



MARSHALL STAR

Serving the Marshall Space Flight Center Community

April 12, 2007

Strengthening the organization and planning for the future

Shuttle booster, motor project offices merge

By Sanda Martel

With an eye toward the future, the Shuttle Propulsion Office's motor and booster projects have combined to form the Reusable Solid Rocket Booster (also known as RSRB) Project Office. It's a move that strengthens the shuttle organization and also leverages knowledge and skills between shuttle and the first stage booster of NASA's next-generation crew launch vehicle, Ares I.

The first step in combining the Reusable Solid Rocket Motor (also known as RSRM) and Solid Rocket Booster (also known as SRB) project offices got underway after a team was commissioned in May 2006 by Robert Lightfoot, manager of the Shuttle Propulsion Office at the Marshall Center, who also serves as deputy manager of the Space Shuttle Program. Team members included representatives from Marshall's booster and motor project offices; Safety and Mission Assurance Directorate; Engineering Directorate; Exploration Launch Projects Office; Office of Human Capital; Marshall's Resident Manager's Offices at Kennedy Space Center, Fla. and Promontory, Utah; prime contractors; and selected meritorious members.



Emmett Given/MSSFC

Jody Singer, manager of the Reusable Solid Rocket Booster Project Office, displays a new sign for the recently merged Solid Rocket Booster and Reusable Solid Rocket Motor project offices.

See Shuttle on page 4

Students climb behind the wheel for 14th annual Great Moonbuggy Race; spectators invited along for the ride

High school and college students representing 60 teams from across the country and around the world will converge on the U.S. Space & Rocket Center on April 13-14 for NASA's 14th annual Great Moonbuggy Race, sponsored by Northrop Grumman Corp.

The teams have spent the school year designing, building and testing their own moonbuggies. Entries from the continental United States, Puerto Rico, Canada and Germany will race their human-powered vehicles against the clock across a grueling, half-mile,

simulated moon surface. Joining the students will be more than 350 Marshall Center volunteers who are donating their time to help make the event a success.

This year, the excitement of driving a moonbuggy won't stop with the competitors. Race organizers are inviting spectators to discover the rigors of controlling a vehicle first hand. They will have the opportunity to drive a moonbuggy, created by the University of

See Moonbuggy on page 5

Building tomorrow's workforce today

By Bill Hubscher

Every year, students from across the country participate in Marshall Center events and activities that could someday lead them to the surface of the moon. From driving a lunar rover they designed and built, to flying a model rocket with a scientific payload they created, students often find an exciting adventure and learning experience when they visit Marshall.

They don't, however, always find these events on their own. Sometimes students need someone to show them the way. That's where the group of professionals in Marshall's Academic Affairs Office enters the picture.

The Academic Affairs staff creates products and implements projects designed to engage, educate and inspire students to study the core subjects of the space program: science, technology, engineering and mathematics, also known as the STEM disciplines. Additionally, the projects or products are representative of American demographics; engage underrepresented and underserved minorities, women, and persons with disabilities; and reflect an atmosphere of equity, balance and inclusiveness.

"We recognize that our future depends on connections made to transfer our knowledge to young students," says Tammy Rowan, interim manager of the Academic Affairs Office. "We feel we are preparing future generations who will strengthen NASA and the nation's future workforce."

Perhaps the most well known event created by Marshall's education experts is NASA's annual Great Moonbuggy Race. Student teams representing high schools and colleges design, build and test their own versions of NASA's lunar rover, used to travel on the surface of the moon during the final three Apollo missions in the 1970s.

Along with competing for the best time, students also compete for awards presented for most unique moonbuggy, most improved from previous competition, best overall design, fastest first-year contestant and the safest design. What started in 1994 with only eight college teams has expanded to more than 60 teams from high schools and colleges from across the United States and even from outside our own borders.

