



MARSHALL STAR

Serving the Marshall Space Flight Center Community

April 17, 2008

Environmentally friendly activities planned for celebration

Marshall to go green for Earth Day on April 22

By Megan Norris

The Marshall Center will take a giant leap toward a greener planet April 22 in celebration of Earth Day.

Environmental consciousness is nothing new at Marshall, as the workforce is actively involved in ecological improvements — from purchasing Earth-friendly products to better management of water resources — and has several events planned for the 38-year-old nationwide event.

The festivities, sponsored by Marshall's Environmental Excellence Team, will kick off with an opening ceremony at 10 a.m. in Activities Building 4316. This year's theme is "One Green Step for Man – One Green Planet for Mankind." The Jones Valley Elementary School Robotic Team in Huntsville will perform a skit on energy conservation.

An environmental expo will be held from 10 a.m.-1 p.m. at the Activities Building, featuring more than 24 local vendors who will talk with employees about new environmental practices and products.

Attendees will have the opportunity to meet honored guests Huntsville Mayor Loretta Spencer, Madison Mayor Sandy Kirkindall and Lite 96.9 FM morning radio show hosts John Malone and Abby Kay. Malone and Kay will serve as the event's masters of ceremonies and



present awards to the winners of the photo contest, logo contest and the Environmental Hero Award.

This is the second year the Environmental Excellence Team will present the Hero Award, recognizing excellence in efforts to preserve and protect the environment.

Huntsville Wholesale Nursery is donating a tree for the annual ceremonial planting, to be held after the opening ceremony on the Activities Building grounds.

Designated recycling stations will be set up at the expo for cell phones and eyeglasses. All donations will go to the Huntsville Chapter of the Lion's Club, an organization recognized for its service to the blind and visually impaired, and the American Cancer Society's "Relay for Life," an overnight event designed to celebrate cancer survivors and raise money for cancer research and programs. NASA property items are not permissible for donation.

For more information, contact Roger Bunnell at 544-0608 or roger.e.bunnell@nasa.gov, or visit <http://eemo.msfc.nasa.gov/environmental/eday/index.asp>.

Norris, an ASRI employee, supports the Office of Strategic Analysis & Communications.

GLAST Burst Monitor operations center open for business

By Jennifer Morcone

The Gamma-ray Large Area Telescope Burst Monitor Instrument Operations Center is now open for business. The center is the focal point for observing gamma ray bursts, the most powerful explosions in the universe.

The GLAST Burst Monitor team joined with fellow Marshall employees, University of Alabama representatives and supporting

contractors on April 9 kicked off operations at the center during a grand opening event. The GLAST Burst Monitor, or GBM, a space-based instrument for studying gamma ray bursts, is one of two instruments on NASA's GLAST spacecraft. Together, the Large Area Telescope and the GBM will observe gamma rays ranging in energy from a few thousand electron volts to many hundreds of billions

See GLAST on page 4

Inspiring a new generation of explorers...

Marshall's Rudy Gostowski uses NASA Fellowship Program to advocate aerospace careers

By Megan Norris

Marshall Center chemist Rudy Gostowski hoped for a new challenge when he was accepted into the NASA Administrator's Fellowship Program in 2005.

He got that challenge — and much more. Gostowski was working in the Engineering Directorate's Materials and Processes Laboratory when he embarked on his new career as a NASA Fellow at Fisk University — a small, predominantly minority institution in Nashville, Tenn.

The fellowship program was created to further professional development of NASA employees, as well as faculty from minority institutions who teach science, technology, engineering, mathematics, known as STEM, which are crucial to NASA's future missions. The program continues Marshall's long tradition of partnering with scientists, engineers, scholars and researchers at key institutions in Alabama and throughout the nation to promote education and expand STEM disciplines.

During his two years at Fisk University, Gostowski developed a chemistry laboratory course and gave students a chance to build and launch rockets as part of the Marshall Center's Student Launch Initiative. The launch initiative challenges university-level students to design, build and fly a reusable rocket with scientific payload to one mile in altitude and is just one of dozens of Marshall educational programs and initiatives to help attract and inspire America's next generation of scientists, engineers and explorers.

