



# The Marshall Star

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## Director's Corner: Economic Impact Brochure

You are well aware of the critical role Marshall Space Flight Center plays in the NASA Strategic Plan and Vision. Do you know how critical MSFC is to the local economy as well as Alabama's economy? Do you know just how important?

Every two years we work with a university research organization to analyze our economic impact on the region and the nation. This effort highlights the many ways we contribute to the community where we live and work, something that makes me

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*Patrick Scheuermann (NASA/MSFC)*

## NASA's Marshall Center to Host Ribbon-cutting Ceremony for New 'Green' Facility

*By Rick Smith*

NASA and Marshall Space Flight Center leaders will join members of the Alabama congressional delegation Aug. 13 to cut a symbolic ribbon and officially mark the grand opening of [Building 4220](#), the center's latest environmentally friendly, high-efficiency facility.

[Marshall Center Director Patrick Scheuermann](#) and [Deputy Director Teresa Vanhooser](#) will welcome [U.S.](#)

[Sen. Jeff Sessions](#) of Alabama; [U.S. Rep. Mo Brooks](#) of Alabama's 5th District; Lt. Col. Tom Nelson, deputy commander of the U.S. Army Corps of Engineers' Mobile District; and Tom Cremins, senior policy adviser at NASA Headquarters in Washington. Steve Doering, director of Marshall's Office of Center Operations, will serve as master of ceremonies.

All Marshall Center team members are  
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# Go Behind the Scenes at the Marshall Center's Payload Operations Integration Center Open House Aug. 13

By Bill Hubscher

If you have ever wondered what it takes to work with astronauts on the [International Space Station](#) every day, the team with NASA's [Payload Operations Integration Center](#) (POIC) wants to give the workforce at the Marshall Space Flight Center an exclusive peak behind the curtain during an open house.

The POIC team members will show what mission operations is all about by opening the control room for Marshall Center workforce tours Aug. 13, from 11 a.m. to 1 p.m. The tours will begin on the east side entrance of Building 4663.

Once inside, visitors will get a close-up look at the mission control setting, complete with a 16-screen video wall, where the flight controllers coordinate and assist orbiting astronauts and international partners on the ground with all science activities on the space station.

“The ground teams work around the clock to manage the use of station resources as well as sending remote commands and data transmissions,” said Lamar Stacy, deputy chief of the payload operations directors’ office at the Marshall Center. “We are essentially another crew member and communicate



*NASA's Payload Operations Integration Center at the Marshall Center will host an open house Aug. 13 from 11 a.m. to 1 p.m. The operation center's capabilities enhance collaboration and enable the ground team to efficiently help the International Space Station crew and researchers around the world perform cutting-edge science in the unique space environment. (NASA/MSFC)*

daily with the orbiting astronauts, facilitating the hundreds of investigations on board.”

Visitors to the POIC will learn about many different facilities including the control room and laboratory training area, as well as the individual positions of

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## Director's Corner *Continued from [page 1](#)*

especially proud, and I hope makes you proud as well.

For example, when it comes to jobs, we employ 2,700 civil servants and that number is closer to 6,000 when we include the contractors who are so essential to our success. For every one job at Marshall Space Flight Center, seven are created in Alabama. Nationwide our activity generates over 40,000 jobs.

When it comes to pure dollars, our impact is \$2.5B locally, \$3.3B throughout the state, and \$6.7B across the USA. We account for 6% of Madison County's gross product. We also contribute \$77M in state and local tax revenue, and a total of \$808M in federal taxes.

Please take a few minutes to read our [latest Economic Impact brochure](#). It is a valuable tool when sharing the Marshall story with visitors and stakeholders near and far.

The news about just how much we contribute to our regional and national economy is worth sharing whether with your neighbors or at your next professional meeting. A major part of our job is to be ambassadors for NASA and inspire the next generation. By highlighting key facts within this brochure with our surrounding community, we ensure they know what we contribute today that enables a solid future for all.

Patrick

## Marshall Scientists to Host Web Chat about Perseid Meteor Shower

On the night of Aug. 12-13, the annual Perseid meteor shower will peak in the skies over Earth. Although the almost-full moon will wash out fainter meteors, there should still be a good show of brighter meteors in this prolific shower, with projected peak rates of 30-40 meteors/hour. Most of the world can see the Perseids any time after full dark, with peak viewing in the two hours before dawn.

Dr. Bill Cooke, lead for NASA's Meteoroid Environment Office, and his team of meteor scientists will take your questions via live web chat on the night of Aug. 12-13. A live Ustream view of the skies over NASA's Marshall Space Flight Center will also be offered, weather permitting. The Ustream view will appear on [this page](#) Aug. 12 at 8:30 p.m. The live web chat will begin on [this page](#) Aug. 12 at 10 p.m.

## New Facility *Continued from page 1*

welcome to attend the ribbon-cutting ceremony.

Building 4220 primarily will be home to [Space Launch System](#) (SLS) team members playing vital roles in the development and construction of the most powerful rocket ever built. The SLS will, in coming decades, explore destinations across our solar system, including an asteroid and Mars.

Designed and built to federally mandated standards of energy and water efficiency, the new facility has earned LEED® Silver Certification from the [U.S. Green Building Council](#) for [Leadership in Energy and Environmental Design](#), the national standard for the development of high-performance, sustainable structures. In 2006, the Marshall Center opened the doors of NASA's very first LEED® certified facility: [Building 4600](#), which anchors the state-of-the-art engineering complex at the corner of Martin and Rideout roads.