The Academic Affairs Office also created the Student Launch Initiative in which student teams from across the country create a model rocket. The initiative, created in 2001, encourages teams of high school and college students to put their science, technology, engineering and math knowledge to use in a real-world situation by designing and building their own rockets with scientific experiments loaded on board. This year, 22 different teams have worked for

months, fine-tuning and building their rockets. Later this month, the project will culminate with a review of the final model and a rocket launch hosted by the Marshall Center.

Education specialists and engineers from Marshall also mentor school teams participating in the For Inspiration and Recognition of Science and Technology (or FIRST) robotics competition. Student teams design and build robots to perform a set of tasks planned by the competition's organizers. The winners of regional competitions held around the world move on to the finals held in Atlanta every spring. NASA sponsors dozens of teams in the competition each year, with individual centers providing advice and guidance.

"While participating in these fun and engaging activities, students start to understand how NASA uses engineering and math skills to design spacecraft," Rowan says. "We want to involve the students in doing something interesting and fun for them, while they learn about the academic subjects NASA scientists and engineers use every day. If we can foster an interest in

a student to pursue a career in STEM, then NASA and the nation benefit."

Teaching students about NASA and the critical subjects of science, technology, engineering and mathematics has carried over to the Internet. Marshall's education team is responsible for the creation of Web sites with games and information to encourage younger students to learn about space and NASA.

"We use new technology to increase awareness of NASA and learning," Rowan says. "By pursuing development of educational games and interactive Web sites, Marshall's Academic Affairs Office continues its tradition of investing in the nation's education."

The office goes beyond grade schools and into colleges by



NASA

One of many programs created by the Academic Affairs Office is the Student Launch Initiative, in which student teams from across the country create model rockets.

See Academic on page 3

MARS Softball to begin April 30; meeting to be held April 18

The 2007 MARS Softball organizational meeting will be held Wednesday, April 18, in Building 4600, Room 2014, at noon. All team managers and interested players should attend. The meeting will cover election of new officers, rules, and new player and team sign-up. The softball season begins Monday April 30.

Games are played Monday, Tuesday and Thursday at either 5 or 6 p.m. Typically, each team plays one game per week. All Marshall civil service, onsite contractors, approved offsite contractors and family members are eligible to participate.

There are two divisions:

- Division A – Intermediate/competitive, mixture of skilled/intermediate players
- Division B – Beginner/somewhat co-ed league, mostly beginner to intermediate-skilled players, minimum of two females on the field

Persons who are interested in playing softball or who have questions may attend the meeting or contact MARS Softball League president Jim Lomas at jim.lomas@nasa.gov or 544-8305, or vice president Victor Pritchett at victor.e.pritchett@nasa.gov or 544-5771.

Academic

Continued from page 2

guiding Marshall's co-op, internship and fellowship projects. The office recruits more than 140 students and faculty with diverse skills and talents to spend time at Marshall for a valuable learning experience. Partnerships for research and education have been formed with universities and colleges across the country, providing unique opportunities to learn and advance knowledge in the atmosphere of one of NASA's largest field installations.

"We feel we are preparing future generations who will strengthen NASA and the nation's future workforce."

— Tammy Rowan, interim manager of the Academic Affairs Office

The office also focuses on enhancing the capabilities of Minority Serving Institutions to contribute to the research needs of the agency.

astronauts, scientists and engineers to take NASA to the next level of exploration.

Through groundbreaking programs like the Great Moonbuggy Race and the Student Launch Initiative, and the hundreds of workshops conducted every year, Marshall's Academic Affairs Office takes a proactive approach to inspiring students who want to be the next

Marshall educates the educators

By Bill Hubscher

The Marshall Academic Affairs Office does more than interact with students. There are also opportunities to educate the educators.

Marshall's education specialists design and teach hundreds of professional development workshops annually to inform teachers about NASA's missions by engaging them in learning activities they can take back to their classrooms and communities.

