



# MARSHALL STAR

Serving the Marshall Space Flight Center Community

April 7, 2005



## Space Shuttle Discovery rolls to launch pad

*From Kennedy Space Center release*

Space Shuttle Discovery rolled out Wednesday to Launch Pad 39B at NASA's Kennedy Space Center, Fla.

The fully-assembled Space Shuttle Vehicle, or "stack" -- consisting of the orbiter, External Tank and twin Solid Rocket Boosters -- is mounted on the Mobile Launcher Platform and delivered to the pad via a crawler transporter. The four-mile journey from the Vehicle Assembly Building to the pad takes about six hours.

Launch of Discovery on its Return to Flight mission, designated STS-114, is targeted for May 15 with a launch window that extends to June 3. During its 12-day mission, Discovery's seven-person crew will test new hardware and techniques to improve Shuttle safety, as well as deliver supplies to the International Space Station.

Discovery was moved from Orbiter Processing Facility on March 29 to the Vehicle Assembly Building and attached to its propulsion elements, a redesigned External Tank and twin Solid Rocket Boosters.

In preparation for rollout to the launch pad, work in the building included the installation of a new digital camera, testing electrical and mechanical attachments between the orbiter and External Tank, and umbilical checks.

**At left, suspended from an overhead crane in the Vehicle Assembly Building at NASA's Kennedy Space Center, the orbiter Discovery is lowered toward the Solid Rocket Booster and External Tank already stacked on the top of the Mobile Launcher Platform. The top of the tank can be seen at the bottom of the photo.**

## *FIRST robotics competition moves to championship level*

**H**ere come the robots! Robots from across the nation and around the world are being prepared to face off this spring in the FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition. Each robot will try to complete assigned tasks better than its opponents. But, even more impressive than the robots themselves are the people behind them.

The FIRST robots aren't built by

high-tech corporations, but by high school students. Last year, more than 900 teams, comprising 20,000 students, participated in the competition. NASA is one of several organizations in partnership with FIRST to make the competition possible.

On Jan. 8, the 14th Annual FIRST Robotics Competition kicked off. Teams from all over the United States and from several other countries participated in 30 regional tournaments in March. Several North

Alabama-area high schools participated in the regional competitions. Those selected to participate in the championship event this month at the Georgia Dome in Atlanta are the Limestone County Technical Career Center and its partner, Siemens VDO Automotive Electronics; New Century Technology High School in Huntsville and its partners, the Marshall Center, Macro-Industries and the U.S. Army; and Arab High School. The

**See Robotics on page 2**

# Robotics

Continued from page 1

Marshall Center also sponsored the award-winning Winnebago High School in Winnebago, Ill. It was named winner of the St. Louis Regional Competition in its rookie year.

The program benefits students by providing a unique learning opportunity that is practical and hands-on, not to mention fun. In addition, colleges, universities, corporations, businesses and individuals contribute to provide scholarships for winning teams.

FIRST is a multinational non-profit organization, founded in 1989 by Dean Kamen, inventor of the Segway Human Transporter. In addition to the Robotics Competition, FIRST also runs the FIRST LEGO League, for children 9-14 years old, and FIRST Place, a science and technology center that includes a hands-on children's science museum. Partnering with FIRST in the competition are many businesses and education and government institutions, which provide funding, in-kind donations and volunteers.

Among those is NASA, which supports the program in many ways. Many NASA engineers serve as mentors of FIRST teams. The Agency provides funds for grants to help schools participate in the program. NASA also made it possible for students around the nation to watch the kick-off event live. It also was involved in the creation of software used by the robot teams. NASA even has a Robotics Education Project that works to bring the wonder and excitement of robotics into the classroom.

"FIRST is a tremendous program for getting students excited about science, technology, engineering and mathematics," said Terry Odum, Marshall Center robotics education project coordinator.



Photo by Emmett Given / Marshall Center

Students from Austin High School in Decatur make last-minute adjustments to their robot before competing in the FIRST Robotics Competition in Athens during February. Joe Hebron, a senior manager with Siemens VDO Automotive Electronics, served as the emcee.

