



Marshall Star, February 6, 2013 Edition

# MARSHALL STAR

In This Week's Star ☐

- › [Marshall Center Honors NASA's Fallen Heroes during Day of Remembrance Ceremony](#)
- › [Marshall Hosts 40th Anniversary Celebration of Skylab](#)
- › [Marshall ExplorNet Groups Can Boost Teams' Efficiency](#)
- › [Marshall Hosts Workshop for Study on Applications for Large Space Optics](#)
- › [Center Director Patrick Scheuermann Holds Town Hall Meetings to Kick Off 2013](#)
- › [Chandra Captures Images 160,000 Light Years Away](#)
- › [Marshall Team Members Receive Technical Achievement Awards from Air, Space and Missile Defense Association](#)
- › [Obituaries](#)

## Marshall Center Honors NASA's Fallen Heroes during Day of Remembrance Ceremony

*Marshall Center Director Patrick Scheuermann offers a few words of tribute during the Day of Remembrance ceremony Feb. 1 at NASA's Marshall Space Flight Center. The ceremony honored the Apollo 1, Challenger and Columbia crew members, and others who lost their lives supporting NASA's mission. Former NASA astronaut Jan Davis also provided remarks. An invocation, song, poem, slideshow and moment of silence were part of the observance. (NASA/MSFC/Emmett Given)*





*Steve Cash, director of Marshall's Safety & Mission Assurance Directorate, lights candles while Marshall Center Deputy Director Teresa Vanhooser, not pictured, reads the names of each of the 17 fallen astronauts. (NASA/MSFC/Emmett Given)*

[› Back to Top](#)

## **Marshall Hosts 40th Anniversary Celebration of Skylab**

*By Tracy McMahan*

To commemorate the 40th anniversary of Skylab, America's first space station, NASA's Marshall Space Flight Center team members had the rare opportunity to listen to firsthand stories and highlights from Skylab astronauts who occupied the lab during three crewed missions from May 1973 to February 1974.

***Image right: Skylab astronauts, from left, Edward "Ed" G. Gibson, Paul J. Weitz, William "Bill" R. Pogue, Gerald "Gerry" P. Carr, and Joseph "Joe" P. Kerwin shared highlights from their missions and answered team members' questions about their work aboard the orbital laboratory during a celebration of Skylab's 40th anniversary at NASA's Marshall Space***



***Flight Center on Jan. 31. NASA launched Skylab on a Saturn V rocket on May 14, 1973, but the astronauts recalled working with Marshall Center engineers as early as 1966 on concepts for the orbital laboratory that became Skylab. From May 1973 to February 1974, there were three Skylab crewed missions with the last mission, Skylab 4, spanning 84 days -- a record for human stays in space at the time. Carr, Pogue, and Gibson all served Skylab 4. Weitz and Kerwin served on Skylab 2 --the second Skylab mission and first crewed mission. (NASA/MSFC/Emmett Given)***

Skylab astronauts Edward "Ed" G. Gibson, Paul J. Weitz, William "Bill" R. Pogue, Gerald "Gerry" P. Carr, and Joseph "Joe" P. Kerwin told serious stories -- and some funny ones -- about their missions when they spoke to the Marshall team Jan. 31 in Morris Auditorium. All agreed Skylab paved the way for the International Space Station.

The Skylab astronauts recalled their visits to the Marshall Center as early as 1966, when concepts for the orbital workshop were first conceived. U.S. budgets were fiscally constrained, so NASA leaders searched for an affordable way to build a space station. They came up with the idea of turning part of a Saturn V rocket into a space station and the Skylab concept

was born. The astronauts made frequent trips between Houston, where they lived near NASA's Johnson Space Center, to the Marshall Center, they said.