The Academic Affairs Office also is responsible for five regional Educator Resource Centers and the NASA Marshall Educator Resource Center, which provide resource materials that teachers can take back to the classroom to educate their students and excite them about careers in science, technology, engineering and mathematics. The Marshall Educator Resource Center recently moved into a newer, larger facility at the U.S. Space & Rocket Center. The facility includes multiple classrooms and the NASA Digital Learning Network, a specially designed

television studio where education specialists and subject-matter experts collaborate to teach classes and interact with students, despite being separated sometimes by hundreds of miles.

Academic Affairs supports NASA Explorer Schools through three-year partnerships between the agency and competitively selected schools across the country. From the many applications it receives each year, NASA chooses between 20 and 50 schools. The program targets underserved populations in diverse geographic locations to find students who would benefit most from a partnership with NASA and the expertise it has to offer.

Teachers are given learning tools, training and access to materials and information to help teach students about science, technology, engineering and mathematics. Marshall's education specialists support K-12 education in schools, (including 15 Explorer Schools) libraries, science centers, museums, and planetaria, and serve community youth groups in Alabama, Tennessee, Mississippi, Arkansas, Missouri and Iowa.

U.S. Postal Service rates to increase

Marshall employees can help minimize mailing costs

By Jessica Wallace

The cost for mailing First-Class letters, flats and parcel packages is about to change beginning May 14. The new pricing structure will be based on shape rather than weight.

Marshall employees can minimize mailing cost increases by paying attention to shape, taking advantage of discounts and making sure addresses are up to date.

For example, if the contents of a First-Class letter can be folded and placed in an envelope no larger than 6-1/8 by 11-1/2 inches, the mailer can save 39 cents for the

first ounce. Otherwise, it will be considered a flat at 80 cents for the first ounce with a 17-cent increase for every additional ounce.

Other changes affecting postal customers include:

- A First-Class stamp will be 41 cents with a 17-cent increase for every additional ounce.
- An item larger than 6-1/8 by 11-1/2 inches that is 1/4 to 3/4 inch thick will be considered a flat.
- A flat that is more than 3/4 inch thick or 12 by 15 inches will be considered priority mail at \$4.60 for the first two ounces.

Surcharges may be added to any First-Class letter. Examples are letters that are

wrapped in plastic material, have clasps or other closure devices, and/or contain items that make the mail pieces uneven or rigid.

Employees are encouraged to use 6 by 9-1/2-inch envelopes provided in the Marshall mail facility in Building 4200 to help meet the new mailing requirements and reduce postage costs.

For more information on mailing rates and services, contact Nancy Spears at 544-7561, Larry Dumont at 544-4457, or Jacqueline Love at 544-4363, or go to "Inside Marshall." For information on the new mailing rates and fees, go to http://pe.usps.com/RateCase2007/DMM300_PDF/RatesAndFees.pdf.

The writer, an ASRI employee and Marshall Star editor, supports the Office of Strategic Analysis and Communications.

Shuttle

Continued from page 1

The RSRB merger team's focus was to proactively address workforce and skills required to successfully fly out the shuttle in 2010. In parallel with this critical effort, it is important for the shuttle propulsion projects and the exploration launch office to be able to share skills, enhance communication and leverage the knowledge between both programs. The exploration office is responsible for design and development of Ares I, which uses a single five-segment reusable solid rocket booster — a derivative of the space shuttle's four-segment booster — for the launch vehicle's first stage.

"Success of both the Shuttle Propulsion Office and Ares I is dependent upon our ability to leverage knowledge and skills between the two organizations," said Lightfoot. He added that synergy between the RSRM and SRB projects as well as with the Ares I First Stage has been underway for some time now, but needed to be formally recognized to be more effective.

"The RSRB merger strengthens the shuttle team and has established a future plan by allowing the direct sharing of subsystem managers in motor, booster and Ares I," said Jody Singer, who leads the new RSRB Project Office.

"The new organization reduces and clarifies the shuttle interface points with Ares, engineering and safety, and establishes a direct, co-located environment for sharing lessons learned," Singer said.