Gostowski had that same goal in mind when he developed his program — to inspire minority students to consider careers at NASA.

"Since Fisk University doesn't have an engineering program, the lab course and Student Launch Initiative are excellent opportunities to expose students to engineering and science fields," Gostowski said. "Workforce development is crucial for NASA's future. And with these programs, the opportunities for these students are endless."

One such opportunity is for students to participate in an inquiry-based general chemistry laboratory course, developed by Gostowski. The lab is designed to be student centered, rather than focused on the teacher, and provides hands-on activities for a better perspective on how science is accomplished.

"This lab is wonderful for students because it is truly about the

student," Gostowski said. "We want to increase their understanding of chemistry. The lab helps achieve that by combining processes and knowledge and a framework for scientific inquiry and investigation."

His other project, for university students participating in the Student Launch Initiative, challenges them to design, build and fly a reusable rocket with a scientific payload to one mile in altitude.

The project engages

students, who are paired with NASA engineers, in scientific research and real-world engineering processes.

Gostowski and Kent Wallace, a Fisk physics professor, founded the Fisk Altitude Achievement Missile Team, a group that has grown from 14 to 30 undergraduate and graduate students. The team's mission is to build a competitive rocket for the NASA University Student Launch Initiative and acquaint grade-school students with rocketry for a positive educational experience.

Besides beating their Student Launch Initiative competition, a primary objective of those in the program is to "draw more minorities to the aerospace industry," Gostowski said. "Last year's competition showed us that students we recruited to participate started to have an interest in pursuing an aerospace career."

Although his fellowship at Fisk ended in June 2007, and he is back to work at the Materials and Processes Laboratory, Gostowski continues to serve as advisor for the rocket team, providing technical advice and planning oversight. He also hopes to be an integral part of establishing an engineering program at the school.

For more information on the Fisk Altitude Achievement Missile Team, visit www.faamt.org. Additional information on the NASA Administrator's Fellowship Program can be found at <http://university.gsfc.nasa.gov/programs/naftp.jsp>.

Norris, an ASRI employee, supports the Office of Strategic Analysis & Communications.



Marshall chemist Rudy Gostowski helps students at Fisk University in Nashville, Tenn., construct a rocket for NASA's Student Launch Initiative.

This month in history ...

NASA marks its 50th anniversary this year on Oct. 1. Shortly after NASA was founded in 1958, the United States set out to launch a human into space. The nation accomplished its goal on May 5, 1961, when it launched astronaut Alan Shepard on board a Mercury-Redstone launch vehicle. Shepard's flight, however, came in the wake of the Soviet launch of cosmonaut Yuri Gagarin on board his Vostok I spacecraft on April 12, 1961.

University rocketeers to raise thunder over Alabama on April 19

By Rick Smith

Students from nine American colleges and universities will raise smoke and thunder across the North Alabama sky April 19, sending aloft rockets of their own making for NASA's 2007-2008 University Student Launch Initiative.

Marshall Center team members are invited to attend the launch event, to be held between 9 a.m. and 5 p.m. at Bragg Farms in Toney, Ala. Complete directions to the site are available on Inside Marshall at <http://inside.msfc.nasa.gov/announcements/sli.html>. A launch-day weather update is available by phone at 256-961-1337.

Participating student teams have spent the 2007-2008 school year developing, building and testing their own rockets, complete with working science payload. The launch concludes the annual competition, sponsored by ATK Launch Systems of Logan, Utah, and Huntsville. The event is organized by Marshall's Academic Affairs Office in the Office of Human Capital.

And these are no small, hobby-scale rockets, said Tammy Rowan, manager of the Academic Affairs Office. "They're towering creations with complex propulsion systems, ranging in height from 5-14 feet, some as big as 10 inches in diameter, and many are carrying sizeable payloads," Rowan said. "The challenge is to fly these rockets to an altitude of 1 mile, and have them fall back to Earth intact for scientific payload recovery."

Those payloads also are extraordinary achievements, she said — forget the classic images of pre-teen rocketeers launching and retrieving crickets in matchboxes.

