



Serving the Marshall Space Flight Center Community www.nasa.gov/centers/marshall/about/star/index.html April 30, 2014

Inside This Issue:

Engineering Directorate, Space Launch System to Hold Town Hall Meeting
May 5 page 2

Professional and Amateur Astronomers Join Forces
page 3



High Schoold Students to Create Hardware for NASA
page 4



Check us out online!
Scan the QR code



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

The Marshall Star is published every Wednesday by the Public and Employee Communications Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. The Star does not publish commercial advertising of any kind.

Manager of Public and Employee Communications: June E. Malone
Editor: Jenalane Rowe

Two Marshall Teams Win Stellar Awards

By Megan Davidson

Two teams from NASA's Marshall Space Flight Center recently were honored by the Rotary National Award for Space Achievement Foundation with Stellar Awards -- recognizing accomplishments that hold the greatest promise for furthering future activities in space.

Teams from Marshall's Space Launch System (SLS) Program and Composite Cryotank Technology Demonstration Project were among

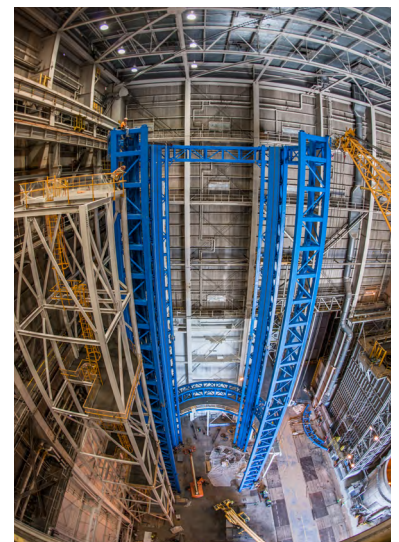
*See **Stellar Awards** on [page 2](#)*



Accepting Team Stellar Awards from the Marshall Center are, fifth from left, Justin Jackson, project engineer for the NASA Composite Cryotank Technology Demonstration Project; and SLS Program Manager Todd May, fifth from right. (RNASA Foundation)

Progress Continues on One of World's Largest Welding Tools for SLS

Construction continues on the Vertical Assembly Center (VAC) at NASA's Michoud Assembly Facility. Scheduled to be completed in May, the VAC will be one of the world's largest welding tools at 170 feet tall and 78 feet wide. It is specifically designed and being built to weld together pieces of the core stage for NASA's Space Launch System (SLS). 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. The SLS will be the largest, most powerful rocket in history for deep space missions, like an asteroid and ultimately Mars. For more information on SLS, [click here](#). (NASA/Michoud)



Engineering Directorate, Space Launch System to Hold Town Hall Meeting May 5

NASA Marshall Space Flight Center team members can learn about progress on the Space Launch System (SLS) at a town hall meeting May 5. The SLS, NASA's powerful new rocket, will be used for deep space missions, including to an asteroid and ultimately to Mars.

The meeting will be held at 2:30 p.m. May 5 at Activities Building 4316. Senior leaders will highlight the rocket's progress and share details about how the center is preparing for the first flight scheduled for 2017.

Town hall presenters include Dan Dumbacher, Exploration Systems Division, NASA Headquarters; Preston Jones, deputy director of Marshall's Engineering Directorate; and Todd May, SLS Program manager. Employees will be able to ask questions after the presentations.

To find out more about SLS, click [here](#). SLS also sends out updates on social media, including [Twitter](#), [Facebook](#) and [Instagram](#). The latest SLS monthly highlights newsletter can be downloaded [here](#).

Stellar Awards *Continued from page 1*

the 10 winners selected from 164 nominees.

The SLS, NASA's new rocket, will be used for deep space missions, like an asteroid and ultimately Mars. The first flight test of the SLS in 2017 will be configured for a 70-metric-ton (77-ton) lift capacity and carry an uncrewed Orion spacecraft beyond low-Earth orbit to test the performance of the integrated system. As the SLS is evolved, it will provide an unprecedented lift capability of 130 metric tons (143 tons).

The cryotank project 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.

SLS Program Manager Todd May and Justin Jackson, project engineer for the NASA Composite Cryotank Technology Demonstration Project, accepted the group awards from NASA astronauts Karen Nyberg and Douglas Hurley on April 11 at the annual foundation gala event in Houston.

