



MARSHALL STAR

Serving the Marshall Space Flight Center Community

March 6, 2008

Space shuttle Endeavour launch set for March 11

By Sanda Martel

Space shuttle Endeavour has been cleared for a March 11 launch from the Kennedy Space Center, Fla., for a 16-day mission to the International Space Station. Launch time is 1:28 a.m. CDT.

NASA's agency-wide flight readiness review was held Feb. 28-29 to conduct a comprehensive evaluation of all activities and elements necessary for the safe and successful performance of STS-123 mission operations, including the space shuttle vehicle, flight crew and payloads.

"We're on track for a March 11 launch," said Steve Cash, Shuttle Program deputy manager and Marshall Shuttle Propulsion manager. "We thoroughly reviewed everything to ensure we're safe to fly, and we're ready to go," he added.

Cash expressed pride that the previous shuttle launch was "clean," and that the Marshall team isn't working any propulsion issues that could potentially prevent an on-time launch. Fuel sensor false readings, which delayed Atlantis' planned December

See Endeavour on page 3



The STS-123 crew includes, front row, from right, Commander Dominic Gorie and Pilot Gregory Johnson. Back row, from left, mission specialists Richard Linnehan, Robert Behnken, Garrett Reisman, Michael Foreman and the Japan Aerospace Exploration Agency's Takao Doi.



Garry Lyles speaks with pride about Marshall's expertise in technology development. "There's no better propulsion capabilities in the world," he says.

'The challenge keeps you sharp'

An interview with Garry Lyles, associate director for technical management

Garry Lyles was named the Marshall Engineering Directorate's associate director for technical management in summer 2007. He previously has led numerous advanced propulsion and flight hardware research and development efforts for NASA, and has been a key leader in developing NASA's space transportation and propulsion "roadmaps" for the next three decades. Lyles joined NASA in 1976 as a propulsion systems analyst, and has since amassed more than 30 years' worth of technical experience in system development and technology program management.

What are the parameters of your position? What, specifically, do you want to accomplish in this job?

My role is technical management of key Marshall Center activities, working closely with Dan Dumbacher, director of Marshall's Engineering Directorate, and his entire organization. I make sure we have the right engineering tools, processes and facilities to deliver our assigned products and hardware. Right now that's primarily Marshall's Constellation Program work: the Ares I crew launch vehicle; components and

See Lyles on page 4

David Beaman named manager of Marshall's RSRB Project



David Beaman

David E. Beaman has been appointed to the Senior Executive Service position of manager of the Reusable Solid Rocket Booster Project in Marshall's Shuttle Propulsion Office. As the RSRB manager, he will oversee the project responsible for the planning, budgeting, scheduling, engineering design and development, integration, test, evaluation and launch operations of the RSRB.

The Senior Executive Service is the personnel system covering top managerial positions in approximately 75 federal agencies.

After graduating from the University of Alabama in Huntsville with a bachelor's degree in electrical engineering in 1990, Beaman worked for Technology Development Corp. as a contractor supporting Redstone Arsenal's military research and development programs. His support of the Space Shuttle Program began shortly thereafter with USBI Company in Huntsville and later with United Space Alliance, where he worked on the Advanced Solid Rocket Motor Program and the Solid Rocket Booster Project.

In 2000, Beaman joined the ranks of the civil service and has held technical and leadership positions in the Reusable Solid Rocket Motor Project Office, including team lead of its Engineering and Integration Office and assistant manager of its Project Office. He also served as the deputy project manager of the RSRM Project Office, and as a result of combining of the SRB and RSRM Project offices in January 2007, he served as the deputy manager of the RSRB Project Office. Beaman has led several high profile activities, including serving as RSRM lead for the Space Shuttle Program Return-to-Flight activities and the transition of the Booster Separation Motor design and qualification activities into the RSRM Project Office.

Beaman has received numerous awards throughout his NASA career, including the NASA Medal for Exceptional Achievement, a Space Flight Honoree Award, and several special service and group achievement awards. He has completed the Marshall Leadership Development Series and achieved Contracting Officer's Technical Representative certification and Space Shuttle Program Mission Management Team certification.

Thomas Williams named manager of Marshall's Propulsion Systems Department

Thomas J. Williams has been appointed to the Senior Executive Service position of manager of the Propulsion Systems Department in Marshall's Engineering Directorate. In his new position, he will direct the department responsible for providing integrated, quality propulsion products and engineering services to NASA, other government agencies and the commercial propulsion development community.

The Senior Executive Service is the personnel system covering top managerial positions in approximately 75 federal agencies.

