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NASA's Low-Density Supersonic Decelerator Tests New Deceleration Technologies

NASA's Low-Density Supersonic Decelerator (LDSD) test is designed to investigate new deceleration technologies that could help land heavier payloads on planets like Mars. The test will take place at the U.S. Navy's Pacific Missile Range Facility in Kauai, Hawaii, with the first potential launch date June 3.

Additional potential test dates include June 5, 7, 9, 11 and 14. The launch window for each date extends from

noon - 1:30 p.m. CDT. Decisions to attempt launch of the LDSD test will be made the day before each launch opportunity date.

During the experimental flight test, a large balloon about the size of three football fields will carry the saucer-shaped test vehicle to an altitude of about 120,000 feet. It will then be dropped and its booster rocket will quickly kick in and propel it to 180,000 feet, reaching Mach 4. Once in the very

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Louacious Hires Appointed Director of Marshall Center Office of Diversity and Equal Opportunity

By Kenneth Kesner

Louacious Hires has been appointed director of the Office of Diversity and Equal Opportunity for NASA's Marshall Space Flight Center. He is responsible for managing, planning, directing and implementing a comprehensive equal opportunity program for the center.

Hires brings to Marshall more than 17 years of experience in Equal



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Louacious Hires (NASA/MSFC/Emmett Given)

Marshall Center Recognized for Exceeding Small Business Goals

By Jena Rowe

NASA's Marshall Space Flight Center recently received the NASA Small Business Prime Socioeconomic Goal Achievement Award for fiscal year 2013 from NASA Office of Small Business Programs Associate Administrator Glenn Delgado. This award recognizes NASA centers that meet all of their prime socioeconomic business goals for the previous fiscal year.

Not only did the Marshall Center meet its projected goals, but significantly exceeded all goals.

Every two years the Office of Small Business Programs issues a call to all NASA centers requesting a submission of their two-year projected small business goals. In

May 2011, Marshall Center small business specialists performed a comprehensive analysis of the center's planned direct and prime contractor/subcontracting activities for fiscal years 2012 and 2013. Projections were forwarded to the NASA Office of Small Business Programs in June 2011 and represented the best estimate based on procurement data.

"The model currently utilized for projecting the center's small business goals has proven most beneficial for projecting center goals each fiscal year," said David Brock, small business specialist at Marshall. "During this time, Marshall Center has achieved all its goals for 17 of the 18 years since implementation of the model in 1996."

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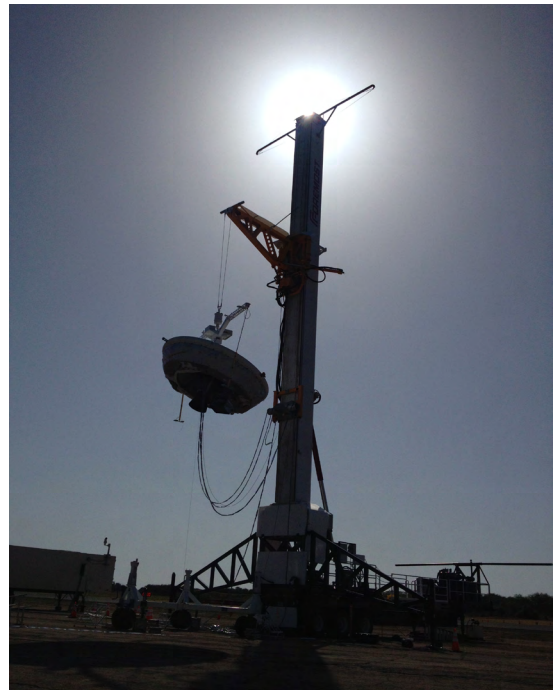
thin air high above the Pacific, the first deceleration device, called a Supersonic Inflatable Aerodynamic Decelerator, -- the world's largest -- will deploy, inflate and slow the vehicle.

A short time later the second deceleration device, a 30.5 meter parachute -- which is the world's largest supersonic parachute and double the size of the one used on the recent Mars Science Laboratory mission -- will deploy and slow the vehicle further before landing in the ocean.

