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MARSHALL STAR

Serving the Marshall Space Flight Center Community

July 24, 2008

'INSPIRE' summer interns lend hands, learn ropes across Marshall Center, NASA

By Rick Smith

Eighteen high school seniors and college freshmen from Alabama, Arkansas, Iowa, Missouri and Tennessee will head home next week with stories to tell. Their summer at the Marshall Space Flight Center, working as paid interns, is over.

But they all agree their future has just begun.

The students took part in a new NASA education project called "INSPIRE" — the Interdisciplinary National Science Project Incorporating Research and Education Experience. Nearly 400 students applied for internships at NASA's 10 field centers. Some 150 of them, from 23 states and Puerto Rico, were accepted.

At the Marshall Center, interns pored over computer models and design data. They created content for NASA Web sites, and built and

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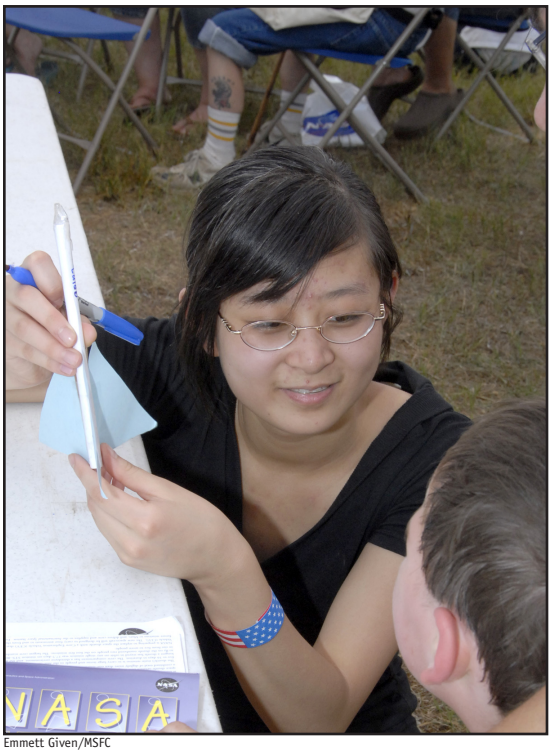

Emmett Given/MSFC

INSPIRE intern Yiwei Cheng helps a child assemble a space shuttle glider toy at the NASA exhibit at the Huntsville Air Show in June. INSPIRE interns supported the air show exhibit and other outreach activities this summer in addition to their full-time duties in organizations across the Marshall Center.

SERVIR team chosen as finalists for Service to America Medal

By Jennifer Morcone

Marshall Space Flight Center Earth scientist Daniel Irwin and the SERVIR team are among 29 finalists for one of eight prestigious Service to America Medals.

SERVIR, which is Spanish for "to serve," is a satellite visualization system that helps monitor and forecast ecological changes in Mexico, Central America and the Caribbean. The Marshall Center's Earth Science Office manages an experimentation and development facility for SERVIR at the National Space Science and Technology Center — a Huntsville research facility jointly operated by Marshall and Alabama research universities.

The service medals are presented annually by the nonprofit, nonpartisan Partnership for Public Service to celebrate outstanding federal workers who are making high-impact contributions critical to the safety, health and well-being of Americans. These awards have earned a reputation as one of the most prestigious awards dedicated to celebrating America's civil service employees. Irwin and the SERVIR team were chosen from nearly 500 nominees and represent two-dozen federal agencies from 10 states, plus Washington and Jerusalem.

"The Service to America Medals are important because they tell the true stories of the remarkable work that our federal employees do each and every day," said Max Stier, Partnership for Public Service president from Washington. "There is not a day that passes where government does not touch our lives in some way – whether it is securing our homeland, or conducting cutting-edge research to cure disease."

SERVIR team members gather and process satellite data, combine it with ground observations, analyze results and quickly pass along

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NASA conducts full-scale test firing of Orion jettison motor

NASA news release

NASA completed a full-scale rocket motor test July 17 to further development of the Orion jettison motor, which will separate the spacecraft's launch abort system from the crew module during launch. Orion, the Constellation Program's crew exploration vehicle now under development, will fly to the International Space Station and be part of the spaceflight system to conduct sustained human exploration of the moon.

"This was a major success for the Orion launch abort system team," said Mark Cooper, NASA's integrated product team lead for launch abort system propulsion at the Marshall Space Flight Center. "The test and the one before it provided valuable data on motor performance that will allow design and analytical refinements by our contactor team."

