



# MARSHALL STAR

Serving the Marshall Space Flight Center Community

Feb. 10, 2011

## Michoud engineering a new path to success

*NASA manufacturing facility seeks enterprising new tenants, business partners*

By Rick Smith

At the Michoud Assembly Facility in New Orleans, much of NASA's hardware manufacturing equipment – used for three decades to build and deliver the space shuttle external tanks – sits temporarily idle. Safety-wrapped in towering hills of cushioned blue plastic, rows of fabrication and tooling machines patiently await their next space hardware assignment.

But with 832 acres of state-of-the-art facilities – 43 of them under a single roof

See *Michoud* on page 3



Marshall Center Deputy Director Gene Goldman welcomes conference participants to Michoud.

## Shuttle managers to meet Feb. 10 to assess Discovery's launch readiness

By Sanda Martel

Space Shuttle Program managers will meet Feb. 10 to assess space shuttle Discovery's readiness to launch on the STS-133 mission. The targeted date for lift off is Feb. 24, at 3:50 p.m. CST from Kennedy Space Center, Fla.

Following the program review, the agency-level Flight Readiness review, held by NASA managers before each mission, will be Feb. 18 at Kennedy. Following the review, Discovery's launch date will be announced. The review determines the readiness of the shuttle's complex array of equipment, support systems and procedures, flight crew, payloads



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## Marshall Association cuts membership fees, plans other changes

By Rick Smith

Changes are afoot for the Marshall Association, the professional, employee service organization at the Marshall Space Flight Center – and they start with the price of membership. Annual dues have been cut from \$15 to \$10, effective immediately.

Dan Schumacher, manager of the Science & Mission Systems Office at Marshall and president of the association for 2011, said

See *Association* on page 4

# STS-88: First space station assembly flight

By Sanda Martel

*STS-1 lifted off April 12, 1981, marking the first launch of a reusable spacecraft. Space shuttles have repeatedly carried people into orbit; launched, recovered and repaired satellites; conducted cutting-edge research, and built the largest structure in space, the International Space Station.*

*As the program nears its 30th anniversary, the Marshall Star will feature images and highlights from past shuttle missions.*

STS-88, the 13th flight of space shuttle Endeavour, began the largest international cooperative space venture in history when it launched Dec. 4, 1998, from Kennedy Space Center, Fla.

With the Unity Node inside its payload bay, Endeavour's crew rendezvoused with the previously launched Zarya Control Module and attached it to the node Dec. 6, marking the beginning of the International Space Station. Unity became the main connecting point for later U.S. space station modules and components and served as a connecting passageway to living and work areas of the space station. It is 18 feet long, 15 feet in diameter and is made of aluminum.

Zarya had been boosted into orbit by a Russian Proton rocket in November 1998. Funded by the United States but built in Russia, it provided orientation control, communications and electrical power until the launch of the third component, a Russian-provided crew living quarters and early station core known as the Zvezda Service Module. It was the first fully Russian contribution to the space station and was the early cornerstone for the first human habitation of the station. The service module enhanced or replaced many functions of Zarya, now used primarily for its storage capacity and external fuel tanks.

During STS-88, Commander Bob Cabana flew



The Unity Node, top, mated with the Zarya Control Module.

Endeavour to the rendezvous with Zarya, and Mission Specialist Nancy Currie used the shuttle's robotic arm to capture Zarya and attach it to Unity. At the time, Zarya was the most massive object ever moved with the shuttle's remote manipulator system.

Mission Specialists Jerry Ross and Jim Newman completed three spacewalks during the mission. After the assembly work was completed and Endeavour undocked from the space station, Endeavour released two small science satellites.

On Dec. 13, space shuttle Endeavour undocked from the young International Space Station for the return to Earth. Landing was at Kennedy on Dec. 15.

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

## Space available at Marshall Child Development Center

The Marshall Child Development Center currently has openings available for children ranging from 6 weeks old to kindergarten.

The center is located in Building 4346 on Morris Road. It is accredited by the National Accreditation Commission for Early Care and Education Programs.