The SLS team won for exceptional technical and programmatic excellence in the design, development and maturation of the rocket. The Marshall Center manages the SLS Program for the agency.

The Composite Cryotank Technology

Demonstration Team -- with members from Marshall, NASA's Glenn Research Center, Langley Research Center and Boeing -- were recognized for outstanding technical excellence in development and demonstration of low-cost, lightweight, composite cryogenic propellant tanks for future heavy-lift vehicles and other in-space applications.

One of these tanks recently was delivered via NASA's Super Guppy aircraft from the Boeing Developmental Center in Tukwila, Wash., to the Marshall Center, where it is being prepared for testing. The advanced composite cryotank technology could benefit many of NASA's deep space exploration spacecraft, including SLS.

Each year, the Rotary National Award for Space Achievement Foundation solicits nominations for Stellar Awards for individual and team achievements from the government, military and industry. Nominations are based on four categories: early career, mid-career, late-career and teams. The nominations are reviewed -- and winners chosen -- by a Stellar Awards Evaluation Panel. All nominees are invited to a special day of activities at NASA's Johnson Space Center. The complete list of Stellar Award winners is available [here](#).

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

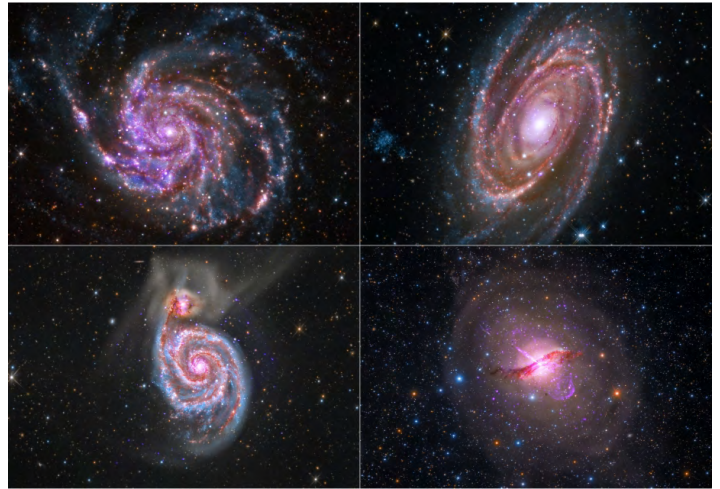
Professional and Amateur Astronomers Join Forces

Long before the term “[citizen science](#)” was coined, the field of astronomy has benefited from countless men and women who study the sky in their spare time. These amateur astronomers devote hours exploring the cosmos through a variety of telescopes that they acquire, maintain, and improve on their own. Some of these amateur astronomers specialize in capturing what is seen through their telescopes in images and are known as [astrophotographers](#).

What happens when the work of amateur astronomers and astrophotographers is combined with the data from some of the world’s most sophisticated space telescopes? Collaborations between professional and amateur astronomers reveal the possibilities and are intended to raise interest and awareness among the community of the wealth of data publicly available in NASA’s various mission archives. This effort is particularly appropriate for this month because April marks [Global Astronomy Month](#), the world’s largest global celebration of astronomy.

The images in this quartet of [galaxies](#) represent a sample of composites created with [X-ray data](#) from NASA’s Chandra X-ray Observatory, infrared data from the Spitzer Space Telescope, and optical data collected by an amateur astronomer. In these images, the X-rays from Chandra are shown in pink, infrared emission from Spitzer is red, and the optical data are in red, green, and blue. The two astrophotographers who donated their images for these four images -- Detlef Hartmann and Rolf Olsen -- used their personal telescopes of 17.5 inches and 10 inches in diameter respectively. More details on how these images were made can be found in this [blog post](#).

Starting in the upper left and moving clockwise, the galaxies are [M101](#) (the “Pinwheel Galaxy”), [M81](#), [Centaurus A](#), and [M51](#) (the “Whirlpool Galaxy”). M101 is a spiral galaxy like our Milky Way, but about 70 percent bigger. It is located about 21 [million light years](#) from Earth. M81 is a spiral galaxy about 12 million light years away that is both relatively large in the sky and bright, making it a frequent target for both amateur and professional astronomers. Centaurus A is the fifth brightest galaxy in the sky -- making it an ideal target for amateur astronomers -- and is famous for the dust lane across its middle and a giant jet blasting away



(X-ray: NASA/CXC/SAO; Optical: Detlef Hartmann; Infrared: NASA/JPL-Caltech)

from the supermassive [black hole](#) at its center. Finally, M51 is another spiral galaxy, about 30 million light years away, that is in the process of merging with a smaller galaxy seen to its upper left.