Current technology used for decelerating large payloads dates back to NASA's Viking program from the '70s. In order to send humans and required equipment to Mars, new ways of slowing down heavy payloads through the atmosphere are critical.

Anyone with Internet access will be able to watch the test live as video is relayed from the vehicle to the ground. Websites providing coverage will include [NASA TV](#) and via Ustream at <http://www.ustream.tv/nasajpl2>. The [LDSD Web](#) page will also have daily updates on launch attempts, as well as the Twitter accounts [@NASA_Technology](#), [@NASA](#) and [@NASA_Marshall](#).

NASA's Space Technology Mission Directorate in Washington funds the LDSD mission, a cooperative effort led by NASA's Jet Propulsion Laboratory. NASA's Marshall Space Flight Center manages LDSD within the Technology Demonstration Mission Program Office.



The launch tower at the Pacific Missile Range Facility helps link the Low-Density Supersonic Decelerator test vehicle to a balloon. Once the balloon floats up, the vehicle is released from the tower and the balloon carries it to high altitudes. The vehicle's rocket will take it to even higher altitudes, where the supersonic test begins. (NASA/JPL-Caltech)

NASA's Wallops Flight Facility is coordinating support with the Pacific Missile Range Facility and providing the balloon systems for the LDSD test.

People Are the Key To Space Station Operations, Rocket Development

By Lori Meggs

Some may think the [International Space Station](#) and the Space Launch System (SLS) are like apples and oranges. But at Marshall Space Flight Center Deputy Director Teresa Vanhooser's "Table Talk" on May 21, employees found out the two have a lot in common.

Vanhooser's special guests for the talk were Jody Singer, manager of Marshall's Flight Programs and Partnerships Office; and Jay Onken, deputy

chief engineer for SLS. Both are familiar with the similarities between launch vehicles and mission operations, and how each is equally important to the success of the center and future exploration.

Singer crossed over from a career in launch vehicles, whereas Onken spent much of his career in mission operations for the space station. "It's not the easiest to step outside your comfort zone and do something new, but I'm doing it," said Onken. "I want others

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Employment Opportunity, or EEO, in the federal government, military, private sector and academia. Most recently he served as director of Outreach and Retention at the Department of Veterans Affairs in Washington, where he was responsible for providing affirmative employment policy, managing Special Emphasis Programs, advocating use of diverse student internships, conducting technical assistance reviews and preparing strategic analysis to address identified barriers in employment.

From 2011 to 2013, Hires was the Affirmative Employment and Special Emphasis Programs manager for the Secret Service, providing expert guidance and training on EEO issues, anti-harassment and reasonable accommodation to the EEO director and senior management. He worked for the Department of Homeland Security Customs and Border Protection Service from 2010 to 2011 as assistant director for the Southeast region for the Diversity and Civil Rights Office. From 2006 to 2010, he served as an Equal Employment specialist for the Secret Service.

At Walter Reed Army Medical Center from 2004 to 2006, Hires managed and directed the Alternate Dispute Resolution Program and served as manager for the EEO and Diversity Training Program. At Columbus Technical College from 2003 to 2004, he was manager of the Innovative to Work Program and served as consultant on workplace diversity and dispute resolution. From 2002 to 2003, he worked at Pratt & Whitney's Columbus Engine Center advising the director and senior management on employee relations and unfair labor practices.

Hires began his EEO career in 1996 as a senior Equal Opportunity adviser for the 7th Army Training Academy, advising the chief executive officer on all matters pertaining to human relations, training, investigating and adjudicating discrimination complaints. During his career with the Army, Hires held a variety of leadership positions and supported Operation Desert Shield/Desert Storm and Operation Joint Endeavor.

Hires received a bachelor's degree in Resource Management and an associate's degree in business administration from Troy University in Troy, Alabama. He has completed numerous executive leadership and specialized EEO courses including "A Systems Approach to Diversity and Inclusion Measurement and Accountability" as part of the Diversity and Strategic Management certificate program at Georgetown University in Washington.