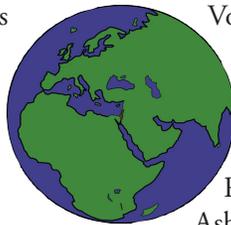
Operating hours are 6:45 a.m. to 5:45 p.m.

A membership application can be accessed at the center or through the center's website at <http://mcdc.msfc.nasa.gov/>. The membership fee is \$100 and is renewed each September. For more information, call 256-544-8609.

## Vote for your favorite Earth Day logo by Feb. 14

All Marshall Space Flight Center team members are encouraged to vote for their favorite 2011 Earth Day logo. Entries reflect this year's theme "Sustainability" and slogan "Living Green: Easy as ABC."

To vote, go to <https://explornet.msfc.nasa.gov/polls/1033>. Only one vote per person is permitted.



Voting will end at close of business Feb. 14. The winner will receive a \$30 gift certificate to the Space Shop.

Earth Day will be held on April 21 at Activities Building 4316. For more information, contact Roger Bunnell at [roger.e.bunnell@nasa.gov](mailto:roger.e.bunnell@nasa.gov) or Ashley Boudreaux at [ashley.e.boudreaux@nasa.gov](mailto:ashley.e.boudreaux@nasa.gov).

## Michoud *Continued from page 1*

– Michoud doesn't stay quiet for long. NASA and Lockheed Martin continue work on the Orion crew capsule, intended to become a fully functional crew return vehicle for the International Space Station. The U.S. Coast Guard and the U.S. Department of Agriculture both operate out of Michoud. B-K Manufacturing of Arab, Ala., builds precision hardware and components here for customers from the U.S. Air Force to the Smithsonian Institution. And Blade Dynamics is preparing to build advanced wind turbine blades here – and soon will hire 600 new employees to do it.

They won't be alone. In the wake of an industry partnership conference Jan. 27, NASA leaders soon expect to put a lot of the agency's world-class manufacturing equipment – and a lot more Michoud floor space – back to work.

More than 800 contractors and small-business entrepreneurs from 36 states took part in the conference, sponsored by NASA, the Small Business Administration, the U.S. Army Corps of Engineers and Louisiana's Procurement Technical Assistance Center.

Participants talked with NASA and government business leaders, networked with representatives of numerous local and regional companies and browsed

trade-show exhibits by more than 120 companies. Many also took part in workshops and panel discussions, and toured sections of the massive manufacturing facility itself.

"Our goal is to connect government agencies with the nimble, innovative firms that will get the job done," said Marie Johns, deputy administrator of the U.S. Small Business Administration, in her opening remarks to the conference. "That's what this event is all about – working together to foster innovation and strengthen America's competitiveness."

Joe Jordan, associate administrator of the SBA's Government Contracting and Business Development, was even more to the point. "We're here to get you the latest information you can use to go out and win contracts, grow jobs and create business," he said.

Jordan talked at length about new changes to the government's Small Business Development Act, and new opportunities for small, disadvantaged and minority-owned companies to partner with NASA and other government agencies. For more information, visit <http://fbo.gov> and <http://sba.gov>.

In the wake of the conference, officials said companies already have begun inquiring further about Michoud capabilities and leasing opportunities. That bodes well for sustaining the

critical NASA work that has long been the backbone of the facility, said David Brock, small business specialist in the Office of Procurement at the Marshall Space Flight Center, which manages Michoud for the agency.

It also bodes well for the Southern Louisiana coast, he said. "That region is connected to a lot of NASA business," Brock said, citing the critical, interrelated launch vehicle development and human spaceflight work conducted at Marshall, Johnson Space Center in Houston and Stennis Space Center near Bay St. Louis, Miss. Michoud's capabilities enhance much of that work, and Brock said it is imperative to promote economic growth all along the Gulf Coast.

NASA leaders are confident the facility is on track to play its part in that growth – and to reinvent itself for a promising new era in space exploration. "We're beginning to gain momentum, bringing in new commercial customers," Marshall Deputy Director Gene Goldman said in his address to the conference. "The path to the stars is a difficult one, but the work we do here at Michoud is vital to it."