Williams began his NASA career in 1983 as a cooperative education student in the Solid Motor Branch of the Structures and Propulsion Laboratory. After graduating from Auburn University in 1987 with a mechanical engineering degree, he continued his work as a nozzle systems engineer in the same organization. After moving to the Redesigned Solid Rocket Motor Chief Engineer's Office in 1989, he served in several leadership positions, including test manager, nozzle subsystem manager and motor design team lead.

In June 2002, Williams was selected for a temporary assignment at NASA's Johnson Space Center in Houston, where he served as technical assistant to the Space Shuttle Program manager. In January 2003, he returned to Marshall and was selected to serve as technical assistant to the deputy manager of the Space Shuttle Propulsion Office. He served as the Solid Rocket Booster deputy manager from September 2003 to July 2005, and was located at NASA's Kennedy Space Center in Florida to expedite the numerous redesign challenges following the Columbia accident. Williams also served as the deputy manager of the Ares I First Stage Office in February 2006, where he has been a key member of the team that has accomplished a successful start for the new human exploration endeavor.

Throughout his 25-year NASA career, Williams has received numerous awards, including NASA's Medal for Exceptional Achievement, two center director's Commendations and a Space Flight Awareness Award, one of the highest recognitions presented to NASA and industry employees for their dedication to quality work and flight safety. He has completed numerous high-level training courses at Harvard University's Kennedy School of Government, the Brookings Institution, the Federal Executive Institute and NASA's Management Education Program.



Thomas Williams

Summer faculty fellows

Marshall seeking university researchers to help with NASA projects

The Marshall Center's Office of Academic Affairs in the Office of Human Capital is getting ready to have faculty research associates, known as faculty fellows, come to the center to assist with NASA projects. This provides an opportunity for any Marshall organization to bring in university talent, provided financial resources are available.

Representatives within Marshall's sponsoring organization choose the faculty fellows based on prior association or knowledge. If assistance is needed in identifying a faculty fellow with the required skills, the Academic Affairs Office can

help by accessing the Space Grant network of 550 universities.

For a 10-week period, the program will cost sponsoring organizations — including faculty salaries — \$18,700 for assistant professors; \$20,700 for associate professors; and \$22,700 for professors. Last summer, Marshall hosted nine faculty fellows.

The decision to fund a faculty fellow should be made by March 15, according to Frank Six, Marshall's university affairs officer, in order to permit adequate time for lodging and other arrangements. Those interested in securing faculty assistance can contact Six at 961-0678 or norman.f.six@nasa.gov.

Endeavour

Continued from page 1

launch until February, have apparently been successfully resolved, said Cash. The engine cut off sensor system performed flawlessly during the STS-122 launch Feb. 7 for a 13-day mission to the space station. Atlantis landed Feb. 20 at the Kennedy Center.

Endeavour's March 11 launch date represents a mere 20-day launch-to-launch turnaround — the least amount of time between shuttle launches since Return to Flight in July 2005.

STS-123 is the first in a series of flights that will deliver components to complete the Japan Aerospace Exploration Agency's Kibo laboratory on the station, marking the beginning of the agency's presence there. The Japanese experiment logistics module's pressurized section will contain critical avionics and serve as a storage area for experiment materials. At 14.4 feet in diameter and 12.8 feet in length, it is the smaller of two pressurized Japanese modules. Kibo's main facility and robotic arm are scheduled to launch on the following shuttle mission, STS-124.

The mission also will deliver the Canadian Space Agency's Dextre robotics system, a manipulator equipped with two arms and designed

to work with Canadarm2 to perform finer maintenance tasks that normally would be accomplished with spacewalks by astronauts on the space station. STS-123 will feature five spacewalks.

Endeavour's flight crew includes Commander Dominic Gorie, Pilot Gregory Johnson and mission specialists Rick Linnehan, Robert Behnken, Mike Foreman, Garrett Reisman and the Japan Aerospace Exploration Agency's Takao Doi. Johnson, Behnken and Foreman will be making their first spaceflight.

The mission will deliver NASA astronaut Garrett Reisman to join Expedition 16 as flight engineer on the station, replacing the European Space Agency's Leopold Eyharts, who rode up with the STS-122 astronauts and will return with the STS-123 crew.

For more information about the STS-123 mission and astronaut bios, visit http://www.nasa.gov/mission_pages/shuttle/shuttlemissions/sts123/.

For more information about the shuttle program, visit http://www.nasa.gov/topics/shuttle_station/index.html.

Martel, an ASRI employee, supports the Office of Strategic Analysis and Communications.