NASA and Aerojet successfully fired the jettison motor at the Aerojet facility in Sacramento, Calif. The demonstration is part of a series of developmental tests that pave the way for delivery of the motor to be used for the first full-scale test of the launch abort system at the U.S. Army's White Sands Missile Range in New Mexico late this year.

Aerojet

A full-scale rocket motor fires at the Aerojet facility in Sacramento, Calif. This test will help in the development of NASA's Orion jettison motor that is being designed to separate the spacecraft's launch abort system from the crew module during launch.

Engineers will use the test firing to verify that the motor meets specification requirements and to help define induced acoustic, vibration and shock loads caused by the motor. The successful test firing of the jettison motor increases the technical readiness of the launch abort system and is the first full-scale rocket propulsion element qualified to proceed into a system-level demonstration. The test firing also verified that the system's design criteria and manufacturing processes are in place.

This test and others like it are critical milestones in NASA's preparations for a series of flight tests of the full Orion abort system. The launch abort system will provide a safe escape for the crew in an emergency on the launch pad or during the climb to orbit.

NASA has partnered with Lockheed Martin Corporation and Aerojet to supply the jettison motor. NASA's Langley Research Center in Hampton, Va., manages the Orion launch abort system design and development effort with partners and team members from the Marshall Center. For an image and video of the test and more information about NASA's Constellation Program, go to http://www.nasa.gov/constellation.

NASA names Rob Strain new Goddard Space Flight Center director

NASA Administrator Michael Griffin has announced that Rob Strain will be the next center director of NASA's Goddard Space Flight Center in Greenbelt, Md.

Strain is currently the head of the Space Department at the Johns Hopkins University Applied Physics Lab in Laurel, Md. He will assume his duties as center director on Aug. 4.

Goddard Space Flight Center is a major U.S. laboratory for developing and operating unmanned scientific spacecraft. Goddard manages many of NASA's Earth observation, astronomy and space physics missions. Goddard includes several other NASA installations, most significantly the Wallops Flight Facility near Chincoteague, Va., and the Goddard Institute for Space Studies in New York.

"My association with Rob Strain spans years of shared experiences in both industry and at the Applied Physics Laboratory," said Griffin. "He is one of the finest managers I know, and complements those talents with equally impressive 'people skills' and an unbending sense of personal integrity. I am truly looking forward to his addition to a superbly talented NASA management team."

Rob Strain

Strain previously served as the associate department head and assistant department head for operations at the Applied Physics Lab's Space Division. Prior to his work at the Applied Physics Lab, Strain held various executive positions with Axiom Corp., Orbital Sciences Corporation, and Fairchild Space and Defense Company.

INSPIRE

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tested scale rocket engines. Some even helped lay the groundwork for building the Ares I rocket, slated to begin test flights in 2009 to usher in the next era of American spaceflight.

Not your typical summer job with pay. But for these young people, it's been a once-in-a-lifetime experience.

"There aren't many programs out there that cater to students at this level in their education, nor let them contribute to real projects," said 17-year-old Brenna Dittmar of Franklin, Tenn., who spent her summer designing robotic test platforms to study an innovative, reconfigurable computer chip. Dittmar received practical experience she'll take with her this fall to study chemical engineering at Tennessee Technological University in Cookeville, Tenn.

"I realized early that I was interested in space exploration, and I wanted to gain a deeper understanding of what's really involved in science and engineering careers," said Yiwei Cheng, a 16-year-old Huntsville native preparing for her senior year at Huntsville's Grissom High School. The INSPIRE project put her to work in Marshall's Vehicle Systems Design and Integration Branch, calculating spacecraft data to assess possible future Mars missions — the next ambitious step after NASA returns explorers to the moon.

It's not just the students who benefit. "Our INSPIRE students are helping NASA achieve mission-critical goals," said Tammy Rowan, manager of the Academic Affairs Office at Marshall. "And in addition to the near-term benefits they bring us, we hope their experience will lead them to come work for NASA after college, sustaining America's technical work force as we head deeper into the 21st century — and deeper into the solar system."

Cheng's INSPIRE mentor, David Teare, an engineer in the Vehicle Systems Design and Integration Branch, said the program helps spotlight the importance of studies in the "STEM" fields — science, technology, engineering and mathematics.

"Programs such as INSPIRE demonstrate to young people the level of meticulous design and planning that go into every detail of a space mission or technology development program," Teare said.