Hires is a member of the Society of Human Resource Management, as well as the African American Federal Executive Association. He has received numerous military and federal awards throughout his distinguished career, including the Meritorious Service Medal with Oak Leaf Cluster and various performance awards.

Hires is married to Kim Solomon and has two sons, Kennon and Kevin, and a daughter, Ari.

Kesner, an ASRC Federal/Analytical Services employee, supports the Office of Strategic Analysis & Communications.

NASA Honors 19 Marshall Team Members with Silver Snoopy Award

On May 15, 19 team members of NASA's Marshall Space Flight Center were honored with the NASA Silver Snoopy award for their outstanding achievements related to human flight safety or mission success. The award is presented personally by NASA astronauts, as it represents the astronauts' own recognition of excellence. For more information on the award, visit [here](#).



Astronaut Pat Forrester, center, honored 9 team members with Silver Snoopy awards. The honorees are, from left, Jeffrey T. Hamilton, Vehicle Systems Department; Kenneth D. McGee, Vehicle Systems Department; Lisa A. McNairy, Vehicle Systems Department; Allan Elliot, Stages Office; Robert Fowler, Vehicle Systems Department; Kerry B. Warner, Mission Systems Assurance & Technical Support Department; Andrew C. Pepper, Mission Systems Assurance & Technical Support Department; Amanda W. Smith, IT Strategy, Policy & Integration Office; and Jason R. Scott, Safety & Quality Department. (NASA/MSFC/Emmett Given)



Astronaut Pat Forrester, center, honored 10 team members with Silver Snoopy awards. The honorees are, from left, Michael A. Martin, Propulsion Systems Department; Elizabeth St. Peter, Propulsion Systems Department; Francee Logston, Mission Operations Laboratory; Justin Jackson, Materials & Processes Laboratory; Michael Alldredge, Materials & Processes Laboratory; Terry K. Pendergrass, Spacecraft & Vehicle Systems Department; Robert E. Barbre, Spacecraft & Vehicle Systems Department; Dennis E. Strickland, Test Laboratory; Matthew McDougal, Materials & Processes Laboratory; and Paul Doyle, Space Systems Department. (NASA/MSFC/Emmett Given)

Small Business *Continued from page 2*

In fiscal year 2013, Marshall hit high marks in its small business (SB), small disadvantaged business (SDB), woman-owned small business (WOSB), and historically under-utilized business (HUB) zone SB categories -- despite a more than \$450 million decrease in procurement dollars from fiscal year 2010 to fiscal year 2013. In 2013, obligations to small business was \$306 million, \$113 million to small disadvantaged business, \$72 million to woman-owned small business, and \$51 million to historically under-utilized business zone small business. "Anticipated growth should continue in most small business goal categories in FY 2014 and 2015 based on current projections," said Brock.

For more information about the NASA Socioeconomic Goal Recognition, visit [here](#).

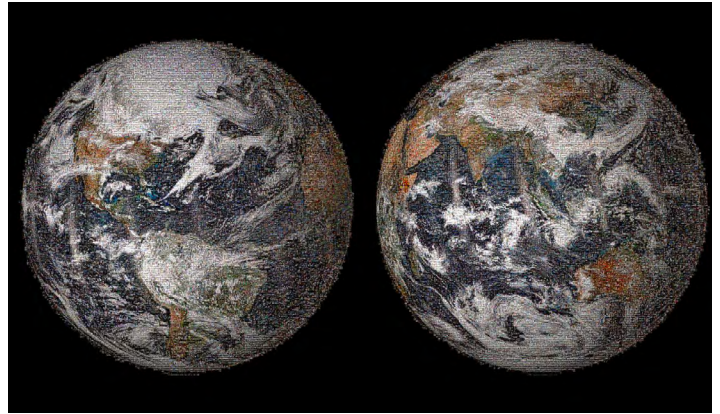
Rowe, an ASRC Federal Analytical Services employee and the Marshall Star editor, supports the Office of Strategic Analysis & Communications.



