



MARSHALL STAR

Serving the Marshall Space Flight Center Community

Oct. 7, 2010

Message from the NASA administrator

I know that this year of transition has, at times, been difficult for everyone. Our future direction sometimes seemed in doubt, and there was no shortage of critics of our agency.

However, the United States Congress last night (Oct. 1) issued a resounding vote of confidence in your hard work, and endorsed a clear path forward for NASA. Drawing on the ambitious plan for our agency laid out by President Obama, the Congress approved the National Aeronautics and Space Administration Authorization Act of 2010.

This bill helps put the U.S. space program on a more sustainable trajectory and will help inspire a new generation of Americans to pursue careers in science, technology, engineering, and mathematics. With this new direction, we will extend the life of the International Space Station, launch a commercial space transportation industry, develop path-breaking technologies, and work to create thousands of new jobs in a vibrant, forward-looking economy.

One of the more discussed parts of NASA's work is how we should do human exploration of our solar system. We all agree human exploration is a

vital part of our space program. We now agree that a new heavy-lift Space Launch System is going to be an essential early part of our plans to carry

humans beyond low Earth orbit, and that we must also develop the new technologies to help us thrive there.

I thank the Congress for their thoughtful deliberations about NASA's future over the past months. Both the House and the Senate provided

See **Bolden** on page 3



Charles Bolden

Marshall scientist finds place in the sun with solar probe instrument win

By Janet Anderson

Dr. Jonathan Cirtain, an astrophysicist at the Marshall Space Flight Center, and his science team have secured a proposal award of \$8.2 million to help build parts for and test an instrument for the Solar Probe Plus flagship mission to directly sample the sun's atmosphere.

NASA recently announced the development of a mission to visit and study the sun – up close and personal. The unprecedented Solar Probe Plus mission is slated to launch no later than 2018.

“This is the equivalent of a Hubble-class mission for solar

See **Solar** on page 4

SERVIR program brings satellite imagery, decision-support tools to Himalayan region

By Janet Anderson

NASA and the U.S. Agency for International Development, or USAID, have expanded their successful collaboration with international partners to launch an innovative, Web-based environmental management system for the Himalayan region.

The partners inaugurated this state-of-the-art regional monitoring system, known as SERVIR-Himalaya, at the International Centre for Integrated Mountain Development in Kathmandu, Nepal, on Oct. 5. NASA Administrator Charles

See **SERVIR** on page 3

CFC Community Service Days have begun!

Marshall team encouraged to swing a hammer, haul a turkey, lend a hand

By Rick Smith

Community Service Days have begun! In this key element of the Marshall Space Flight Center's annual Combined Federal Campaign, team members volunteer their time and talents to support charities and special events throughout Huntsville and Madison County.

Details on upcoming volunteer events are below. Visit <http://cfc.msfc.nasa.gov/CFM/csd.cfm> for additional details, or to sign up.

The Care Assurance System for the Aging and Homebound, better known as CASA of Madison County, is seeking volunteers to paint wheelchair ramps Oct. 12, Oct. 19 and Nov. 2; or to work in the CASA garden Oct. 26. All shifts run from 12:30-4:30 p.m. Volunteers will meet at the CASA office on Andrew Jackson Way before going to the work site.

The Downtown Rescue Mission at 1400 Evangel Drive in Huntsville is asking for volunteers to help serve lunch Oct. 25

and Oct. 27 from 10:30 a.m.-1 p.m. The mission also needs help Nov. 22-23, from 2-4 p.m., to prepare frozen turkeys for delivery to families in need. The Downtown Rescue Mission also will hold its annual Thanksgiving Day meal from 11 a.m.-3 p.m. Nov. 24, and seeks volunteers to help serve food.

The Habitat for Humanity "Blitz Build," with a goal to erect a complete home in two weeks this fall, needs volunteers with basic knowledge of carpentry and construction to aid the project Oct. 20 and Oct. 22-23. Volunteers will meet at the Habitat for Humanity offices at 400 Pratt Ave. each morning at 8 for a pre-briefing, and work will continue each day until 3 p.m. Habitat for Humanity also seeks volunteers for home repair tasks Nov. 9 and Nov. 11 from 8 a.m.-3 p.m.