The INSPIRE project is open to students in grades 9-12, including high school graduates preparing for their first year of college. NASA education managers make their choices based on each applicant's grade point average, a written essay and letters of recommendation from teachers.

The internship project was created to augment NASA's INSPIRE online community, through which NASA provides classrooms with activities and materials designed to capture students' imaginations and enhance their technical and problem-solving skills. NASA education leaders hope online participation will continue to grow, providing a virtual community where students and teachers can ask questions and share knowledge — inspiring students to pursue careers in fields critical to NASA and the nation.

"Count on it," said high school senior Marcus Robertson, 17, of Empire, Ala. After a summer spent working in the Marshall Center's test area, where engineers soon will begin test firing next-generation engines that will propel explorers to other worlds, Robertson intends to be one of them.

"I am going to be an astronaut," he said with confidence, "and I am definitely going to the moon."

For more information about INSPIRE and other NASA education programs, visit http://www.nasa.gov/audience/forstudents/postsecondary/programs/INSPIRE_Project.html.

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

Space sensors and measurement techniques workshop to be held Aug. 5-6

A space sensors and measurement techniques workshop will be held Aug. 5-6 in Nashville, Tenn., at the Nashville Doubletree Hotel. Marshall Space Flight Center employees interested in attending are welcome.

The workshop will teach how to identify areas of advancement in sensor measurements and technologies. This knowledge will help to define standard practices and procedures that will better enable the infusion into flight programs of sensors with improved capabilities. For more information, go to "Inside Marshall" at http://inside.msfc.nasa.gov/announcements/Summary_NASA_dist_071008.pdf.

To register for the workshop, go to www.spacesensorworkshop.com. For additional information, contact Craig Moore at craig.e.moore@nasa.gov or 544-7585.

SERVIR

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the resulting information to the appropriate leaders for weather forecasting, environmental management and disaster response. The SERVIR team also trains local workers, empowering them to analyze and report the data on their own. Although NASA is the lead agency, the U.S. Agency for International Development, or USAID, plays a key role in operating SERVIR, along with the Environmental Protection Agency, the National Oceanic and Atmospheric Administration and the U.S. Geological Survey.

SERVIR was launched in February 2005 when its regional operational facility opened in Panama City, Panama. Later this year SERVIR will expand to Africa.

David Higginbotham/MSFC

The Marshall Center hosted members of NASA Headquarters' Earth Science Division in the Science Mission Directorate in May, which included, from left, Lawrence Friedl, acting deputy associate director of science applications; Teresa Fryberger, associate director of applied sciences; and John Haynes, program manager of applied sciences. Giving them a tour through the SERVIR lab at the NSSTC are, second from right, Jim Smoot, manager of Marshall's Earth Science Office, and Dan Irwin, SERVIR project director, far right.

"I am deeply humbled by this acknowledgement, said Irwin, SERVIR project director. "This is indeed a tribute to the entire SERVIR team across NASA, at USAID, and collaborators in Panama, Kenya and across the globe. I'm so honored by the nomination from USAID as well as others who contributed to this process. Together, we're really making a difference in using our remarkable assets in space and the incredible talent across the agency and the U.S. government to directly affect the lives of people in the world. This, in its true sense, is service to America and the service of America."

Perhaps SERVIR's most important use is assisting with disaster preparedness and response. When Hurricane Stan ravaged Central America in 2005, the SERVIR team quickly identified the areas hardest hit, showing where roads and bridges were impassable and which communities were stranded. This information was delivered to relief organizations and rescuers immediately, enabling them to strategically target their efforts.

In November 2006, when severe weather caused flooding and landslides in Panama, the SERVIR team provided rain forecasts and damage projections, which prompted life-saving evacuations. From May to October 2007, the system was utilized in six different disasters ranging from assessment of economic losses due to forest fires in Belize to evaluation of flood impacts due to Hurricane Dean in Mexico.

Just last month, the SERVIR team unveiled a new Web-based tool that will provide short-term predictions of thunderstorms, lightning and heavy rains that often result in severe floods in Central America and southern Mexico. Called NextStorm, this new product will be particularly useful in helping to keep people and property safe from fast-moving storms because Doppler weather radar generally does not exist in this region. At the heart of the NextStorm computer model is an algorithm developed by the University of Alabama in Huntsville, which follows the progression of cumulus clouds and identifies those most likely to develop into thunderstorms.