"Many of the 150-plus local students who participated this year will remember the experience for years and may now go on to successful technical careers as a result of NASA's support to the program," he said.

## Davis speaks at engineering conference



Davis

Photo by David Higginbotham/Marshall Center

Dr. Jan Davis, director of the Safety and Mission Assurance Directorate at the Marshall Center, spoke at the Fourth Annual Southeastern Software Engineering Conference, held March 28-31 at the Von Braun Center.

The conference provided a unique venue for software engineers, computer scientists, program managers and students to learn about the impact that advancing software technologies are making in commercial, space and military applications. The conference was conducted concurrently with Huntsville's premier technical symposium and exposition, the Technical Exposition for Advancing Multi-Market Solutions (TEAMS).

Davis gave an overview of the Safety and Mission Assurance Directorate, Return to Flight efforts, and the NASA culture and organization.

### Partial eclipse visible Friday

Skywatchers in much of the United States are in for a treat on Friday evening when the sun and moon cross paths to create a special hybrid solar eclipse. This unusual type of eclipse means a partial eclipse for some viewers, an annular eclipse for some, and a total eclipse for others.

A partial eclipse will be visible south of a line extending across the nation from southernmost California to central New Jersey with about a 40 percent partial eclipse in regions like southern Texas and 50 percent in southern Florida at roughly 6 p.m. EDT. A hybrid eclipse occurs when the highest point of the moon's shadow pierces Earth's surface at some points, but falls short of the planet along other portions of the eclipse path. The curvature of Earth's surface brings some geographic locations along the path into the umbra while other positions are more distant and enter the antumbral rather than umbral shadow.

# Announcements

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## ***Redstone Arsenal Quality Summit is Tuesday, Wednesday***

The Redstone Arsenal 2005 Quality Summit is Tuesday and Wednesday in the Bob Jones Auditorium of the Sparkman Center. The summit's theme is "Incentives for Quality Improvement." Invited speakers include Brian Hughitt, manager of Quality Assurance at NASA Headquarters. On day two, workgroups will focus on developing ideas and concepts related to the summit theme.

## ***Register now for Take Our Children to Work Day***

The annual Take Our Children to Work Day is April 28. The event is designed to introduce and expose children to their parent's workplace and environment. For an activities schedule and to register, go to <http://eo.msfc.nasa.gov> or see "Inside Marshall."

## ***Astronomy Day is April 16***

The Von Braun Astronomical Society is hosting Astronomy Day, April 16 from noon to 10 p.m. at the Von Braun Planetarium and Observatory in Monte Sano State Park. Daytime and evening activities are planned, including planetarium shows, movies and skywatching. For more information, go to <http://www.vbas.org>

## ***Moonbuggies race this weekend at U.S. Space & Rocket Center***

Come to the 12th Annual Great Moonbuggy Race on Friday and Saturday at the U.S. Space & Rocket Center to see human-powered buggies built by high school and college students and designed to travel around a half-mile course. See "Inside Marshall" for more details.

## ***Redstone Scientific Information Center celebrates library week***

The Redstone Scientific Information Center will celebrate National Library Week April 13 from 10 a.m. to 1 p.m. with refreshments and demonstrations of the center's various resources. The Redstone Scientific Information Center is located in Bldg. 4484, just off Martin Road behind Garrison Headquarters. For more information, call 876-9309.

## ***PMI monthly meeting is April 19***

The Project Management Institute will meet at 11:30 a.m. April 19 at Landry's Seafood Restaurant in Huntsville. The luncheon speaker will be Dr. Jay Billings of Defense Systems Management Corporation. He will speak on data configuration management. This will be a joint meeting with the IEEE Engineering Management Society. Cost is \$20. Register by April 15 at [programs@NorthAlabamaPMI.org](mailto:programs@NorthAlabamaPMI.org) or prepay at [www.NorthAlabamaPMI.org](http://www.NorthAlabamaPMI.org).