The Marshall Center's 2010 CFC fundraiser runs through Dec. 10. The goal is to raise \$675,000 – Marshall's portion of the \$2.1 million goal for the entire Tennessee Valley Combined Federal Campaign. That joint effort includes Marshall, the Army's Aviation and Missile Command and other federal agencies at Redstone Arsenal and in surrounding Alabama and Tennessee counties.

Smith, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Shuttle managers hold review to assess Discovery's readiness to launch

By Sanda Martel

At Marshall Star press time, Space Shuttle Program managers were meeting in the program's traditional Flight Readiness Review – held before each shuttle mission – to assess Space Shuttle Discovery's readiness to launch on the 11-day, STS-133 mission to the International Space Station.

During the review, NASA and contractor managers are determining if the space shuttle's complex array of equipment, support systems and processes are ready for flight and to assess any risks associated with the mission.

The final Flight Readiness Review, an agency-level review attended by top NASA and contract managers representing both the Space Shuttle Program and International Space Station Program, will be held Oct. 19 at Kennedy Space Center, Fla., after which the launch date will be announced. The targeted launch date is Nov. 1, at 3:40 p.m. CDT.

Shuttle Discovery will deliver the Permanent Multipurpose Module

– converted from the multi-purpose logistics module Leonardo and managed by the Marshall Space Flight Center – which will provide additional storage on the space station. It also will provide a location aboard the space station for experiments in fluid physics, materials science, biology and biotechnology. Look for more details about the module in an upcoming issue of the Marshall Star.

Discovery also will deliver Robonaut 2 – a human-like robot that will become a permanent space station resident to help astronauts work in space; the Express Logistics Carrier 4, an external platform to hold large equipment; and critical spare components.



STS-133 crew members, from left, include Alvin Drew and Nicole Stott, mission specialists; Eric Boe, pilot; Steve Lindsey, commander; Michael Barratt and Tim Kopra, mission specialists.

The mission will feature two spacewalks to perform maintenance work and install the new components.

Martel, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Bolden attended the ribbon-cutting ceremony in Nepal.

SERVIR was developed by researchers at the Marshall Space Flight Center, and its name comes from the Spanish word meaning "to serve." SERVIR features Web-based access to satellite imagery, decision-support tools and interactive visualization capabilities, and puts previously inaccessible information into the hands of scientists, environmental managers and decision-makers. The Earth observation information is used to address threats related to climate change, biodiversity, and extreme events such as flooding, forest fires and storms.

"NASA's science mission begins here on Earth, with greater awareness and understanding of our changing planet, and solutions for protecting our environment, resources and human lives," Bolden said. "The SERVIR technology and our partnership with various organizations and people around the globe reflect NASA's commitment to improving life on our home planet for all people."

Since 2005, SERVIR has served the Mesoamerican region and the Dominican Republic from the Water Center for the Humid Tropics of Latin America and the Caribbean, which is based in Panama. SERVIR also has served East Africa from the Regional Center for Mapping of Resources for Development in Nairobi since 2008.

NASA and USAID are expanding SERVIR to the Himalayas to address critical issues such as land cover change, air quality, glacial melt and adaptation to climate change. The agencies are working in partnership with the International Centre for Integrated Mountain Development, or ICIMOD, a regional knowledge development and learning center that serves member countries in the Hindu-Kush-Himalaya region, including Afghanistan, Bangladesh, Bhutan, China, India, Nepal, Myanmar and Pakistan.

The countries in the Hindu-Kush-Himalaya region have unique needs related to their extreme mountain environments.

Bolden *Continued from page 1*

insight, ideas and direction that were truly exemplary of the democratic process. It is clear that our space program inspires passion and dedication across party lines, and for that we are truly thankful.

There is still a lot of work ahead, especially as the 2011 appropriations process moves forward, but the continuing support for NASA ensures America's space program will remain at the forefront of pioneering new frontiers

"The SERVIR technology and our partnership with various organizations and people around the globe reflect NASA's commitment to improving life on our home planet for all people."