One university team is loading a Geiger counter on its rocket to test solar radiation. Another will conduct three-dimensional, in-flight modeling of changes in air temperature. Others are mounting infrared cameras and spectrometers on their vehicles

to study the atmosphere, or adding homemade yet sophisticated ballistics controls to reduce rocket speed to hit a specific altitude.

They all hope to deliver unique scientific results — which factor into their overall score, Rowan said, and lend an even broader value to the experience.

"Through the University Student Launch Initiative, all these students of math, science and engineering are seeing practical applications for the whole spectrum of their academic studies," she said. "They're managing complex scientific research and conducting aerospace and engineering projects from drawing board to launch pad.

"They get to be mechanical engineers, rocket scientists and theoretical researchers all at the same time," she added.

Competition judges from Marshall, ATK Launch Systems and the Huntsville Area Rocketry Association will evaluate each team's rocket design, flight data and a final written report on their science results and overall experience, and will choose a winner in early May. The winning team receives \$5,000 and an invitation to a space shuttle launch.

Participating university teams include students from Auburn University in Auburn, Ala.; the University of Alabama in Huntsville; Harding University in Searcy, Ark.; Missouri University of Science & Technology in Rolla; the University of North Dakota in Grand Forks; Fisk University in Nashville, Tenn.; Vanderbilt University in Nashville; Utah State University in Logan; and the College of Menominee Nation in Green Bay, Wis.

The high school level Student Launch Initiative follows next week. Sixteen high school teams from around the nation will launch their rockets at Bragg Farms April 26. Details will appear in next week's Marshall Star.

Smith, an ASRI employee, supports the Office of Strategic Analysis & Communications.

'Focus on Marshall': Learn more about NASA's collaboration with the National Weather Service, Marshall's vacuum chambers

This month's "Focus on Marshall" will highlight how information gathered in space helps life on Earth, and how humans use information gathered on the ground to improve space travel.

NASA's Short-term Prediction Research and Transition Center, or SPOrT, located at the National Space Science Technology Center in Huntsville is marking its fifth year of collaboration with the National Weather Service. "Focus on Marshall" will help viewers learn more about the collaboration and how the NASA team provides real-time data to weather forecast offices across the nation to improve the accuracy of weather predictions.

NASA meteorologist Gary Jedlovec and Chris Darden, science operations officer with the National Weather Service in Huntsville, explain how NASA information can be directly accessed within the

modeling and forecasting systems local forecasters use every day.

"Focus on Marshall" also spotlights Marshall's 26 vacuum chambers used to test flight hardware before the designs are put in orbit. The chambers can simulate the space environment the articles will experience, including lack of an atmosphere and extreme temperatures, and will help identify any problems with hardware before it is launched. Randy Stephens, deputy branch chief, gives a tour of the newest chamber and the largest, which was once a fuel tank for Saturn V engine tests at Marshall. He explains the chambers' history and discusses future tests planned for the Constellation Program.

"Focus on Marshall" will air on Marshall TV on April 17, April 22 and April 24 at 11 a.m., noon and 1 p.m. It also is available on NASA TV, Inside Marshall and on the NASA Portal.

GLAST

Continued from page 1

of electron volts or higher, the widest range of coverage ever available on a single spacecraft for gamma ray studies.

Operations personnel and scientists working in the GBM Instrument Operations Center will scrutinize the health of the monitor and enjoy a first-hand peek at ground-breaking new gamma ray science. The new facility is located on the second floor of the National Space Science and Technology Center in Huntsville.

"While seeing the operations center come to life is a high point, the real triumph will come when we see the first data from GLAST in orbit," said the project's principal investigator, Charles "Chip" Meegan, an astrophysicist at Marshall. "Gamma ray bursts remain one of the greatest mysteries of astrophysics and we're anxious to begin answering puzzling questions about how these fantastically powerful explosions are produced."

More energetic than X-rays, gamma rays are the highest-energy form of electromagnetic radiation. When a burst occurs, the GBM will detect gamma rays from the explosion and within seconds identify the location of the burst and transmit this information to scientists on the ground.