To learn more about doing business with Michoud, visit <http://mafbusiness.msfc.nasa.gov>.

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

the move is designed to help the organization cater more effectively to a broad cross-section of the Marshall team.

"We want to be as engaging, exciting and useful as possible to the entire work force," he said. "We don't want dues to be a barrier to anyone."

Open to all civil service employees, retirees and contractors, the Marshall Association provides its members with informal networking and community-building opportunities. It sponsors an annual golf tournament, a college scholarship competition for members' children and a speaker program, addressing topics of interest to Marshall Center workers, and in recent years has collected "Toys for Tots" during the holidays.

Schumacher believes the association can do even more – fostering a greater sense of partnership across the Marshall work force and throughout the surrounding community – on and off Redstone Arsenal.

"We want the association to help us better connect with our Team Redstone partners, and play a more vital, more effective role as part of the Huntsville and Tennessee Valley communities," he said.

Schumacher credited Markeeva Morgan, a lead engineer in the Safety & Mission Assurance Directorate and president of the association in 2010, with initiating many of the planned changes. Schumacher said he's committed to seeing Morgan's goals realized this year.

To help steer the effort, the association will add new leadership positions. Nominations by association members will be accepted in March for a new contractor representative position and three new junior officer seats.

Association leaders – each elected for a one-year term – currently include vice president for programs Whitney Young, a scientist in the Engineering Directorate; vice president for communications Janet Anderson, a public affairs officer in the Office of Strategic Analysis & Communications; treasurer Patricia Benson, a computer engineer in the Engineering Directorate; and assistant to the treasurer Amir Deylami, a budget analyst in the Budget Integration and Analysis Office.

Association members will submit candidates' names for the

## Leadership on menu at Feb. 18 luncheon

The Marshall Association will host its first 2011 luncheon Feb. 18 at the Firehouse Pub on Hankins Road on Redstone Arsenal. Sarah Savage, executive director of Leadership Huntsville/Madison County, will speak. The non-profit organization works to identify, educate and inspire leaders to serve the local community. For more information, visit <http://www.leadershipsv.org>.

The 11 a.m. event is open to all Marshall team members. The cost for lunch is \$10 for association members and \$12 for non-members. To attend, contact Whitney Young by noon on Wednesday, Feb. 16, at [whitney.young@nasa.gov](mailto:whitney.young@nasa.gov).

new posts in March and vote on them in April.

The association also is seeking suggestions for luncheon speakers from the Marshall team as it plans events for the remainder of 2011. Schumacher said a number of potential speakers are being approached, including high-profile government agency representatives, state and community leaders and business executives across the area.

"It's not our goal to have the largest speaker events to date," Schumacher said. "It's our goal to have the most inspiring and professionally valuable events possible, reaching a diverse and engaged Marshall audience each time."

To better communicate with team members about upcoming speaker events and other association activities, the Marshall Association has launched an ExplorNet discussion group, and plans to develop a comprehensive landing page on Marshall's Web presence, complete with contact information and frequently asked questions – all with the goal of increasing the association's accessibility and value to the center's work force.

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## Marshall invited to participate in arsenal-wide traffic study

Traffic engineers from the Military Surface Deployment and Distribution Command, or SDDC, are conducting a Redstone Arsenal-wide traffic study.

This study will be used to assess the

functionality of the access control points for the arsenal.

SDDC engineers have prepared an online origin-destination survey consisting of seven questions. The survey will help to identify issues related

to security as well as traffic congestion and safety.

To take the survey, visit <http://www.gfnet.com/Survey/TakeSurvey.asp?SurveyID=4LH365MM264MG>. It will be online through Feb. 11.

# Black History Month celebrations set at Marshall, Redstone

Throughout February, the Marshall Space Flight Center and Team Redstone will commemorate Black History Month with a series of team events, open to the work force and to all organizations across Redstone Arsenal.

This year's theme is "African Americans and the Civil War," reflecting on the impact of that turbulent era in American history and its aftermath.

On Feb. 16, Team Redstone will host a Black History Month program at 10 a.m. in the Sparkman Center's Bob Jones Auditorium. The guest speaker will be Tonea Stewart, an actress, professor and director of the



Tonea Stewart

theater arts program at Alabama State University in Montgomery.