They consulted with Marshall engineers on many aspects of the Skylab design. Marshall engineers wanted to make the orbital workshop functional and comfortable because the crews would be living in orbit longer than any NASA crews had ever stayed in space. The crew practiced operations in Marshall's Neutral Buoyancy Simulator, an underwater training facility that is now a historic landmark. For the astronauts, the underwater facility played a critical role in developing and practicing for a repair of the sunshield and solar array damaged during Skylab's launch May 14, 1973.

**Image left: Skylab astronaut Paul J. Weitz shakes hands with Penny Pettigrew, a payload communicator who works at NASA's Payload Operations Center at Marshall. The Payload Operations Center is the command post for all experiments on the International Space Station. Looking on is John W. Thomas, center, a retired Marshall engineer, who worked on the Skylab Program from 1966 to 1973. (NASA/MSFC/Emmett Given)**

Even with such extensive practice, the astronauts said the first space repair mission proved difficult because it was hard to remain stable as they worked. They learned that they needed restraints and handholds to work effectively in space -- knowledge that Marshall engineers put to good use later when designing the Hubble Space Telescope for in-orbit maintenance and repair.

The Skylab pioneers told the Marshall audience funny stories about exercising in space and how they missed floating around the workshop in microgravity after returning to Earth. They emphasized the importance of their research -- especially experiments focused on learning how the human body adapts to space. At the time, doctors were unsure if humans could endure long space missions.

The last Skylab crew set a record by staying in space 84 days. In addition to studying themselves, the crew completed experiments that studied the behavior of materials and used telescopes to study the Earth, sun and stars. The Skylab missions demonstrated that our abilities are limited only by the bounds of our imaginations.

**Image right: Skylab astronaut William Pogue, right, discusses the orbital outpost with Jack Stokes, left, an engineer who worked on Skylab, America's first space station, and on NASA's International Space Station, which orbits Earth today. (NASA/MSFC/Emmett Given)**



McMahan is a public affairs officer in the Office of Strategic Analysis & Communications.

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## Marshall ExplorNet Groups Can Boost Teams' Efficiency

By *Kenneth Kesner*

Dr. Paul Bookout is helping build a model home for astronauts on long missions to Mars or beyond. And ExplorNet is an important part of his toolbox.

Bookout is project manager for the Deep Space Habitat ISS-Derived Concept Demonstrator at NASA's Marshall Space Flight Center. His team is looking at how a crew will interface with the habitat and all of its mission gear as they live and work aboard their faraway home and laboratory. The demonstrator is used to evaluate layout, design and system ideas, and will later be brought to higher fidelity for mission scenario testing.

Managing the complex project has been made easier, Bookout said, by using ExplorNet, Marshall Center's online collaborative computer network. Drawings, action item lists, meeting minutes, announcements, calendars and much more are posted in a DSH ISS-D "group" and "spaces" created on ExplorNet, ensuring that the latest versions of information are available to everyone involved, wherever they are. That cuts back on cumbersome email lists and any worries about up-to-date versions of attachments, he said.

"ExplorNet gave us ease of use," he said. No specialized training is needed and no individual must be designated the task of maintaining the site -- everyone does that as they participate.

"We needed something that was quick and easy," Bookout said. "ExplorNet has worked out perfectly for us."

ExplorNet's casual style -- it's been compared to a more secure, in-house Facebook -- belies its power, said Kevin Jones, social media/networking manager at the Marshall Center. The slogan atop each page of the network emphasizes the ExplorNet goal of enabling people to "Work Out Loud," sharing information and promoting discussion to generate synergy, open doors to serendipitous discovery and, at least, increase efficiency.

If using the collaborative network integrates into the way you approach your tasks, using it will reap rewards. "It's a completely different way of working for people of any age," Jones said. "It's really age agnostic."

A major benefit of ExplorNet groups is that someone can post a question and anyone can share an answer or their experience, creating a conversation or message tree on the topic. "This consolidates all the information," Jones said. "And it's searchable."