"I've always felt that one of the most amazing things Marshall does is high-energy astrophysics," said John Horack, manager of Marshall's Science & Mission Systems Office. Horack began his NASA career studying gamma ray bursts with BATSE, an instrument which flew on NASA's Compton Gamma-Ray Observatory. In his remarks at the grand opening he reflected on this experience saying, "For a brief time, you were the first person ever to see an event, maybe a small event, but certainly not small energetically. Something happened in the universe, and you were the only person to know about it. That will happen again with GBM."

Horack also took note of two former members of Marshall's gamma ray team who passed away before being able to see GBM to flight, Dr. Robert Mallozzi and Mr. Fred Berry. "Unfortunately, Bob and Fred haven't made this journey of discovery as far as we have," said Horack. "They serve us now as a reminder about how special we are. As a species and as individuals, we have the opportunity at NASA to build things that enable us to actually understand the cosmos — packaging the workings of the unimaginably vast universe into the small vessel that is the human brain — and to share that wonder, excitement and knowledge with others for the betterment of all."

GBM Instrument Operations Center staff will continuously verify that the instrument is performing properly and prepare commands to fine-tune performance as needed. GBM commands will be sent to the spacecraft through GLAST mission operations at Goddard Space



The GLAST Burst Monitor team from left are John Horack, Steve Elrod, Narayana Bhat, Fred Kroeger, Jerry Fishman, Lisa Gibby, Chip Meegan and Bill Paciesas.

Flight Center in Greenbelt, Md. Goddard manages the GLAST mission for NASA.

"When GBM begins scanning the sky, we will be monitoring the instrument," said Lisa Gibby, Marshall's operations center manager. "Many of us worked on a previous gamma ray instrument, BATSE, which was on NASA's Compton Gamma-Ray Observatory. We remember how exciting it was when new discoveries were made. We can't wait to see what the data from GBM will tell us about the gamma ray universe."

Operations center scientists will examine data from gamma ray bursts and disseminate this information to the wider scientific community swiftly, allowing ground-based instruments to observe these bursts as soon as possible.

A complementary operations center is located at the Max Planck Institute for Extraterrestrial Physics in Garching, Germany, allowing scientists to look at real-time data during their normal work day, offset seven hours from Huntsville. Huntsville-based operations center staff will host regular meetings via teleconference to Germany to discuss data analysis and German colleagues will assist in operations and monitoring instrument performance.

Marshall has a long-standing relationship with scientists at the Max Planck Institute.

NASA collaborated with the institute through an agreement with the German Aerospace Center to design the GBM and the institute built the monitor's power supply and crystal detectors — the main component for intercepting gamma rays.

GLAST is an astrophysics and particle physics partnership, developed in collaboration with the U.S. Department of Energy, along with important contributions from academic institutions and partners in France, Germany, Italy, Japan, Sweden and the United States.

GLAST is anticipated to launch from Cape Canaveral Air Force Station, Fla., on May 16 at 10:45 a.m. CDT.

Morcone is a member of the Public & Employee Communications Office in the Office of Strategic Analysis & Communications.

Marshall Center's new external Web presence now live

Starting this week, the Marshall Center is presenting a very different face to visitors arriving via the World Wide Web.

The content of the center's external Internet presence has been entirely revamped, and the site has a completely new look, designed to match the new NASA Portal layout devised by NASA Headquarters. The redesigned site provides an enhanced, comprehensive one-stop-shop for all online visitors seeking more information about Marshall programs and projects.

The new site went live April 15.

"It's our goal to showcase the good work being done at Marshall, and open the doors of the center to the public via the World Wide Web," said Web editor Brooke Boen, a member of the NASA Portal editorial board who manages the Marshall Web site for the Office of Strategic Analysis and Communications. "With the redesign and the interactive enhancements it offers, we hope to expand the value of our Web presence, both inside and outside the center."

The overhaul — the first complete revamp of Marshall's Web

presence since 2004 — includes engaging new material for laypersons and professional visitors alike. Hundreds of pages of text have

been revised and updated to better communicate Marshall's role in NASA's missions, and to provide quicker, easier access to news and multimedia products that demonstrate the work of the center.

The revamp incorporates transparent and user-friendly "Web 2.0" capabilities, Boen said — that's Web-lingo for better integration and functionality of applications and features across the entire Marshall Web infrastructure. Feedback-friendly

interactive elements include polls, comment boxes and RSS feeds that quickly alert users to new video and other content.