Lyles

Continued from page 1

technologies associated with the Ares V cargo launch vehicle; and the Orion launch abort system propulsion. It's my job to make sure we're preparing ourselves to deliver the best possible products, on schedule and at cost.

What role does technology development play in this effort?

That's an interesting question, in light of what we're doing on Ares I, which is being designed to need as little all-new technology as possible. We're on an evolutionary path, based on our wealth of understanding of things like the shuttle's solid rocket motor. We'll use that for the first stage of Ares I — a different application, not a new technology. We also are taking the best of the shuttle propulsion elements and the best of what we did on the Apollo-era Saturn rockets, and bringing those proven technologies into the modern world, integrating them with new components to build a launch vehicle and accomplish our mission.

On the other hand, we are looking at new technology development for Ares V, especially things like composite structures, which for NASA is an application of a fairly new technology. We're also bringing in the RS-68 to serve as the primary engines for Ares V. It's a flight engine developed as a commercial engine — but it will be used in a new configuration. And you will find some new technologies on Ares I. Look at the nozzle of the J-2X, which powers the second stage. It will be much bigger than similar engine nozzles, and we're asking for a lot more performance from it. Scaling it up to our J-2X requirements is a technology push.

How does technology leadership translate into new products, services and jobs?

Ares I is a proving ground. Its success will set us up to design and develop Ares V. When we bring that effort to fruition, we'll have delivered a spacefaring capability that NASA, the country and the world haven't had since the days of the Saturn V. After that, we can go anywhere. A successful extraplanetary space program doesn't just enable moon and Mars exploration. It permits us to go farther, and to send up a range of science payloads of a size and mass we couldn't even dream about until now. We open the doors with Constellation — not just expanding the frontier of exploration, but enabling research and technological advancement with real tangible value back here on Earth.

What are the primary technology challenges we face on Constellation?

We've not produced vehicle designs of this scale and complexity since the Apollo era. We have great

potential and capability at the Marshall Center, of course — we're smart, dedicated and have vast experience designing components and systems. But a task of this magnitude requires that our processes and communications tools be second to none, that our engineers talk to one another, and that we sustain an organization within the Engineering Directorate that supports our design and systems engineers without fail.

What are our greatest technological capabilities or strengths?

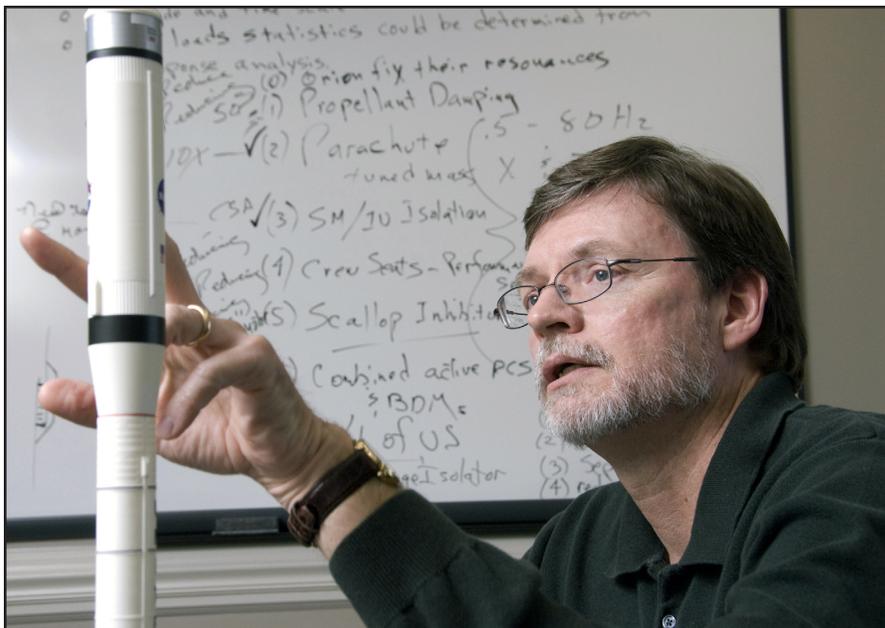
Our strength is the fact that we deliver a good mix of technology and development. There's no better propulsion capabilities in the world than at Marshall. And, as an added strength, we're systems designers — we know how to put things together and make them work together. That systems technology expertise is probably our biggest strength.

What will it take for Marshall to maintain its technological advantages?

Sustained technology development at Marshall is critical. Consider propulsion — one of our chief areas of expertise for NASA. We plan to put systems powered by cryogenic propellants on the lunar surface for the first time. And the Altair lunar lander will be the first ever to include a liquid oxygen/hydrogen-propelled stage. We've never built anything like that before. The capability to manage these cryo-propellants for long durations in space and on the moon will be a major technology development program, and provide a huge boost in capability. We'll use it to start building our lunar outpost. And that will be a challenge.