"SERVIR has truly been a model for how to build and grow successful collaborations, both locally and across the globe," said Jim Smoot, manager of Marshall's Earth Science Office. "The team is amazing and extremely deserving of this remarkable acknowledgement."

The eight Service to America Medal winners will be announced at the Partnership's annual gala in Washington in September. A list of the award finalists and their accomplishments is available at www.servicetoamericamedals.org.

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

Obituaries

Marvin C. Maynard, 88, of Huntsville died July 10. He retired from the Marshall Center in 1974 as a supply clerk. He is survived by his wife Irene Maynard.

Stephen E. Hollich, 76, of Huntsville died July 12. He retired from the Marshall Center in 1999 as an aerospace engineer.

Moving toward NASA's 50th anniversary ...

This year marks the 50th anniversary of NASA's creation Oct. 1, 1958. On July 30, 1958, President Dwight D. Eisenhower requested $125 million to initiate the new agency.

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, July 31, is 4:30 p.m. Thursday, July 24.

Miscellaneous

Military parachute, decommissioned, 35 feet, $40. 527-8116

Wedding dress, never worn, size 4 to 6, $150. 722-9989

Dryer, timer needs repair, $75. 200-0687

King 606 B flat trombone, mouthpiece, case, $350 obo. 541-9126

Wooden desk, 60"Lx30"Wx29"H, $100; matching wooden filing cabinet, 29"Lx20"Wx29"H, $35. 882-1382

Hoyer patient lift, $300; folding padded camp chair, $25; high-low game table, $50. 859-2599

One-carat diamond ring, $1,500. 990-3162

RhodeGear bicycle rack carrier, heat-treated, aluminum hitch, mounted, for two bikes, $75. 498-3864

Various types of firewood. 679-5799

AKC German Shepherd puppies, black/tan, born May 7, vet checked, $600. 828-3373 or 694-5912

Ethan Allen solid wood dresser, mirror, light brown, photo available, $85. 658-6514

Tool box for small truck, 61 inches by 13 inches, metal, $80. 541-3668

Mirage speakers, two OM-7 towers, two Omnisat satellite speakers, stands, $1,500. 679-2165

Early 1900s upright Strauss and Sons piano, $250. 990-3561

16-inch bottom plow, $250; 5-foot box blade, $350; disc narrow, $475; 65-gallon water tank. 353-7670

Grayco double stroller, infant car seat travel system, $80. 851-7406 or 655-0246

Ashley metal bunk beds, primary color, no mattresses, $150 obo. 337-5939

Panasonic DVD surround-sound home theater system, five-disc changer, remote, five speakers, subwoofer, $200. 489-8031

Heritage Collection convertible crib, mattress, bumper pads, sheets, $100; changing table, pad, cover, $100. 656-2965

Baldwin upright black piano. 338-9840

Dining table, six chairs, $150. 728-5768

Two small pet carriers, $25 both. 883-1722

Kenmore Series 90 washer, white, $150; washer, dryer set, $300. 345-9555

California King Select Comfort 7000 series bed, $1,000 obo; oak table, six chairs, $200. 683-1264

Vermont Tubbs bunk bed, natural ash, two drawers underneath bottom bunk, $500. 464-0994

Chromcraft circular dinette table, four swivel chairs, $60. 881-1249

Stainless steel three-bowl sink, $50. 476-5837

XBOX 360 games, GH II, $60; BIOSHOCK, $30; FEAR, $15; MOTO GP 06, $10; $100 all. 654-4547