Walt Milton, left, and David Brock of Marshall's Office of Procurement display the FY13 NASA Small Business Prime Socioeconomic Goal Achievement Award given to Marshall Center for exceeding its small business goals in all socioeconomic categories. Marshall is the only center to receive the award for five consecutive years. (NASA/MSFC/Emmett Given)

NASA Uses Earth Day Social Media Photos to Create Global Selfie

On Earth Day this year, NASA asked people all around the world a simple question – “Where are you on Earth right now?” People answered the question on social media, with a selfie. The goal was to use each picture as a pixel in the creation of a “Global Selfie” -- a mosaic image that would look like Earth appeared from space on April 22. The [zoomable 3.2-gigapixel mosaic image](#) -- hosted on the Web by GigaPan -- was built using 36,422 individual photos that were posted on social media and tagged #globalselfie on or around April 22. People on every continent -- 113 countries and regions in all -- posted selfies. The image is based on views of each hemisphere that were captured on Earth Day by the Visible Infrared Imaging Radiometer Suite instrument on the Suomi National Polar-orbiting Partnership satellite. (NASA)



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to see how valuable it is to have the history and knowledge in one discipline and share that with another.”

Singer and Onken say learning the requirements and knowing how to develop payloads for the space station will be vital as we begin developing payloads for SLS to carry to space. The space station continues to help us learn how to live for long periods of time in microgravity and these are the things we need to know for SLS missions beyond low-Earth orbit, they added.

All agreed the biggest lesson learned over the years is that no matter what you do, it’s all about the people... Rockets and payloads don’t build themselves.

“It’s extremely important to expose our workforce to multiple areas and allow them the flexibility to let them find their passion,” Vanhooser told employees during the “Talk” in Building 4610. “I want our folks to see how it all weaves together, and adjust our workforce to maintain strength in areas where we need it.”

All agreed that it is exciting that the Marshall Center plays a critical role in helping us learn to live and work in space and in developing a launch vehicle that will take us on longer journeys to accomplish a variety of science and exploration missions.

“The things we’re learning on station is our proving ground,” added Singer. “Mastering those fundamentals is what will make it possible to accomplish our next steps in deep space exploration and science.”

In addition, communicating the benefits of the station and how it is making a difference to life here on Earth is vital to its future, according to NASA Administrator Charlie Bolden’s recent [message](#) to employees. Much of the research aboard the orbiting laboratory is highlighted through the [space station research and technology Web page](#).

And it’s not only about current employees. NASA wants to influence those who will be building rockets and conducting space science in the future. Topics to communicate what we do here at Marshall can be found on the [space station science operations and integration website](#).

Vanhooser began her Table Talks this year to find out what’s on the minds of employees. “You can’t get this kind of face-to-face information through surveys,” she added. “Every job at this center is important, and I want employees to feel they are making a difference.”

Meggs, an ASRC Federal Analytical Services employee, supports the Office of Strategic Analysis & Communications.

Marshall Association Now Taking Scholarship Applications

The Marshall Association is now accepting applications for scholarships for the 2014-2015 school year. Eligible applicants are dependents of a 2014 Marshall Association member, having joined the organization no later than May 30, 2014. Applications will be taken through June 17, 2014.

“We are really excited to be able to grant \$5,000 in scholarships this year,” said Johnny Stephenson, Marshall Association president and deputy manager of the Office of Strategic Analysis & Communications. “The Marshall Association strives to be a good community partner and give back. Our scholarship program is one of the best ways we do that.”

Applicants can be high school or college students, and must show proof of acceptance into an undergraduate course of study at an accredited

college, university or technical college/program. Any program of study is accepted, but a minimum of two of the scholarships will be given to those students pursuing degrees in a science, technology, engineering or math fields.

To download the complete application package or to join the Marshall Association, visit the organization’s [ExplorNet](#) page.

The Marshall Association is composed of civil service employees, contractor employees, retirees, industry representatives and community partners. The purpose of the organization is to help members network with each other, get more involved in their communities and bring in speakers during the monthly meetings that deliver timely, useful presentations on topics of interest.

