



MARSHALL STAR

Serving the Marshall Space Flight Center Community

April 23, 2009

Marshall shuttle team ready to support Hubble mission

By Sanda Martel

NASA managers will meet April 30 at the Kennedy Space Center, Fla., to set the official launch date for space shuttle Atlantis' mission to service NASA's Hubble Space Telescope. The targeted launch date is May 12.

The date will be announced following the Flight Readiness Review, a traditional meeting in which top NASA managers and engineers set launch dates, determine whether the shuttle's complex array of equipment, support systems and procedures are ready for flight and assess any risks associated with the mission.

The Space Shuttle Program held its readiness review April 20-21 and verified that space shuttle Atlantis is

ready to fly. "We had a very productive review and are pleased with the readiness of the external tank, solid rocket boosters and main engines," said Steve Cash, manager of the Marshall Space Flight Center's Shuttle Propulsion Office. "The propulsion elements are in good shape and ready to meet the targeted launch date.

"Our propulsion elements performed in an outstanding manner during our last launch in March and we fully expect the same excellence for the STS-125 launch," Cash added.

Workers at launch pad 39A at the Kennedy Center continue to prepare shuttle Atlantis for the mission. The equipment payload that Atlantis will

carry for the servicing mission arrived at the pad April 18.

Meanwhile, space shuttle Endeavour arrived at launch pad 39B April 17. Prior to its STS-127 mission, targeted to launch June 13, Endeavour will be on standby in the unlikely event that a rescue mission for the Atlantis crew members would be necessary during their Hubble servicing mission. After Endeavour is cleared from its duty as a rescue spacecraft, workers will move it to launch pad 39A in preparation for the STS-127 mission to the International Space Station.

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



Ares I five-segment development motor on the move, ready for testing

On April 16, NASA moved the first segment of the Ares I rocket's five-segment development motor, or DM-1, from a production facility in Promontory, Utah, to the nearby test stand. The segment move is in preparation for the first ground test, targeted for August. The DM-1 is the Constellation Program's first five-segment, test motor for the Ares I first stage, which is managed by the Ares Projects at the Marshall Space Flight Center. The Ares I rocket's first stage solid rocket motor will launch astronauts on future missions of exploration beyond Earth orbit. The motor is being developed by ATK Space Systems, a division of Alliant Techsystems of Brigham City, Utah, the prime contractor for the Ares I first stage. The static firing of the solid rocket motor will provide NASA with valuable thrust, roll control, acoustics and vibration data as engineers continue to finalize the design of the Ares I rocket.

Former Marshall Center Director David King bids adieu at Employee Appreciation Social



Marshall Space Flight Center Acting Director Robert Lightfoot, second from left, presents former Marshall Center Director David King, right, with a cardboard cutout of himself during an Employee Appreciation Social on April 20 at Activities Building 4316. The event featured a roast by the Marshall "Friars' Club." Todd May, left, special assistant to the director in Marshall's Office of the Director, was the master of ceremonies.



David King and his wife, Lisa, share a laugh during his "Friars' Club" Roast. Friends, family and NASA colleagues participated in the farewell to King, who retired from the Marshall Center earlier this month.

Jay Strack, left, David King's friend from Florida, takes part in the roast.





David Higginbotham/MSCFC

Marcia Cobun, a Schafer Corp. employee supporting the Office of Strategic Analysis & Communications, offers her congratulations to King on his retirement from the Marshall Center during the social.



David Higginbotham/MSCFC

NASA Associate Deputy Administrator Charles Scales, at the podium, shares anecdotes about David King. Looking on, seated from left, are Todd May, David King and Lisa King.

At King's roast, from left, are Marshall Center Acting Director Robert Lightfoot; the Kings' daughters, Bethany and Katie; David King's parents, Angeline and Leon King; Margot Thigpen, executive assistant in the Office of the Director; Mike Coats, director of the Johnson Space Center in Houston; and Dr. Woodrow Whitlow, director of the Glenn Research Center in Cleveland.



David Higginbotham/MSCFC



David Higginbotham/MSCFC

At the event, people from David King's past spoke from behind a screen, giving one-sentence clues as to who they are. Shar Hendrick, in silhouette, former manager of Marshall's External Relations Office, provides a clue for King.



David Higginbotham/MSCFC

Ralph Roe, left, director of the NASA Engineering and Safety Center at Langley Research Center in Hampton, Va., and a college friend of David King, presents King with a photo.

Thirty-two student rockets fly high over North Alabama

By Rick Smith

On April 18, more than 350 middle school, high school, college and university students from 17 states filled the skies over North Alabama with smoke and thunder, concluding the Marshall Space Flight Center's most successful and busiest Student Launch Projects event to date.

Thirty-three teams of students participated in the 2008-2009 NASA Student Launch Projects. NASA held the first student launch event in 2001 to inspire students to pursue careers in science, technology, engineering and mathematics. As its popularity grew, NASA in 2006 created the tandem challenges of the Student Launch Initiative for middle and high schools and the University Student Launch Initiative for colleges and universities.