— *Charles Bolden*
NASA administrator

The region is known as Earth's "third pole" because of its inaccessibility and the vast amount of water stored there in the form of ice and snow.

"USAID's commitment with SERVIR is to create the linkage from space to village, to apply the best in science and technology to meet development challenges," said Mike Yates, senior deputy assistant administrator of USAID's Bureau for Economic Growth, Agriculture and Trade. "We are pleased to work with our partners in Nepal, and in other regions of the world, to build capacity to use satellite data and mapping technologies for making practical decisions that improve people's lives."

SERVIR-Himalaya will integrate Earth science data from NASA satellites with geospatial information products from other government agencies. SERVIR was developed in coordination with the Group on Earth Observations, more than 80 nations working together to build a Global Earth Observing System of Systems to benefit the needs of society.

"I am very pleased that through the partnership with USAID and NASA on SERVIR-Himalaya, ICIMOD will be able to augment its capacity and its network of cooperative partners in the region to use Earth observation for societal benefits of the mountain communities," said Basanta Shrestha, division head of the Mountain Environment and Natural Resources Information System for ICIMOD.

The SERVIR program is operated by the Earth Science Division's Applied Sciences Program in NASA's Science Mission Directorate in Washington. Four other NASA field centers work with Marshall on the program: Goddard Space Flight Center in Greenbelt, Md.; Ames Research Center in Moffet Field, Calif.; the Jet Propulsion Laboratory in Pasadena, Calif.; and Langley Research Center in Hampton, Va.

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

in science, technology, and exploration.

I also want to thank you, the people who work hard every day to make this agency shine. Your dedication to advancing the causes of exploration and scientific discovery, safe air travel and a cleaner environment is second to none.

I especially appreciate the fact that, during this time of uncertainty, you remained focused on your jobs and continued to advance the extraordinary

work of this great agency. You are committed public servants, and I am proud to be part of such an outstanding organization.

This agency now has a clear roadmap for the future, and I look forward to working with each of you to carry out the ambitious plans with which our nation's leaders have entrusted us. Thank you for all that you do.

—**Charlie B.**

Marshall to host Breast Cancer Awareness speakers Oct. 12

The Marshall Space Flight Center will host a program Oct. 12 to mark National Breast Cancer Awareness Month.

The event, to be held from 9-11:30 a.m. in Building 4200, Room P110, will include speakers Sherry Johnson, a beautician and volunteer program facilitator for the American Cancer Society's "Look Good Feel Better" program, and Brenda Kerley, a former nurse and owner



of Kerley Medical Equipment and Pretty Woman Boutique in Huntsville.

Door prizes will be presented during the program. Participants must be present to win. For more information, call Inge Kuberg at 544-5678 or Patty Montgomery at 544-2433.

Watch Inside Marshall for details on additional Breast Cancer Awareness Month events later in October.

Solar *Continued from page 1*

physics," said Cirtain, the Marshall lead for the proposed Solar Wind Electrons Alphas and Protons instrument, or SWEAP. "We expect the data collected on this mission to have a dramatic and revolutionary impact on the field of solar astrophysics."

Solar Probe Plus promises to transform our understanding of the sun and its effects on the solar system. It will explore a region no other spacecraft has ever encountered.

Cirtain's team consists of scientists from the Marshall Center and the University of Alabama in Huntsville. Marshall's Science & Mission Systems Office and Engineering Directorate also are partnering with the Smithsonian Astrophysical Observatory of Cambridge, Mass., the lead on the proposal, and the University of California at Berkeley.