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



*Building 4220 is the latest addition to the Marshall Center administrative complex. (NASA/MSFC/Emmett Given)*

## POIC Open House *Continued from page 2*

the science team including the payload operations directors, data management coordinators and operations controllers. These and other members of the POIC team will explain how they contribute to the scientific effort on the space station.

For more information on the International Space Station, visit:  
<http://www.nasa.gov/station>

For those who can't make the tour, you can visit the POIC on the Internet, which includes a short tour of the science command center:  
<http://www.nasa.gov/centers/marshall/earthorbit/ops>

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

# Marshall's Social Media Accounts Set Sail in August with Ocean Theme

By Shannon Ridinger

The Marshall Space Flight Center social media team is holding on to the last bit of summer and invites followers, friends and fans to share pictures of ocean views from summer vacations as part of a "New Oceans" campaign in August.

Throughout the month, Marshall's flagship social media accounts will feature photos of Earth's oceans as viewed from space, and take a look at how NASA will set sail into deep space again, our "new ocean," as described by President John F. Kennedy in a Sept. 12, 1962, speech at Rice Stadium at Rice University in Houston.

Marshall team members are encouraged to share what beaches and oceans you have visited this summer by commenting on the various Marshall social media accounts and using the hashtag #newocean. The Marshall social media team will then find pictures of those locations from the International Space Station and other orbiting space satellites and post them to center accounts.

By continuing groundbreaking research on the space station, we are learning more than ever before about what it takes for humans to live and work

in space. The knowledge gained from experiments on this orbiting science laboratory are preparing us for our next giant leap. In addition to featuring breathtaking photos taken from the space station, the team will also highlight the new ocean of deep space exploration and the technologies NASA is implementing to explore our solar system in new ways.

NASA's Space Launch System heavy-lift rocket and Orion crew vehicle will give us the ability to explore the new ocean of deep space like never before. All month long, Marshall social media channels will highlight the work being done on the space station and the progress being made on building SLS and preparations for Exploration Test Flight 1 -- Orion's first test flight set for this December.

Follow us on [Instagram](#), [Facebook](#), [Twitter](#), [Flickr](#) and [Google+](#). Share and comment with the social media team all August long to learn more about NASA's exciting plans for the future of space exploration.

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

# Robert Schwinghamer, Expert in Materials and Processes Dies

By Mike Wright

Robert J. Schwinghamer, 86, one of the nation's foremost experts in the field of aerospace materials and process engineering, died July 28. He served as the Marshall Space Flight Center's associate director, technical, and participated with the center director in managing major laboratories.

Schwinghamer was born March 12, 1928, and was a native of Jasper, Indiana. He received his bachelor's degree in electrical engineering from Purdue University in West Lafayette, Indiana, in 1950; his master's in business from the Sloan School in Massachusetts; and earned a master's in management from the Massachusetts Institute of Technology.

Before entering federal service, Schwinghamer

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*Robert Schwinghamer (NASA/MSFC)*

worked for Sylvania. There he participated in the development of a tri-color kinescope used in early experiments with color television.

He entered federal service in 1957 and came to Huntsville as a research engineer with the U.S. Army Ballistic Missile Agency which was engaged in advancing materials technology into the space age. There he participated with the late Dr. Wernher von Braun in the development of the Redstone and Jupiter ballistic missile programs.

He was a member of the Wernher von Braun rocket research and development team. He transferred with that team to Marshall when it was formed in 1960.

A portion of Schwinghamer's early career at Marshall involved experiments in creating an electrical discharge-forming machine. Schwinghamer also possessed a colorful personality. In an early biographical profile, Schwinghamer said, "We may even frighten a few people with our electrical discharge machine since the explosion that occurs within the chamber creates quite a bang throughout the area."

In 1974, Schwinghamer was named chief of the Materials Division in the Astronautics Laboratory. In 1989 he was named deputy director for Space Transportation Systems. After serving in both technical and managerial positions and contributing significantly to the success of numerous space flight programs and projects, he retired in January 1999. He served 41 years in the federal service.

Schwinghamer made a number of far-reaching and lasting technical contributions to the Saturn-Apollo program. In 1973 he developed a solar shield to provide temperature control and retain the habitable environment in the Skylab interior when the micrometeoroid shield malfunctioned and caused overheating inside Skylab.

He also made contributions to improve the turbine blades and bearings for the space shuttle main engine that led to improved performance and longer engine life. Further he headed the innovative in-house development of low-cost thermal protection material for the solid rocket booster and spray-on foam insulation for the external tank. Likewise

he led a 300-engineer team to develop a repair technique for the space shuttle orbiter maneuvering system and directed repairs of an orbiter hydrogen leak.

Schwinghamer invented the magnetomotive hammer, which is applied to difficult metal-working problems on large tanks.

In 1996 he assembled a team that analyzed the failure mode and reproduced the Tethered Satellite material failure.

After his retirement he served as an aerospace consultant for NASA and consulted on 14 reviews and investigations. In the fall of 1996, the National Transportation Safety Board requested NASA assistance in the investigation of the TWA-800 disaster. In response, Schwinghamer conducted extensive analysis and testing of materials from TWA-800. NTSB Chairman Jim Hall wrote to the NASA administrator praising the Marshall team and Schwinghamer for their professionalism, cooperation and timely contribution to the investigation.

Schwinghamer was the author or co-author of more than 50 technical papers and held 12 U.S. and foreign patents. He was a recipient of the NASA Distinguished Service Medal.

*Wright is the Marshall Center historian.*