Composite Cryotank Testing Kicks Off At Marshall Center

Engineers recently began the first in a series of tests of one of the largest composite cryotanks ever built. The 18-foot-diameter (5.5-meter) cylinder-shaped tank was lowered into a structural test stand at NASA’s Marshall Space Flight Center.

To check tank and test stand operations, the first tests are being conducted at ambient temperature with gaseous nitrogen. Future tests this summer will be with liquid hydrogen cooled to super cold, or cryogenic, temperatures. The orange ends of the tank are made of metal and attach to the test stand so that structural loads can be applied similarly to those the tank would experience during a rocket launch.

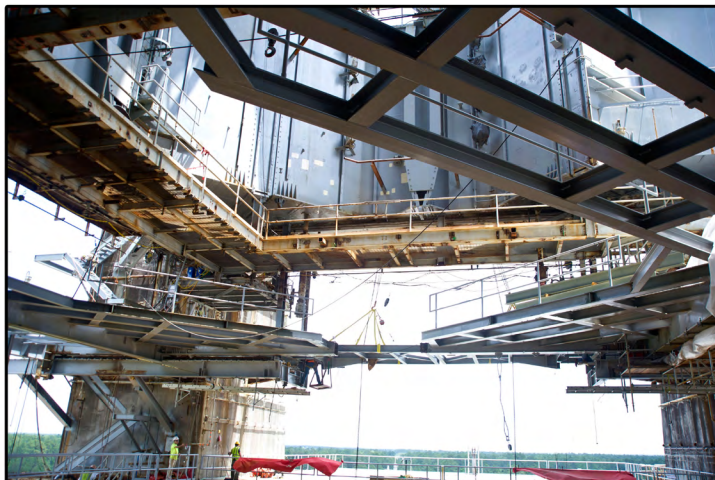
The composite cryotank is part of [NASA’s Game Changing Development Program](#) and [Space Technology Mission Directorate](#), which is innovating, developing, testing and flying hardware for use in NASA’s future missions. NASA focused on this technology because composite tanks promise a 30 percent weight reduction and a 25 percent cost savings over the best metal tanks used today.

The tank was manufactured with new materials and processes at the Boeing Developmental Center in Tukwila, Washington.



The 18-foot-diameter (5.5-meter) cylinder-shaped composite cryotank being lowered into a structural test stand at the Marshall Center.

NASA Moving Forward on Test Stand Upgrades for SLS Core Stage Testing



A pair of “before-and-after” photos show the progress of renovation work on the B-2 Test Stand at NASA’s Stennis Space Center as the agency prepares for testing the Space Launch System (SLS) core stage in 2016. SLS, NASA’s new rocket, will be the biggest, most powerful launch vehicle for deep space missions, including to an asteroid and to Mars. The core stage, towering more than 200 feet tall with a diameter of 27.6 feet, will store cryogenic liquid hydrogen and liquid oxygen that will feed the vehicle’s RS-25 engines. For the full story, click [here](#). (NASA/Stennis)

NASA ‘Launchfest’ Event Soars Into the Skies on NASA-TV

NASA’s Student Launch “Launchfest” event -- a student design challenge encouraging teams to design, build and launch a rocket -- is featured in the latest edition of “[This Week @NASA](#),” a weekly video program broadcast nationwide on NASA-TV and posted online.

College teams representing 20 universities from across the country converged on the Bonneville Salt Flats in Utah May 17 to launch their rockets live on NASA-TV. In previous years, the Marshall Space Flight Center hosted the final project reviews and the rocket fair while the vehicles were launched at a nearby farm north of the center. The activities were moved to Utah this year mainly because the target altitude of one mile was removed, allowing teams to launch to nearly 20,000 feet, just shy of four miles.

Part of the requirements for the annual challenge is to create up to three separate payloads for scientific testing during the flight. Prizes are



awarded in numerous categories and are expected to be announced later this week. For a complete list of awards, rules, photos and replays of the entire event, organized by the Marshall Center’s Academic Affairs Office, visit the [Student Launch website](#). This and previous episodes of This Week @NASA are available for viewing at the [NASA-TV YouTube channel](#).