But it's the challenge that keeps you sharp. It's what keeps you on top. We're ready for it.

Rick Smith, an ASRI employee who supports the Office of Strategic Analysis and Communications, conducted this interview for the Marshall Star.



Emmett Given/MSFC

Lyles uses a scale model of the Ares I rocket to illustrate a point.

'Focus on Marshall': Get behind the wheel of robotic vehicles and step inside a lab on the International Space Station

By Lori Meggs

As NASA develops vehicles and rovers that will travel across the surface of the moon, the Marshall Center is also developing the networking and infrastructure that allows robotic systems to work together in a controlled manner.

The March episode of "Focus on Marshall" highlights the lunar surface mobility system — a fleet of robotic vehicles that work together thanks to the hard work of Marshall technologists. Laptop computers control a sophisticated communications network which differentiates between each vehicle. The segment features a demonstration of the system, including a look at hand-held controls — that most teenagers are probably familiar with — used to move the vehicles around.

The episode also features the Lab Training Complex in Building

4663. The complex is a mockup of the International Space Station's Destiny Laboratory that gives ground teams a visual of what a crew sees on orbit. This lab is used to train payload rack officers in the Payload Operations Center who are charged with monitoring all systems and racks connected to experiments on board. The lab also provides a tool for education outreach. The HUNCH Program, or High Schools United with NASA to Create Hardware, works with high school students to create much of the equipment in the mockup.

"Focus on Marshall" is broadcast on Marshall TV the first and third Tuesday and Thursday of each month at 11 a.m., noon and 1 p.m. It also is available on NASA TV, Inside Marshall and on the NASA Portal.

Meggs, an ASRI employee, supports the Office of Strategic Analysis and Communications.

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, March 13, is 4:30 p.m. Thursday, March 6.

Miscellaneous

Oneida silverplate Chalice pattern, 8 knives, forks and spoons, 7 salad forks, lightly used condition, \$35. 837-3037

Piedmont Pool membership, \$250. 651-9431

Wicker dresser, white, seven drawers, pictures available, \$100 obo. 509-2536 or 379-3398

Two tickets, Jackson Browne concert, VBC Concert Hall, March 10, \$55 each. 682-2070

Baby items, toys, swings, stroller/car seat, high chair, boy clothes, infant-8 years. 426-4769

1985 Fender Stratocaster MIJ, white, \$600 obo. 846-6138

Golf clubs, TaylorMade 10.5 driver, 5 wood, \$75 both. 476-5837

GE over-the-range microwave, needs work, \$40. 325-9264

Medium-brown, nine-drawer dresser, mirror, armoire base, armoire top, \$550 obo. 830-0248

Weimaraner puppies, AKC, claws removed, tails docked, shots, 8 weeks old, \$400. 287-2488 or 347-2097

Queen-sized, light oak headboard/footboard, dresser, \$500; Sleep Number 4000 bed, \$400. 880-2285

Huntsville Memory Garden, Garden of Devotion, six adult spaces, \$2,195 each, negotiable. 859-4002

Polk Audio five-channel surround-sound speakers, subwoofer, speaker stands, \$500. 724-2944

Piedmont Recreation Association pool membership, \$250. 885-5973

Women's TREK bicycle, 19-inch frame, \$25. 351-1754

Two coupons, Point Mallard golf rounds, good through Sept. 30, \$10 each. 351-1754

PlayStation Portable, three games, 512 card, extra-high capacity battery, case, \$160. 337-4359

Custom-made, Ethan Allen-style entertainment center, \$1,200 obo. 539-4898

Antique solid oak dresser, early 1900s, beveled mirror, four drawers, \$200. 684-3824

Oak veneer dining table, six chairs, \$200; horse. 728-5768

Contemporary dining room set, 72-inch glass table, six upholstered chairs, two China cabinets, \$500. 603-1273

T-Mobile MDA Smartphone, WM5, box, accessories, \$125 obo. 739-2768

Five-piece Diablo Punx drum set, red, \$250. 325-3225

Oak full bed, headboard, footboard, slats fit queen-size also, full Mattress, box springs, \$300. 655-6348

Prom dresses, sizes 18-22, shoes, purses, shawls, \$50-\$200 per outfit. 640-6418