That interactive aspect is particularly useful, said Tina Atchley, intern project coordinator for Marshall internships in the Academic Affairs office. With up to 200 interns coming to Marshall each semester, the half-dozen internship coordinators and dozens of mentors were inundated by email. Handbooks and a variety of personalized forms and information have to go out to students, who in return have many questions. Many of them have the same questions.

An "Intern" group was created in ExplorNet, so those questions can now be asked once in the discussion section and everyone can find the answers, which might come from a coordinator or others, Atchley said. Also, students have access to the latest handbooks, calendars and other information at all times, eliminating hundreds of email queries.

The OBIN group -- On-Boarding Initiative for NASA -- has had the same game-changing level of success, said Judy Darwin, training and awareness lead for the IT Security Office in the Office of the Chief Information Officer. The ExplorNet group was created to better track where new civil servants and interns are in the process of completing the many forms and training required to obtain their ID badges, computer access and more. It's a process that involves at least four distinct offices at the

Marshall Center, she said.

By pooling data in the OBIN group, it's now much less time-consuming and unwieldy for someone who needs to know if a new-hire has completed a prerequisite step before moving on to the next, she said. ExplorNet has played a big role in the continual streamlining of a process that might in the past take months, and now takes only weeks, or even days.

"It has completely changed how we do business," Darwin said.

ExplorNet -- which marked its second birthday Feb. 1 -- was created, at least in part, because Marshall Center team members needed and wanted some of the same kinds of collaboration tools now used by private industry to solve problems, Jones said.

About 70 percent of the center's employees at least "look in" on ExplorNet, he said. About 20 percent of those also participate in a give-and-take of information, and that kind of use is growing. "It's keeping up with industry standards," he said.

There are now about 250 user groups on ExplorNet, and growing, he said. The largest, with more than 225 members and 250 "followers," is the MMUG or Marshall Mac Users Group. A few, like Photography or MSFC Classifieds, are social, but most focus on a specific work project or organization.

"Anyone can set up a group, for any reason at any time. And it's really easy to do," Jones said. And the groups can also be made "private" for those dealing with sensitive information.

"Try it," Atchley suggested. "If it doesn't work for your group, you won't have spent a lot of effort on it. But if it does, it can save you a lot of time."

For more information, contact [Kevin Jones](#).

*Kesner, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.*

[› Back to Top](#)

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## Marshall Hosts Workshop for Study on Applications for Large Space Optics

By Janet Anderson



NASA's Marshall Space Flight Center is hosting a two-day national workshop for the Study on Applications for Large Space Optics, or SALSO, through Feb 6. The workshop features presentations on concepts for the use of two large space telescopes that were transferred to NASA from the [National Reconnaissance Office](#).

***Image left: Josh Grindlay offers his proposed concept for the use of one of the large space telescopes that was transferred to NASA from the National Reconnaissance Office. (NASA/MSFC/Emmett Given)***

NASA's Science Mission Directorate requested that Marshall host the workshop to develop concepts aligned with five principal areas: space-technology-focused research, validation or demonstration; human exploration and operations; heliophysics; planetary science; and astrophysics.

The workshop includes approximately 34 presentations about potential uses of these telescopes from industry, academia and government.

The SALSO team will down-select up to six concepts to be developed into high-level mission concepts by the NASA design centers at NASA's Goddard Space Flight Center and the Jet Propulsion Laboratory.

These mission concepts will be presented to the NASA administrator in May.

To view the workshop via Ustream, visit [here](#).

For more information about SALSO, visit [here](#).

