-6353

1987 Honda Goldwing Aspencade, $2,000. 298-1126 or julieg1227@gmail.com

1969 MGB convertible, pale primrose yellow, chrome bumpers, wire wheels, $2,700. 350-2777

1979 Farm All International Harvester 140 Tractor, 21HP, disc, plow, off-set seat, low mileage, $3,800. 508-2494

Wanted

Lightly used queen mattress set. 352-514-8405

Pasture boarding, Huntsville area, for 7-year-old gelding. 468-8177

Sewing assistance, table runners for wedding reception; moving boxes, any size. 724-2112

Looking for small/medium Rototiller. 508-5250

Motorized wheelchair or wheelchair base, motor, seat not necessary, used, any condition. 479-4993

Found

Pair of large, white-rimmed sunglasses, with letters DG, Building 4200, 4201 south parking lot. 544-4680

Lost

Brown and gold prescription sunglasses in a silver nylon case. 539-5843

Space shuttle Discovery home after successful mission

From combined reports

Space shuttle Discovery and its crew landed March 28 at NASA's Kennedy Space Center in Florida, completing a 13-day journey of more than 5.3 million miles.

The STS-119 flight delivered the International Space Station's fourth and final set of solar array wings, completing the station's truss, or backbone. The additional electricity provided by the arrays will fully power science experiments and help support station operations. Discovery launched from the Kennedy Center on March 15.

"We had a great launch and a great landing," said Steve Cash, manager of the Shuttle Propulsion Office at the Marshall Space Flight Center. "Our space shuttle main engines, external tank and reusable solid rocket boosters performed extremely well."

During three spacewalks, astronauts installed the S6 truss segment to the starboard, or right, side of the station and accomplished important tasks to prepare the station for future upgrades and additions later this year.

The flight also replaced a failed unit for a system that converts urine to potable water. Samples from the station's Water Recovery System were returned to Earth with Discovery and will be analyzed. It's expected to take about a month for the analysis to be completed and the crew aboard the space station to be given the "go-ahead" to begin drinking the processed water.

On March 24, the 10 shuttle and station crew members gathered in the station's Harmony module to speak to President Barack Obama, members of Congress and school children from the Washington area. From the White House's Roosevelt Room, the president and his guests congratulated the crew on the mission and asked about a range of topics including sleeping in weightlessness and the station's travelling speed.

The International Space Station, with its fourth and final solar array wings installed and unfurled, was photographed by space shuttle Discovery astronauts after undocking March 26.

Lee Archambault commanded the flight and was joined by Pilot Tony Antonelli and Mission Specialists Joseph Acaba, Steve Swanson, Richard Arnold, John Phillips and Japan Aerospace Exploration Agency astronaut Koichi Wakata. Wakata remained aboard the station, replacing Flight Engineer Sandra Magnus, who returned to Earth on Discovery after more than four months on the station.

Acaba and Arnold are former science teachers who are now fully trained NASA astronauts. They made their first journey into orbit and conducted critical spacewalking tasks.

STS-119 was the 125th space shuttle mission, the 36th flight for Discovery and the 28th shuttle visit to the station.

With Discovery and its crew safely home, the stage is set for the launch of STS-125, targeted for May 12. Atlantis' mission will return the shuttle to NASA's Hubble Space Telescope for one last visit before the shuttle fleet retires in 2010. Over a period of 11 days and five spacewalks, space shuttle Atlantis' crew will upgrade the telescope, preparing it for at least another five years of research.

For information about the space station, visit http://www.nasa.gov/station.

For more about the STS-119 mission and the upcoming STS-125 flight, visit http://www.nasa.gov/shuttle.

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