The Marshall Center will host a "Celebration of Diversity" Lunch & Learn Feb. 17, with discussion among Marshall team members moderated by Doresa Jennings, a human resources specialist in the Office of Human Capital. Speakers will include Trent Griffin, a scientist in the Engineering Directorate; Helen McConnaughey, manager of propulsion systems integration in the Shuttle Propulsion Office; and Johnnie Wilson, a MITS contractor supporting the Office of the Chief Information Officer. Engineer Kim Jones of Marshall's Engineering Directorate will provide a musical perspective on diversity. The event, set to begin at 11 a.m., will be held in Building 4200, Room P110.

Marshall will hold its featured Black History Month program Feb. 24 at

10:30 a.m. in Morris Auditorium in Building 4200. Marshall Center Deputy Director Gene Goldman will welcome participants. Bobby Watkins, director of the Office of Strategic Analysis & Communications, will introduce keynote speaker Dexter Brooks, director of federal sector programs for the U.S. Equal Employment Opportunity Commission in Washington. Music will be provided by Gloria Caldwell, a program analyst in the Engineering Directorate; Kathy Rice, a procurement analyst in the Office of the Chief Information Officer; and Marshall engineer Kim Jones. Huntsville artist Dwight Pope, a digital technician in the Office of the Chief Information Officer, will display original works of art in the Building 4200 lobby.

For more information about any of these events, call Willie Love, assistant director of the Office of Diversity & Equal Opportunity, at 544-0088.

## Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Marshall Star Ad Form." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, Feb. 17, is 4:30 p.m. Thursday, Feb. 10.

### Miscellaneous

Suzuki digital piano HP-90D, MIDI, harp, vibe, strings, organ, piano, many features, \$800 obo. 256-355-9397

1940s dining room table, china cabinet, buffet, more. Lpeterson107@gmail.com

Two men's ski jackets, large, \$50 each; men's shell jacket, medium, \$15. 256-882-3983

Dining room set, leaf, six chairs, \$915. 256-961-7963

GE Profile over-the-range microwave oven, Kitchenaid toaster oven, \$150. 931-703-5956 or bgibson99@gmail.com

Graco contempo high chair, Birkshire print, \$50; Graco Baby Einstein stationary entertainer, \$45. 256-895-2959

Tandem double stroller, holds one infant seat, one hand fold

and parent tray, \$40. 256-895-2959

Nook Color, silicone cover, \$250 obo. 256-444-0776

Chevy/GMC factory bedliner for 2008 or newer 2500 with tailgate cover, \$25. 256-423-4575

Behringer Ultratwin GX210 guitar amp, 2x30W, 2x10" Jensen speakers, footswitch, \$125. 423-341-4393

Equipment: Sunnen Hone, roll lap, more, call for prices. 256-739-5282

Extra large dog crate, \$25 obo. 256-642-6140

Queen bedroom set, black, contemporary, bed, dresser w/ mirror, chest, nightstand, \$800. 256-479-4345

Boy's bedroom furnishings, nautical design, valance, bed-spread, dust ruffle, pillow shams, \$100 obo. 256-533-6204

Thompson Hawken 1977 muzzle loader .50 rifle kit, \$350. 256-536-7466

Shih Tzu puppy, male, 14 weeks old, pad trained, all shots except rabies, \$375. 256-461-7021

Legion Peace five-piece drum set, navy blue, \$175 obo. 256-651-5847

Storm door/frame, \$50; three remote units Craftsman garage door openers, \$20; whistler radar detector, \$20. 256-527-0110

Xbox 360 drums and guitars. 256-464-5685

Large contemporary sofa, \$100; GE microwave, \$20; Rock Band game/instruments Xbox360, \$60, pictures available.