The events, managed by the Marshall Center's Academic Affairs Office in the Office of Human Capital, are sponsored by the Exploration Systems Mission Directorate and the Space Operations Mission Directorate at NASA Headquarters in Washington. Corporate sponsorship is provided by ATK Space Systems of Magna, Utah.

Participating teams seek to launch their rockets, each complete with a working science payload, as close as possible to NASA's 1-mile-high goal and retrieve them intact. On-board altimeters

measure how high they fly. Science experiments ranged this year from instruments that study air pollutants and the behavior of the rocket itself, to built-in water tanks designed to record the sloshing behavior of liquids subjected to ascent and freefall.

In the months leading up to the launch, students also produced thorough written and oral presentations on their rockets, created Web sites about their work and planned and conducted rocketry- and spaceflight-related outreach efforts in their communities.

On launch day, all teams but one – the Tuskegee University team, which suffered a test mishap two weeks earlier but drove up anyway from Tuskegee, Ala., to cheer on their peers – soared high. That's nearly twice as many rockets as have ever flown in the challenge in a single day. Event planners decided to have a one-day "fly-for-all" to avoid anticipated severe weather on April 19.

The move paid off. Calm, sunny skies on April 18 drew more than 600 spectators to Bragg Farms in Toney, Ala., which hosted the event. The local, non-profit Huntsville Area Rocketry Association provided technical launch support throughout the day.

ATK Space Systems contributed launch motors for the university rockets, which were otherwise completely

designed and built by the student teams. ATK also funded the closing awards banquet April 18. Awards presented included:

Best Vehicle Design:

Utah State University in Logan, the 2008 university champs, took home the award for the most creative, innovative, safety-conscious rocket design.

Best Payload Design:

Florida Institute of Technology in Melbourne won for the most creative

and innovative payload experiment, emphasizing safety and scientific value.

Project Review Award: Utah State University won this award for the second straight year, delivering the best combination of written critical design and flight readiness reviews and formal presentations.

Outreach Award: The University of Alabama in Huntsville won for best inspiring the study of rocketry and other spaceflight-related topics at local schools and the surrounding community.

Best Web Design: The Georgia Institute of Technology in Atlanta won for the best rocketry Web site, completed on time with all relevant documentation.

Closest to Altitude Award: Arizona State University in Tempe came closest to the specified 1-mile altitude goal. Their rocket reached an altitude of 5,293 feet – just 13 feet off the mark.

Peer Awards: Student Launch Initiative and University Student Launch Initiative participants submitted votes for two awards in each division. Krueger Middle School in San Antonio, Texas, and Missouri University of Science & Technology in Rolla were awarded the

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Students from Madison West High School in Madison, Wis., track their rocket's ascent.



Alabama A&M University's rocket team prepares its vehicle for liftoff.

American Recovery and Reinvestment Act puts money back into paychecks

Marshall Space Flight Center civil service employees may have noticed a few more dollars in their paychecks recently, thanks to the American Recovery and Reinvestment Act of 2009.

Signed into law by President Barack Obama in February, the act aims to create and save jobs, bolster the economy and help build long-term economic

growth. It includes the "Making Work Pay" tax credit, which for 2009 and 2010 provides a refundable tax credit of 6.2 percent of earned income – up to \$400 per year for working individuals and \$800 per year for married taxpayers. Families should see at least a \$65 per month increase in their take-home pay.

Tax credit implementation for NASA employees began March 20 and based on financial circumstances, may have



included a reduction of federal income tax withheld and changes to the advance earned income credit – a refundable tax credit for low-income families.

Civil service employees can make adjustments to their federal income tax withholdings through Employee Express at <https://www.employeeexpress.gov>.

For more information on the American Recovery and Reinvestment Act of 2009, visit www.recovery.gov.

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 30, is 4:30 p.m. Thursday, April 23.

Miscellaneous

50-pint dehumidifier, portable, works but is noisy, \$20. 714-4651

75-gallon aquarium, cabinet stand, two Emperor filters, lights, \$275. 777-3670

Shorkie Tzu puppies, three males, three females, CKC papers. 200-4018

Solid oak kitchen table, round to oval, leaf, six chairs; almond washer/dryer, \$100. 852-8750

Third-generation iPod Nano, clear case, 8Gig, accessories, \$75. 289-0377

Sailplanes, various sizes; transmitters, various charging equipment. 881-3680

Paradigm stereo speakers, Studio 20 Reference series, built-in amplifiers, high-end audio, \$725. 352-514-8405

Large metal bar pet enclosure, good for bird or rabbit, slide out tray. 466-6855

Matching leather sofas, \$350 each or \$650 both. 281-957-5295

Baby Trend Malawi Deluxe Nursery Center Playard, \$75. 426-4769

MEGA BLOKS helicopter, 710 pieces, \$10; K'NEX toy sets, \$60. 464-9408

Pool table, 9 feet, Connelly, Snooker and Billiard rails, light, accessories, www.thewilletfamily.com/forsale/, \$2,250. 883-7021