Approximately 23,000 HTML pages have been redesigned, requiring new coding for more than 61,000 images and video files — a total of some 9.6 gigabytes of revamped data. That's the equivalent of nearly 10 pickup trucks full of textbooks.

To visit the new Marshall Web presence, visit <http://www.nasa.gov/centers/marshall>.



Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, April 24, is 4:30 p.m. Thursday, April 17.

Miscellaneous

- KitchenAid clothes dryer, \$75. 603-3055
- Kenmore washer, dryer, super capacity, \$475. 975-1217
- Intex 18'x48" frame pool, disassembled, \$250 obo; 18-foot leaf net, solar cover, \$35 each. 656-5703
- Husqvarna-Viking Designer SE sewing/embroidery machine, original accessories, \$3,500. 828-5303
- Six lengths of 84x62 sheer curtains, white, \$4 per length, other sizes available. 881-8879
- Oak veneer vanity, 30x18x31, pictures available, \$75. 655-6348
- Wedding dress, size 16/18, veil, beaded headpiece, bridal slip, \$200. 426-7862
- Sears two-cylinder air compressor, on wheels, belt driven, 20 gallon, 220 volts, \$85. 325-2919
- Nikon D200 DSLR, all OEM accessories, packaging, \$995. 883-1667

- Picture framing equipment, chopper, mat cutter, mats, supplies, \$400. 683-3397
- Chain-link fence hardware, top poles, straps, caps, for 250 feet of fence, \$20. 348-9381
- Registered Bluetick puppies, 7 months old, \$150. 247-3385
- Black jazz shoes, women's size 8, \$25; white tap shoes, girl's size 1 1/2, \$20. 830-8299
- Thomasville queen bedroom suite, mirror chest, four-post bed, night stand, \$1,500. 325-8958
- Five 15x8 black rock crawler wheels for Jeep Wrangler, 4.5 bolt pattern, \$225. 931-308-1723.
- Bulldog puppies, 3/4 American, 1/4 Boxer, white, shots, tails docked, \$150. 784-9337 or 227-9053
- John Deere commercial lawn equipment. 859-9940
- Coffee table, two matching end tables, \$100; 52-inch RCA TV, \$500. 337-4476
- Oak dining room set, hutch, table, pad, six chairs, \$350. 468-1066
- Ham Radio equipment, HF and 2m radios, power supplies, antennas, books. 656-2951
- Large solid oak roll-top desk, \$400 obo. 682-1844
- Dell 24-inch LCD monitor, E248WFP, \$345; Craftsman Professional 17-inch drill press, \$325. 975-9497

Vehicles

- 2006 Buick Lucerne, PGA Golfer's Tour Edition, burgundy, leather, 6k miles, \$21,000. 878-0860
- 2006 Starcraft 215B hybrid trailer, sleeps six-eight adults, loaded, extras, make offer. 317-294-2766
- 2005 Yamaha FX-140 WaveRunner, low hours, \$6,800. 325-3696
- 2004 PT Cruiser, all power, 55k miles, \$8,000. 232-4610
- 2004 Suzuki Z400 Quadsport Limited Edition, \$2,800 obo. 466-7793 or 340-9450
- 2004 R-Vision Motorhome, 33-foot Class-A, workhorse chassis, extended warranty, www.thewilletfamily.com/ rv, \$56,000. 883-7021
- 2002 Dodge RAM 1500 pickup truck, 4.7 V8, A/C, CD player, 89k miles, \$7,995. 244-0682

- 2002 5th wheel camper, slide, sleeps six, full amenities, \$14,995. 721-1260
- 2002 Honda Shadow VT600, purple, chromed out, new tires, 43k miles, \$3,000 firm. 759-3009
- 2001 Mazda Miata LX, loaded, leather, keyless entry, black/tan, 61k miles, \$10,900. 883-6894 or 468-6894
- 2001 Honda Foreman ES, 4x4, electric shift, 963 miles, \$3,250. 975-0068
- 1999 Toyota 4-Runner Limited Edition, white, brown interior, sunroof, CD, A/C, \$7,000. 694-1260
- 1999 Acura CL 3.0, white/beige, 86k miles, \$8,500. 536-5132
- 1997 24-foot Coachman Catalina Lite, A/C, heat, full kitchen/bath, hot water heater, awning, \$5,500. 830-5285
- 1996 Stratos 278DC, 150 Johnson, 76# Motorguide, Eagle fish finders, \$8,950. 586-2744
- 1992 Ford F-150, extra long bed, double cab, new transmission, 90k miles, \$5,500. 859-9940
- 19-foot Bayliner Capri Bowrider, 125 hp, trailer, covers, extras, \$3,000. 653-3647