256-684-1513

La-Z-Boy sofa, burgundy, \$300; Danial Moore's Tradition Continues, No 2621, unframed, \$300. 256-682-1644

### Vehicles

2010 Chrysler Sebring, 5,100 miles \$18,800. 256-772-9018

2007 Honda CRF 450 X, 3,200 miles. 256-503-6812

2006 Chrysler Sebring convertible, V6, jade pearl, black top, auto, alum/alloy wheels, 52k miles, \$8,100. 256-759-0478

2006 Toyota Prius, black, leather, 118k miles, \$12,599. 256-599-0243

1998 Stingray RS180, fish/ski, new 140hp, vests and other new equipment, \$9,500 obo. 256-640-6427

1998 GMC LWB Pickup truck, white, 200k miles, \$4,000. 256-468-9377

1996 Roadtrek camper van, 350 generator, toilet, microwave, TV, air, hitch, awning, \$17,000. 256-572-0646

### Wanted

Students interested in obtaining beginner to advanced scuba diver certification. 256-651-9909

32-inch exterior door to install dog door in. 256-883-2757

Electrical work to do, wiring houses, detached garage, yardlights, adding/removing lights, switches, plugs. 256-468-8906

Moving boxes. 256-724-2112

## STS-133 *Continued from page 1*

and the space station. It also assesses any risks associated with the mission.

Discovery's first launch attempt on Nov. 5, 2010, was postponed because of a gaseous hydrogen leak at the external fuel tank's ground umbilical carrier plate, an attachment point between the external tank and a 17-inch pipe that carries gaseous hydrogen safely away from the shuttle to the flare stack, where it is burned off.

During detanking operations, a crack in the intertank foam of Discovery's external tank was discovered. An instrumented tanking test on the external fuel tank and structural evaluations on stringer test articles were conducted Dec. 17 to help verify the initial tank repairs. Stringers are 21-foot-long support beams on the exterior of the shuttle's external tank intertank. The test verified the integrity of repairs made earlier when the two cracked stringer sections and foam were replaced, and a team inspected the tank for evidence of any foam cracking as it would on an actual launch day. The test also verified the repairs to the ground umbilical carrier plate.

The spacecraft was rolled off the launch pad and back into the Vehicle Assembly Building at Kennedy on Dec.

21, to allow technicians to perform X-ray type scans and repairs to the tank. Cracks were repaired on the tops of two stringers on the exterior of the external tank intertank. Shuttle managers decided that additional modifications were needed and additional support structures called radius blocks have now been added to all 108 stringers, meaning the entire circumference of the external tank was strengthened. The radius blocks are 6-inch by 1/5 inch by 3/4 inch aluminum blocks, which were attached over the feet of the stringers.

Teams from the Marshall Space Flight Center and NASA's Michoud Assembly Facility in New Orleans – the external tank manufacturing plant – have worked on the stringer problem – the testing and required fixes, which includes radius block reinforcements.

Shuttle Discovery's primary payload is the Permanent Multipurpose Module, a large, reusable pressurized element originally used to ferry cargo back and forth to the space station. It is 21 feet long and 15 feet in diameter, and was formerly known as the Leonardo Multipurpose Logistics Module. Engineers at the Marshall Center were responsible for developing and integrating the modifications to convert it from Leonardo to a permanent fixture for the orbiting facility.

The module will be used as a storage area on the space station. Also aboard

Discovery when it lifts off will be Robonaut 2, the first human-like robot in space, and critical spare components for the orbiting complex. Robonaut 2 will become a permanent resident on the space station.

The 11-day mission will be Discovery's 39th flight, and its 35th flight to the space station. STS-133 is the first shuttle mission of 2011. The remaining scheduled mission – STS-134 – is targeted to launch April 19.

In late December, the agency's Space Operations Mission Directorate requested the shuttle and International Space Station programs take the necessary steps to maintain the capability to fly space shuttle Atlantis on the STS-135 mission. The Authorization Act of 2010, signed by the president and passed by Congress in October, directs NASA to conduct the mission, and baselining the flight enables the program to begin preparations for the mission with a target launch date of June 28. The mission would be the 135th and final space shuttle flight.

For more information about the STS-133 mission, visit: [http://www.nasa.gov/mission\\_pages/shuttle/main/index.html](http://www.nasa.gov/mission_pages/shuttle/main/index.html)

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