## ***NASA sets DART launch date***

NASA's Demonstration of Autonomous Rendezvous Technology (DART) spacecraft is scheduled to launch at 12:21 p.m. CDT, April 15 from Vandenberg Air Force Base, Calif. DART is a flight demonstrator that provides a key step in establishing autonomous rendezvous capabilities for the U.S. space program. The DART project is managed by the Marshall Center.

## ***Local Engineers Without Borders chapter proposed***

Anyone interested in starting a Huntsville-Madison County chapter of Engineers Without Borders should contact Stephen Clanton at 544-5643. Engineers Without Borders is a non-profit, humanitarian organization established to partner with developing communities to improve the quality of life of its residents.

## ***Earth Day class offers continuing education credit***

A free continuing education class on environmental sustainability will be held from noon to 2 p.m. April 19 in Bldg. 4316, following the Earth Day ceremony. The class will be taught by Dr. Brian Natrass and Dr. Mary Natrass, experts in the field of sustainability. Each participant will earn two continuing education credit hours.

**Classified Ads**

**Miscellaneous**

Utility trailer, 6'x10'x2' sides, black, \$425. 479-2651  
 Coffee table, \$65; exercise bike, \$50; sofa/loveseat, \$200; TV stand, \$20; table/chairs, \$50. 256-534-0939  
 Exercise step w/Jane Fonda tape, \$20; twenty-seven National Geographic magazines, \$1 each. 256-355-8589  
 Dell Latitude CPi 300XT laptop, \$200; Sony Vidimagic video projector, 72" & portable 40" screens, \$295. 797-8895  
 Sanyo 13" color TV, \$30. 256-776-1230  
 Large formal sofa, \$100; formal chairs, \$25; Sega CD Power Rangers game, \$5. 430-6842  
 Coleman Pop-up camper; 1989 Shenandoah, sleeps 6, extra tires, awning, \$2,000. 882-3354  
 Two tickets to Larry the Cable Guy, great floor seats. 256-572-1197  
 Overstuffed sofa, loveseat, & ottoman, white w/colors, will sell separately, \$450 all. 325-9264  
 Power Wheels Harley motorcycle, girl's pink/purple, \$75; Power Wheels Barbie Sun Jammer Jeep, \$75. 353-0370  
 Ducane Propane gas-grill w/stainless cart and wheels, side-order cooker, Rotisserie burner, \$350. 256-880-2015  
 Double wide portable school building, 24'x32', front & rear doors, central heat & a/c, \$8,750. 797-7829  
 New hand painted bathroom vanity sink, 16"x19", \$250. 971-1511  
 CRT monitor, 19", Model CM751U, \$50. 468-7857  
 Camper shell for short S-10, \$125; Sunn Model-T guitar amp, \$500; Bach Stradivarius trumpet, \$1,200. 851-8085  
 Acoustic electric bass guitar, Guild, Model B30-E w/factory hard-shell case, \$1,150. 256-508-2856  
 Murray Go-Kart w/roll cage & seat belts, new rear tires, clutch, & chain, \$350. 256-351-8992  
 Remington Model 700 BDL 30.06 gun, \$375. 729-1983 after 4 p.m.  
 Troy-Built Pony tiller, 5hp, Briggs & Stratton engine, 16" tilling width, front bumper, low hours, \$750. 256-883-8186  
 Pennsylvania House video cabinet, Cherry, holds up to 30" tv, vcr/dvd, \$750. 931-427-2059  
 Dell 3.0GHz, 40G HD, 256MB memory, dvd burner, 17"

LCD, color printer, \$850. 457-6468  
 Nikon N80 camera kit, case, strap, Nikon lens, 70-300 Sigma lens, \$350. 961-9739/Cathy  
 1989 Coachmen Classic travel trailer, 33', sleeps 6, central heat, overhead air, receiver, \$4,000. 683-3745  
 Radio controlled model airplanes and equipment. 828-4564  
 Cherry lumber, 84 board feet, \$75. 772-9768  
 Printer, HP1300, 20ppm, 1200x1200 dpi, \$250. 882-3326  
 Kenmore 24 stitch sewing machine, \$30. 464-9408  
 Washer & dryer, \$100; dresser, \$15; printers, \$20; desk, \$35. 520-2802/Ron  
 1993 Shasta 21' pull-behind camper w/awning, sleeps 5, \$5,000. 256-694-0501