*Anderson is a public affairs officer in the Office of Strategic Analysis & Communications.*

[› Back to Top](#)

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### **Center Director Patrick Scheuermann Holds Town Hall Meetings to Kick Off 2013**

*Marshall Space Flight Center Director Patrick Scheuermann is kicking off 2013 with a series of town-hall-style meetings with employees across the center. These one-hour meetings are an opportunity for Marshall team members to ask questions of the center director in an open forum. His first meeting was held with members of the Office of Strategic Analysis & Communications on Jan. 29.*

*(NASA/MSFC/Emmett Given)*



[› Back to Top](#)

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### **Chandra Captures Images 160,000 Light Years Away**



*This composite image shows the superbubble DEM L50, also known as N186, located in the Large Magellanic Cloud about 160,000 light years from Earth. Superbubbles are found in regions where massive stars have formed in the last few million years. The massive stars produce intense radiation, expel matter at high speeds, and race through their evolution to explode as supernovas. The winds and supernova shock waves carve out huge cavities called superbubbles in the surrounding gas. X-rays from NASA's Chandra X-ray Observatory are shown in pink; and optical data from the Magellanic Cloud Emission Line Survey, or MCELS, are colored in red, green and blue. The MCELS data were obtained with the University of Michigan's 0.9-meter Curtis Schmidt Telescope at the Cerro Tololo Inter-American Observatory. The shape of DEM L50 is approximately an ellipse, with a supernova remnant named SNR N186 D located on its northern edge. Like another superbubble in the Large Magellanic Cloud, N44, DEM L50 gives*

*off about 20 times more X-rays than expected from standard models for the evolution of superbubbles. A Chandra study published in 2011 showed that there are two extra sources of the bright X-ray emission: supernova shock waves striking the walls of the cavities, and hot material evaporating from the cavity walls. The Chandra study of DEM L50 was published in the Astrophysical Journal in 2011 and was led by Anne Jaskot from the University of Michigan in Ann Arbor. The co-authors were Dave Strickland from Johns Hopkins University in Baltimore, Md.; Sally Oey from University of Michigan; You-Hua Chu from University of Illinois; and Guillermo Garcia-Segura from Instituto de Astronomia-UNAM in Ensenada, Mexico. NASA's Marshall Space Flight Center manages the Chandra program for NASA's Science Mission Directorate in Washington. The Smithsonian Astrophysical Observatory controls Chandra's science and flight operations from Cambridge, Mass. (X-ray: NASA/CXC/Univ of Michigan/A.E.Jaskot, Optical: NOAO/CTIO/MCELS)*

[› Back to Top](#)

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**Marshall Team Members Receive Technical Achievement Awards from Air, Space and Missile Defense Association**

NASA's Marshall Space Flight Center team members Terry Koelbl and Alex Priskos were presented with Technical Achievement Awards from the Air, Space and Missile Defense Association at a Jan. 25 ceremony at the U.S. Space & Rocket Center in Huntsville. At the ceremony are, from left, U.S. Army Lt. Gen. Richard P. Formica, commander of the U.S. Space and Missile Defense Command, who presented the awards; Terry Koelbl, Alex Priskos, and U.S. Rep. Mo Brooks of Alabama's 5th District. Koelbl, of the Space Systems Department in Marshall's Engineering Directorate, received the Technical Achievement Award for directing a team of



engineers to develop and assess options to resolve issues related to loss of power to a launch vehicle flight computer. Priskos, the Space Launch System booster manager, accepted the Technical Achievement Team Award on behalf of the National Institute for Rocket Propulsion Systems Ammonium Perchlorate Team, or NIRPS AP Team. The team was cited for its work with other government organizations and industry partners to stabilize demand and pricing for a key ingredient in solid rocket motor propellants. Coordinating this demand can provide significant costs savings to all government buyers. (NASA/MSFC/Fred Deaton)

[› Back to Top](#)

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## Obituaries

**Angela Stewart Johnston**, 47, of Madison died Jan. 26. She worked as a mission support requirements and development engineer in the Mission Operations Laboratory at the Marshall Center. She is survived by her husband, Albert S. "Nick" Johnston.

**John Mark Jones**, 57, of Fayetteville, Tenn., died Jan. 27. He retired from the Marshall Center in 2010 as an electronics technician. He is survived by his wife, Shelia Brooks Jones.

### Find this article at:

<http://www.nasa.gov/centers/marshall/about/star/index.html>