Vehicles

2008 Nissan Titan, V8, four door, 4WD, dark green, 2,500 miles, $29,000. 426-4539

2007 Tahoe, leather, 22k miles, $32,500; 1997 Camaro Z28, black, 158k miles, $5,200 obo. 565-9918

2006 Lexus GS300, blue, GPS, custom wheels, sunroof, 50k miles, $28,000 obo. 797-8322

2006 Suzuki Katana 750 motorcycle, burgundy/silver, 700 miles, $5,800 obo. 931-565-4332

2006 Honda CRF230F dirt bike, $1,950. 776-4741

2005 Kia Optima, loaded, V6, $9,800 obo. 631-8614

2005 Lincoln LS, light green, leather, AC, sunroof, cruise, CD, 69k miles, $17,400 obo. 325-4446

2004 Chevrolet SSR truck, purple, two seater, convertible, 33k miles, $27,000. 776-4633

2003 Acura RSX, gray, five-speed manual, alloy wheels, moon roof, leather, $9,900. 652-5274

2002 Suzuki Savage LS650, black, leather saddle bags, 3k miles, $3,500. 714-1357

2001 Honda CRV LX, black/gray, new timing belt/battery, 104k miles, $8,000. 883-6894 or 468-6894

1999 Toyota 4-Runner Limited Edition, white, brown interior, sunroof, CD, A/C, $7,000. 694-1260

1999 Ford F-150 XLT, bedliner, extended cab, 99k miles, $8,825 obo. dannypugh110@hotmail.com or 468-6813

1999 Suzuki Intruder 800 motorcycle, helmets, leather, 10k miles, $4,000. 837-6776

1999 Yamaha TTR-225, $1,200. 233-5620

1998 Kia Sportage, 4WD, five speed, loaded, 80k miles, $3,500. 350-8597

1984 Chevy C10, long bed, 2WD, regular cab, brown, two-tone paint, new tires, $2,500. 776-1889

1979 Corvette, new 350/330 HP crate motor, 1k miles on motor, new paint. 665-2097

Wanted

Tile work, kitchen, bathroom floors, showers, tubs, back splashes. 679-5799

Tree work, full removal, trimming limbs, shaping, stump grinding. 881-6209

Little Mountain Marina Resort Camp Ground membership. 682-6326

Houses to wire, adding/removing switches, plugs, lights, circuits. 468-8906

Baby playpen. 468-0301

Houses/offices to clean, available evenings, weekends. 777-8595

Four Tennessee vs. Auburn football tickets, Sept. 27 game. 726-0278

55- or 15-gallon drums, with lids, for thermal mass, plastic or metal. 541-7011

Free

Four-person hot tub, you haul away. 227-6540

Tabby kittens, no snake owners. 503-1348

Two male inside cats, declawed, neutered. 694-2817

Adorable kittens to good home. 777-8595

Carpool

From Cullman Exit 310 to Building 4203. 338-9840

Shuttle Buddies to meet July 28

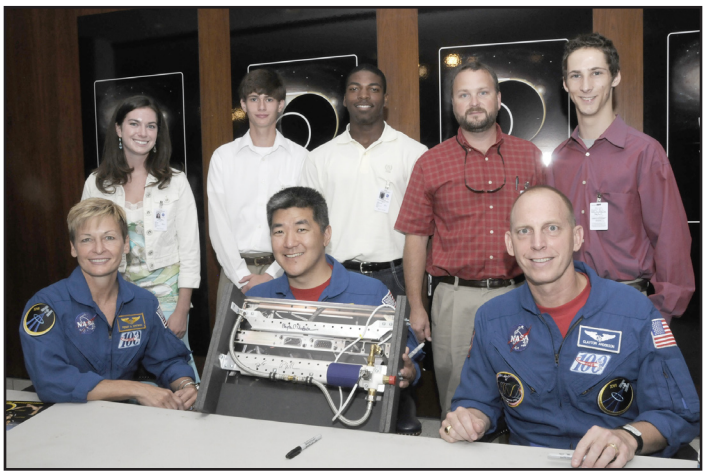
The Shuttle Buddies will meet at 8:30 a.m. July 28 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757.

Expedition crews applaud Marshall employees for their support

Emmett Given/MSFC

International Space Station crew members of Expeditions 15 and 16 share highlights of their missions on the orbiting laboratory during a visit to the Marshall Space Flight Center on July 22. The crews thanked the Marshall team for its support. From left, Expedition 16 Commander Peggy Whitson, Expedition 16 flight engineer Dan Tani and Expedition 15 flight engineer Clay Anderson during their presentation in Morris Auditorium.

Expedition 15 flight engineer Clay Anderson lends a hand to Marshall's Ola Germash, an operations controller, during a traditional ceremony at the Payload Operations Center. Each crew autographs its mission plaque, which is hung by a flight control team member who has made a significant contribution to the success of the expedition. The ceremony signifies a successful mission for the crews and the ground teams who planned and supported daily science operations.



Expedition 15 and 16 crew members, seated from left, Peggy Whitson, Dan Tani and Clay Anderson, thank high school students and advisors from the Huntsville Center for Technology who designed and built training hardware for space station crews. The class work is part of the program High Schools United with NASA to Create Hardware, or HUNCH. Among the student participants in the program are, standing from left, Jordan Smith, Charlie Aplin and Kyle Rose; instructor Mike Evans; and student Aaron Pierce.

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