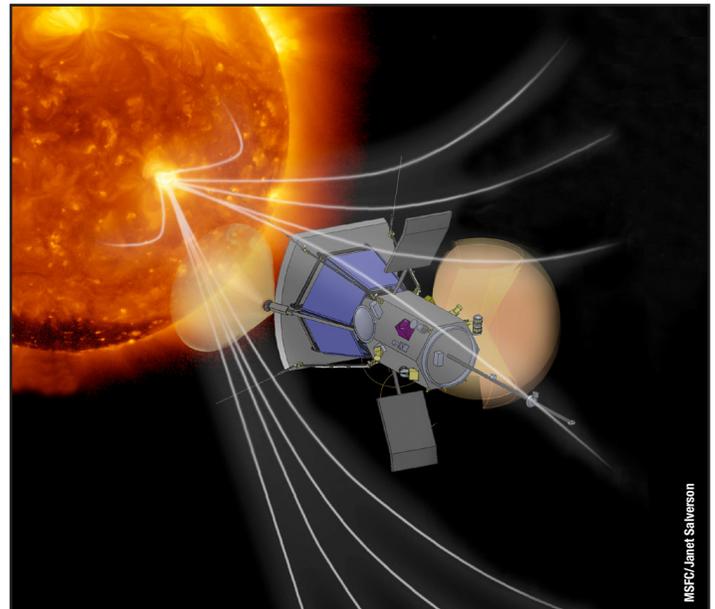
Cirtain and his team now are developing instrument prototypes for the mission. These instruments will specifically count the most abundant particles in the solar wind – electrons, protons and helium ions – and measure their properties. The investigation also is designed to sweep up the solar wind in a special conductive metal cup, called a Faraday cup, and determine the speed and direction of the sun's particles.

The Huntsville team is partnered with the Smithsonian Astrophysical Observatory for the development of the instruments.

"While other instruments are hidden, we'll be right out there getting blasted by the sun, literally 'touching' a star for the first time," said Justin Kasper, SWEAP principal investigator and a Smithsonian astronomer.

Solar Probe Plus is a spacecraft the size of a small car that will plunge directly into the sun's atmosphere, approximately four million miles from the physical surface of the star. It will explore a region no other spacecraft has ever encountered.

"The experiments selected for Solar Probe Plus are specifically designed to solve two key questions of solar physics – why is the sun's outer atmosphere so much hotter than the sun's visible surface and what propels the solar wind that affects Earth and our solar system?" said Dick Fisher,



The Solar Probe Plus flagship science mission begins its dive into the outer layer of the sun's atmosphere in this artist's rendering.

director of NASA's Heliophysics Division in Washington. "We have been struggling with these questions for decades and this mission should finally provide those answers."

The Solar Probe Plus mission is part of NASA's Living with a Star Program, designed to study and understand aspects of the sun and Earth's space environment that impact life and society. The program is managed by NASA's Goddard Space Flight Center in Greenbelt, Md., with oversight by the Heliophysics Division of NASA's Science Mission Directorate. The Johns Hopkins University Applied Physics Laboratory in Laurel, Md., is responsible for formulating, implementing, and operating the Solar Probe Mission.

For more information on Solar Probe Plus visit <http://solarprobe.gsfc.nasa.gov>.

For more information about the Living with the Star Program visit <http://science.nasa.gov/about-us/smd-programs/living-with-a-star/>.

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

Hands on the prize, eyes on the future

Sparkman High School senior Kareem Garriga, right, holds his team's first-place award for best science poster at the Marshall Space Flight Center's annual Hispanic Youth Conference, held Sept. 23 at the University of Alabama in Huntsville. More than 50 juniors and seniors from Sparkman and Butler High School in Huntsville, Bob Jones High School in Madison and Decatur High School in Decatur, Ala., attended the event. They heard talks by Marshall Center Director Robert Lightfoot and Rene Ortega, space shuttle propulsion chief engineer, discussed their science presentations with Marshall leaders and toured the university campus. The conference is organized by Marshall's Office of Diversity & Equal Opportunity and hosted by the university with support from Redstone Federal Credit Union.



Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Marshall Star Ad Form." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, Oct. 14, is 4:30 p.m. Thursday, Oct. 7.