Wanted

- Players for senior softball, two leagues, ages 55 and up. 883-1135
- Adjustable sheet-music stand, cost negotiable. 479-4345
- RV to rent, weekend of July 25. 759-3009

Free

- Compaq inkjet printer, model IJ1200, all cables included. 830-9806

Lost

- 4GB iPod in or near Building 4487. 883-2468

Found

- Amethyst ring, west parking lot, Building 4241. 544-0021
- Small pocket knife, Building 4600 area, found on March 26. 544-4680

STS-122 astronauts visit, thank Marshall team

By Sanda Martel

Space shuttle astronauts who flew the STS-122 mission in February visited the Marshall Center on April 15 to thank the Marshall team that helped make their mission to the International Space Station a success.

Commander Steve Frick; Pilot Alan Poindexter; mission specialists Leland Melvin, Rex Walheim, Stanley Love; and European Space Agency astronaut Hans Schlegel from Germany were welcomed to the center by Marshall Deputy Director Robert Lightfoot in Morris Auditorium, Building 4200.

The crew presented highlights of their 13-day, 5.3-million-mile journey in space. The seven-member crew, which also included European Space Agency mission specialist Leopold Eyharts from France, lifted off Feb. 7 from the Kennedy Space Center, Fla., and landed Feb. 20 at Kennedy. Eyharts remained on board the space station, replacing Expedition 16 Flight Engineer Dan Tani, who returned to Earth on space shuttle Atlantis after nearly four months on the station. Eyharts returned to Earth with space shuttle Endeavour's STS-123 crew, which landed at the Kennedy Center March 26.

The STS-122 crew delivered the European Space Agency's Columbus laboratory, which expanded the size and research capabilities of the space station. The mission included three spacewalks to outfit Columbus with power, data and cooling cables, installation of two science experiments on the lab's exterior, replacement of an expended nitrogen tank on the space station's cooling system, and retrieval of a failed space station control moment gyroscope — a device that helps control the orientation of the station — for its return to Earth.

During their presentation of mission highlights, the astronauts thanked the Marshall team for its work on the space shuttle and space station science and for helping to make the mission a success.

"Our special thanks go to the engineering teams at the Marshall, Kennedy and Johnson Space Centers who pulled together to identify and solve the problem that prevented us from launching in December," said Frick.

Fuel sensor false readings twice prevented Atlantis from launching in December. To solve the problem, engineering teams modified a



Marshall Center Deputy Director Robert Lightfoot, center, with space shuttle Atlantis' STS-122 crew members. Lightfoot presented mementos to the astronauts following their mission highlights presentation of their 13-day mission to the International Space Station. From left, mission specialists Hans Schlegel, Rex Walheim and Leland Melvin; Lightfoot; Mission Specialist Stanley Love; Commander Steve Frick and Pilot Alan Poindexter.

connector that attaches wires from the interior to the exterior of the liquid hydrogen tank by soldering pins and sockets together. Open circuits in the connector were identified and confirmed through tests as the culprits that caused the false readings during the previous launch attempts.

"The redesigned connector performed flawlessly during the countdown," Frick said.

The same feed-through connector configuration also was successfully flown on the most recent space shuttle mission, STS-123, which flew March 11-26.

Special guests attending the astronauts' presentation included Huntsville Mayor Loretta Spencer, Madison Mayor Sandy Kirkindall and students from Wilson Central High School in Lebanon, Tenn., and 82 fifth graders from Walter Jackson and Leon Sheffield Elementary Schools in Decatur, Ala.

Martel, an ASRI employee, supports the Office of Strategic Analysis & Communications.

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