Yamaha organ, console model, dual keyboard, \$975; Singer sewing machine, portable,

commercial-grade model, \$175. 881-7283

Sofa, loveseat, \$450. 694-0116

Vehicles

2006 Harley Davidson Fatboy, black pearl, extras, \$15,000. 233-8505

2006 Starcraft RV SB21, www.travelstarrv.com for floor plan, make offer. 864-8045

2005 19-foot Carolina Skiff, Yamaha 90 HP engine, aluminum trailer, depth finder, extras, \$12,000. 883-6446

2005 Honda ST1300, seven-year warranty, 8,800 miles. 829-9590

2003 Tahoe, leather, third-row seats, rear air, XM, CD, 61k miles, \$15,500. 468-0854

2002 Nissan Maxima GLE, black, gray leather, Bose, sunroof, 72k miles, \$11,500. 508-6012

2002 Nissan Xterra, four door, 2WD, 26k miles, \$10,500. 527-8116

2002 convertible Mustang, red, auto, leather seats, six-disc CD player, 73,700 miles, \$10,200. 509-7736

2001 Mazda Miata LX, tan leather, power windows, black, 61k miles, \$10,500. 883-6894 or 468-6894

2001 Nissan Quest minivan, \$4,300. 931-2447

2000 Ford Ranger, black, needs minor maintenance, 130k miles, \$2,000 obo. 762-1434

2000 Jetta, green, auto, air, alloys, power windows/locks, sunroof, 119k miles, \$5,500 obo. 509-3559

1999 Toyota 4-Runner Limited Edition, white, brown interior, sunroof, CD, A/C, \$7,000. 694-1260

1989 Ford F-150, \$1,500. 508-8269

Wanted

Pair of ferrets, cage, accessories. 585-4411

Golfers interested in joining MSFC team playing Redstone, Mondays. ken.wright@nasa.gov or 961-7648 by March 11

Free

Trampoline, you haul away. 604-9828

Yellow Lab, female, 2 years old, great with kids, vaccines current. 682-1083

Lost

Eyeglasses, case, Building 4707, 4711 area. 544-9269

Marshall contractors receive prestigious George M. Low award

NASA Headquarters news release

NASA has presented the George M. Low Award, its highest honor for quality and technical performance, to four companies committed to innovative management, process quality and customer service.

The awards were presented Feb. 26 at NASA's fifth annual Project Management Challenge Conference in Daytona Beach, Fla. Winners received a trophy with a medallion alloyed with material flown to the moon on Apollo 11.

The 2007 Low Awards were given in the business service and product categories. Lockheed Martin Mission Services of Houston, nominated by Johnson Space Center in Houston, received the award for the large business service category. Sierra Lobo Inc. of Milan, Ohio, nominated by the Marshall Center, won the small business service category. Pratt & Whitney Rocketdyne Inc. of Canoga Park, Calif., also nominated by Marshall, won the award for large business product. ASRS Aerospace Corp. of Cape Canaveral, Fla., nominated by Kennedy Space Center in Cape Canaveral, won the small business product award.

NASA also recognized four finalists: Boeing Space Operations Company, Cape Canaveral; Oceaneering International Inc., Houston; Space Systems Division at Jacobs Engineering, Huntsville; and the National Institutes of Aerospace, Hampton, Va.

Established in 1985, NASA's Excellence Award for Quality and Productivity demonstrates the agency's commitment to promote

excellence and continual improvement by challenging the NASA's contractor community to be a global benchmark of quality management practices.

In 1990, the award was renamed in memory of George M. Low, an outstanding NASA leader who contributed greatly during his 27-year tenure. Low was the deputy administrator from 1969-1976 and a leader in the early development of NASA's space programs.

The agency also presented Quality and Safety Achievement Recognition awards to four individuals committed to safety. The award recognizes individual government and contractor employees who have demonstrated exemplary performance in contributing to the quality and/or safety of products, services, processes or management programs and activities.

This year's QASAR winners were: Michael Sampson and Melonie Scofield of NASA's Goddard Space Flight Center, Greenbelt, Md.; Russell Bakes of ATK Launch Systems, Brigham City, Utah; and Thelma Cox of the Stennis Defense Contract Management Agency office in New Orleans.

For more information about the George M. Low Award, visit www.hq.nasa.gov/office/codeq/gml.

For more information about the Quality and Safety Achievement Recognition award program, visit www.hq.nasa.gov/office/codeq/qasar.

This month in history ...

As the United States moved toward the creation of NASA on Oct. 1, 1958, the U.S. Army team in Huntsville launched Explorer III, a joint project between the Army Ballistic Missile Agency and the Jet Propulsion Laboratory in California. Launched by a Juno II rocket March 26, 1958, the satellite yielded valuable data on radiation belts, micrometeorite impacts and temperature before returning to Earth June 27, 1958.



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