**Vehicles**

Selling parts of 1996 Altima SE: engine, auto transmission. 755-0288  
 2003 Nissan Sentra SER, SpecV, black, 6-speed, cd, new low-profile tires, 58k miles, \$11,500. 256-828-0496  
 2000 Ford Explorer XLT, v8, automatic, all-power, cd player, leather, sunroof, 90k miles, \$10,250. 256-350-9398  
 2000 Jeep Wrangler, Sahara, 4x4, 89k miles, automatic, never off-road, hard/soft tops, loaded, \$13,500. 337-1471  
 2003 Mitsubishi Evolution VIII, 4-cyl. Turbo, 5-speed, 28k miles, black, one-owner, \$24,500. 603-3988  
 2001 Tahoe LT, 4WD, 3<sup>rd</sup> row, leather, towing, climate control, 68k miles, \$19,700. 256-541-2435  
 2001 F150 extended cab, V\*, Lariat, loaded, 61k miles, cd, leather, running boards, \$14,500. 534-6155  
 1998 BMW 740 IL, hunter green, tan leather interior, 103k miles, new tires, \$16,000. 682-0888  
 2003 Nissan Pathfinder, V6, 2WD, automatic, 4-door, 22k miles, leather, cd, tow, silver, \$23,500. 256-880-3337  
 2000 Nissan Xterra XE, roof rack pkg., silver, 65k miles., 256-572-2076  
 1987 Dodge D100 truck, one-owner, 139k miles, maintenance records available, \$2,500. 895-9520/Philip  
 1996 Chevy Silverado Xcab truck, auto, power, leather, 134k miles, black/tan, \$7,000. 256-679-3565  
 Kawasaki Mojave 4-wheeler, 250cc, kick-start w/reverse, one-owner, \$2,000. 256-586-7013

2002 Ford F250 Lariat Supercrew, 7.3 Diesel, 4x4, 130k miles, white, gooseneck, \$25,400. 256-497-3518  
 1973 Corvette 350 CID, auto, air, T-tops, matching numbers, white w/black leather interior, \$12,000. 256-964-5312  
 1999 Dodge Dakota Sport, canary yellow, 93.6k miles, V6, 3.9 liter, \$7,000. 508-3427  
 1991 Nissan Stanza, a/c, am/fm/cassette, good tires, \$1,800. 256-650-7255  
 2003 Toyota Celica GT, 37.5k miles, 5-speed, black, cd/cassette, all power, sunroof, cruise, \$16,900. 694-0034  
 1997 Ford F150, 4x4, V8, shortbed, maroon, 77k miles, \$9,500. 651-2429  
 1999 Toyota Avalon XLS, 4-door, leather, loaded, black, 122k miles, new tires/brakes, \$11,500. 256-476-3241  
 1987 Honda Civic, has been hit on right front fender, \$850. 828-3181  
 2000 Tundra SR5 truck, 52.5k miles, new tires, LineX bedliner, tow package, original owner, \$13,250. 797-7251

**Wanted**

Vintage postcards, collections, or sets for personal collection; old violins, violas, cellos, any condition. 489-1933  
 RC plane with or without motor; accessories for planes. 714-8496/T. Sutherland  
 Set of bunk beds or single bed for cabin. 883-2948  
 Old Town Otter Kayak, reasonably priced, to be used by child. 426-5919  
 1983 Corvette, extremely rare. 655-0571

**Lost**

Heart-shaped dangle earring, lost 3/30, in or near Bldg. 4203, 4201 Bldgs./Loop. 544-6609  
 Women's silver amethyst ring, lost 3/17, Bldg. 4610 or 4481 West. 544-0583 if found

**MARSHALL STAR**

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