Miscellaneous

Lenox china set, \$210; Hummels, \$50 and up; crystal bowl, \$25. 256-617-3686

Baldwin spinet piano. 256-837-4623

Oak entertainment center, holds 27" TV, \$100; small executive wooden desk, photos available, \$150. 256-882-0461

2 infant car seats, \$40 and \$10. 256-714-0800

Baby crib (converts to toddler bed), two crib mattresses. 256-551-0276

Two Alabama-Georgia State football tickets, section N-4, row 43. 256-830-6584

Men's Confidence golf clubs RH, 3W, 6-PW, stand bag, putter, \$40. 256-417-5334

Treadmill, mat, lubricating kit, \$250. 256-859-5418, leave message

Wilson Grand Slam tennis balls (24), number WRT1043, all court felt, unopened 8-pack, \$24. 256-828-1234

Weimaraner Puppies, AKC, silver, shots, \$350. 256-347-2097 or 256-287-2488

Motorola Droid, clean ESN, ready to activate, \$200 firm. 423-645-2412

Incase backpack for Macbook Pro, \$45. 256-783-3428

John Deere front reel mower, model 20SR7, seven blades, high-speed reel, \$325. 256-353-0370 or 253-208-2926

Aluminum camper shell, approx 81" x 63", fits 99 Dodge Dakota Club cab, \$50. 256-572-1867

Vehicles

2005 Mustang GT Premium, white, black leather interior, manual, 79k miles, \$13,400. 256-682-5455

1998 GMC 1/2 ton, LWB, white pickup, 185k miles, \$4,400. 256-468-9377

1994 Ford truck, F150 XL, 99k miles, \$2,600; cattle trailer, \$850. 256-731-9258

1996 Volvo 850, new tires, brakes, and VC boots, cold air, 180k miles, \$2,500. 256-655-0393

Wanted

Yard work helper needed one Saturday/month; house cleaning needed 1 weekday/month, Harvest/Monrovia area. 256-658-3960

Students interested in obtaining beginner to advanced scuba diver certification. 256-651-9909

Free

Adult female terrier/beagle mix, three-month old puppies, shots, vet records available. 256-351-8221

Gulf oil rig's blowout preventer arrives at Michoud for analysis

The Deepwater Horizon Blowout Preventer – a 300-ton device that failed to stop the Gulf of Mexico oil spill after a rig exploded April 20 – arrived by barge Sept. 11 at NASA's Michoud Assembly Facility in New Orleans for analysis by investigators.

The explosion killed 11 workers and led to more than 200-million gallons of oil to spew from an undersea well.

The device was lifted from a mile beneath the sea and later transported to Michoud. It is an important piece of evidence. The goal of the forensic work there is to determine the sequence of events April 20, and factors that contributed to the blowout preventer stack's failure to operate as intended.

Michoud was chosen to house the blowout preventer because of its secure facility and strategic waterway location. The Coast Guard's Base Support Unit is located at Michoud, which has access to the Gulf and the Mississippi River.

The U.S. Department of the Interior, on behalf of the joint investigation



The Deepwater Horizon Blowout Preventer arrived at the Michoud Assembly Facility on Sept. 11.

by the U.S. Coast Guard and the Bureau of Ocean Energy Management, Regulation and Enforcement, is contracting for expert blowout preventer forensic analysis services to conduct a scientific and technical analysis of the Deepwater Horizon blowout preventer stack. The analysis will be performed by

an independent third party that will be vetted through the Interior Department competitive contracting process. The investigation will determine the objectives, parameters and protocol for the testing with input from all agencies and the parties of interest to the investigation.

SEC commissioner to speak at Marshall Association meeting Oct. 13

The Marshall Association will host a luncheon at the Redstone Officers' and Civilians' Club in Building 130 on Golf Course Road on Oct. 13. Mike Slive, the commissioner of the Southeastern Conference, will be the guest speaker.

The meeting will begin at 11 a.m. Lunch will be \$13 for Marshall Association members and \$15 for nonmembers. Those planning to attend should contact Angie Williams at

angie.williams-1@nasa.gov by noon Oct. 8. Any cancellations after that date or no-shows will be expected to pay.

For those interested in joining the association, a \$25 membership fee can be paid at the door. Membership is open to the entire Marshall community. For more information about the association, visit http://inside.msfc.nasa.gov/marshall_association/.

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