CKC Boston Terriers, 6 weeks old, three males, one female, \$250 each. 205-237-6464

Honda Harmony 1011 riding mower, 30-inch cut, 11HP, \$450 obo. 232-1947

Solid cherry entertainment center, fold-back doors/shelf/drawer, \$100. 519-9326

TV stand, five drawers, solid wood, cherry, picture at <http://home.mchsi.com/~jscottm/tvstand.html>, \$85. 828-9651

Kohler two-piece toilet, seat, white, 1.6 gallon/flush, tank #K-4608, bowl #K-4277, pictures available, \$75. 655-6701

King 606 B flat trombone, case, \$300 obo. 541-9126

Sony 36-inch color TV, old flat-screen design, \$175 obo. 430-9774

Broyhill white kitchen hutch, glass sides/doors/shelves, \$325; five-piece white indoor wicker set, \$350. 975-1667

Lane five-piece dark brown leather sectional sofa, chaise lounge, \$2,000. 348-8316

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

2006 GE side-by-side refrigerator, white, 20.0 cubic feet, \$500 obo. 509-2536

Vehicles

2008 Blue Honda Accord Coupe, EXL-V6, loaded, leather, ground effects, multi-CD/XM/iPod, 9k miles, \$24,900. 604-9951

2008 Ford Edge, black, tan interior, AM/FM stereo, Sirius, six-disc CD, 5k miles, \$19,850. 683-3932

2007 Kubota front loader, backhoe, 34 HP, 4WD, disk, landscaping box attachments, 120 hours, \$26,000. 509-2536

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

2005 Nissan Altima, silver, black cloth, 29 mpg, all maintenance, 58k miles, \$9,500. 606-7350

2004 Gray Dodge Intrepid, 160k miles, \$3,250 obo. 604-7424

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

2002 Fifth-Wheel, slide-out, sleeps eight, \$13,990. 721-1260

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

2001 Kawasaki Bayou 300 4x4 four wheeler, red/black, \$2,500. 828-9798

1998 Grand Prix, loaded. 777-9158

1998 Grand Prix, GTP package, new tires, super charger, black, leather interior, 166k miles, \$3,650. 684-9545

1995 Buick Regal, 109k miles, \$2,900. 417-1957

1993 Acura Integra, automatic, 130k miles. 508-5416

1953 Chevy truck. 227-0542

Wanted

Twin mattress/box spring set. 759-3009

Solid oak mirror, honey, mounts to dresser or hangs. 682-6325

Michoud completes first Orion friction stir weld



On April 16, Lockheed Martin engineers at NASA's Michoud Assembly Facility in New Orleans, using the facility's new friction stir weld tool, completed the first weld on an Orion crew module ground test article. Friction stir welding is a solid-state joining process used for applications in which the original metal characteristics must remain as unchanged as possible. Called the Universal Weld System II, known as UWS II, the tool includes a 22-foot diameter turntable, a self-reacting friction stir weld head and a modular T-grid floor. UWS II will be used to join an aluminum-lithium, or AL, 2195 cone panel and an AL 2219 longeron – a thin piece of metal fastened to the skin of an aircraft – on the Orion test article. The test article will be the first full-scale crew module for Orion manufactured for testing in flight-like environments on the ground.

Rockets *Continued from page 4*

"Best-Looking Rocket" awards. Boy Scout Troop 143 of Giddings, Texas, and Missouri University of Science & Technology won the "Best Team Spirit" prizes.

All prize-winning teams received plaques and participation trophies from the Marshall Center and ATK Space Systems.

The final two university division awards – "Rookie Team of the Year" and "Best Overall Team of the Year" – will be presented in May, once teams have submitted their post-launch and science payload reports, due May 8, for review by NASA and ATK judges.

Based on those final reports, teams' preliminary presentations and outreach efforts, and the results of the rocket flights, ATK will present the top team with a \$5,000 grand prize, and NASA will invite them to an upcoming space shuttle launch.

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



At the launch controls are Marshall Center astronomer Dr. Bill Cooke, left, and Marshall test engineer Vince Huegele, right, who also served as announcer for the event. Pushing the ignition button is Bragg Farms employee Chris Harvey, center, holding his son Wesley. Bragg Farms hosted the launch event.

MARSHALL STAR

Vol. 49/No. 31

Marshall Space Flight Center, Alabama 35812
256-544-0030
<http://www.nasa.gov/centers/marshall>

The Marshall Star is published every Thursday by the Public and Employee Communications Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. Classified ads must be submitted no later than 5 p.m. Friday to the Marshall Public and Employee Communications Office (CS20), Bldg. 4200, room 102. Submissions should be written legibly and include the originator's name. Send e-mail submissions to: intercom@msfc.nasa.gov
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Manager of Public and Employee Communications: Dom Amatore
Editor: Jessica Wallace

U.S. Government Printing Office 2009-523-047-20196

www.nasa.gov

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