For many amateur astronomers and astrophotographers, a main goal of their efforts is to observe and share the wonders of the universe. However, the long exposures of these objects may help to reveal phenomena that may otherwise be missed in the relatively short snapshots taken by major telescopes, which are tightly scheduled and often oversubscribed by professional astronomers. Therefore, projects like this [Astro Pro-Am](#) collaboration might prove useful not only for producing spectacular images, but also contributing to the knowledge of what is happening in each of these cosmic vistas.

NASA’s Marshall Space Flight Center manages the Chandra program for NASA’s Science Mission Directorate. The Smithsonian Astrophysical Observatory controls Chandra’s science and flight operations.

High School Students to Create Hardware for NASA

Students from eight high schools were recently chosen to collaborate with NASA and NASA's Marshall Space Flight Center to fabricate hardware designs that will be used in astronaut and ground personnel training as a part of the HUNCH program -- High School Students United with NASA to Create Hardware.

Participating schools are Lincoln County High School, Fayetteville, Tennessee; Austin High School, Decatur, Alabama; Brewbaker High School, Montgomery, Alabama; Laurel High School, Laurel, Montana; Ernest Pruet Center of Technology, Hollywood, Alabama; MaGavock High School, Nashville, Tennessee; Huntsville Center for Technology, and Trussville High School, Trussville, Alabama.

By participating in the HUNCH program students are challenged to meet real world requirements, work in a coordinated manner with other high schools and see how specific knowledge and skills are applied in the work place to produce space related hardware and software. In exchange, NASA receives high fidelity mockups for use in training certifications and supports real time engineering design and prototype development.

Items that are developed through the HUNCH program support International Space Station payload training efforts for NASA's ground support personnel at the Marshall Center.



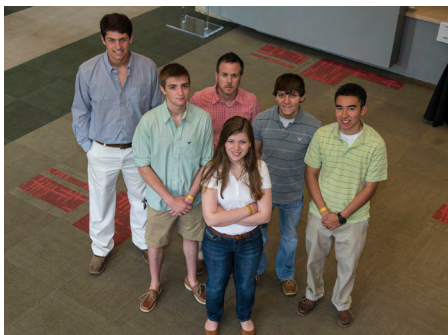
Austin High School



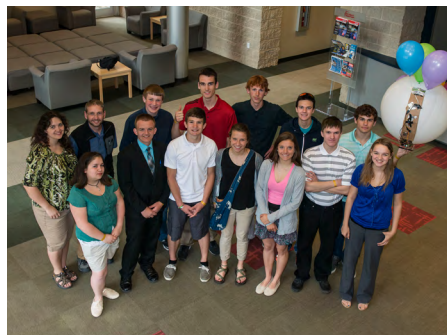
Brewbaker High School



Ernest Pruet Center of Technology



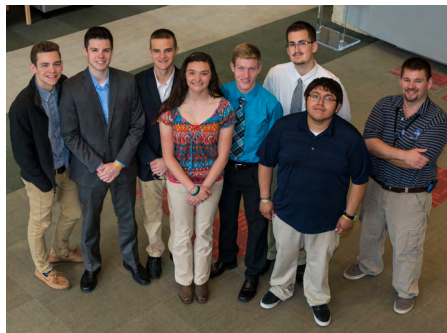
Huntsville Center for Technology



Laurel High School



Lincoln High School



MaGavock High School



Trussville High School

All photos credit: NASA/MSFC/Fred Deaton

Obituaries

Otis Elwyn Kennemer, 82, of Athens, died April 24. He retired from the Marshall Center in 1972 as an aerospace engineer.

Fred Donald Wills, 78, of Madison, died April 28. He retired from the Marshall Center in 2007 as an aerospace engineer. He is survived by his wife, Dianne Clayton Wills.

John R. Bell Jr., 82, of Munford, Tennessee, died April 19. He retired from the Marshall Center in 1988 as a general business specialist. He is survived by his wife, Nancy Bell.