She said that on a more immediate level, combining the motor and booster offices in the Shuttle Propulsion Office results in an organization that can better use civil service skills and helps

us better address and minimize critical vacancies. It also helps us eliminate redundancies between the two offices and better transition into the future.

David Beaman serves as Singer's deputy manager for motors, and Pat Lampton is deputy manager for the booster side of the house.

"The merger eliminates duplication and stove piping between SRB and RSRM in our working relationships with the resident office, business offices, configuration management, transition manager and with post flight and obsolescence management," Beaman said.

A merged office also integrates full scale motor and subscale motor test planning for both shuttle and Ares, he added.

"The biggest advantage of this merger is that it keeps our critical skills intact while allowing people to feel more secure about their future," Lampton said.

Singer is quick to point out that the new office structure does not result in a reduced shuttle propulsion workforce, but instead helps address workforce needs.

"This merger keeps our critical skills intact while providing opportunities for people to transition into programs we'll be working on in the future," she said.

The merger recommendation was presented in October 2006 to David King, director of the Marshall Center; his senior leadership team; and Wayne Hale, manager of the Space Shuttle Program in Houston. NASA Headquarters approved the new organization, which became operational Jan. 21, 2007.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

Moonbuggy

Continued from page 1

Alabama in Huntsville, over a smooth surface.

The race is inspired by the lunar rover vehicles driven by astronauts on the moon during the final three Apollo missions in the 1970s. The original lunar rovers were designed and tested by engineers at the Marshall Center.

"In the process of preparing for this exciting event, the students learn valuable lessons in science, technology, engineering and math in a real-world situation," said Frank Six, university affairs officer with the Marshall Center's Academic Affairs Office. "Events like the Great Moonbuggy Race help NASA foster learning environments that inspire young people to set their sights on venturing to the moon and Mars."

Awards are given to the top three teams in both high school and college divisions that complete the course with the best times. Awards also are presented for most unique moonbuggy, most improved from previous competition, best overall design, fastest rookie contestant, most spectacular crash and the vehicle with the safest design.

The first Great Moonbuggy Race was run in 1994, commemorating the 25th anniversary of the Apollo 11 lunar landing. Eight college teams participated that first year. The race was expanded to include high school teams in 1996.

For more event details, race rules, information on the course and photos from previous competitions, visit <http://moonbuggy.msfc.nasa.gov>.



A high school team from Kansas speeds through the course at last year's Great Moonbuggy Race.

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 is 4:30 p.m. Thursday.

Miscellaneous

Golf club, new Adams IDEA Hybrid a20s 4-iron, Grafalloy, still in shrink wrap, \$125. 536-8692
Silver bullion, 100 oz. bar, \$1,300; two HP L Jet III printers for parts/repair. 227-5671
Unused U.S. postage stamps, 90 percent face value, First Day Covers; used washer & dryer, \$200. 551-0276
Four plots in Tri-Cities Memorial Gardens, \$4,000. 256-436-1106
Men's platinum wedding band, size 10, \$500. 653-4380
Antique 1920 Seth Thomas mantle clock, \$120; Shrek 2 PS2 game, \$7. 527-8116
Aquariums, bird cages, reptile cages, cage wire, pet supplies. 655-9663
Three prom/formal dresses, two size 3/4, one size medium, \$30 to \$50 each. 852-5092
Hull black Lipton teapot, gallon size w/spout, mint condition, \$225. 520-4939

Treadmill, manual, 1 year old, \$25. 837-1774
Acoustic guitar amplifier, Ultrasound AG 50DS2, 50 watts RMS, \$350. 256-423-4217
Kasson-Auburn pool table, 8', Queen Anne feet, leather pockets, all accessories, \$1,900. 880-6563
Trampoline, needs new mat, frame and springs good, \$65. 468-0854
Kenmore washer and dryer, \$50 each; Sears self-propelled lawnmower, \$40. 508-0838
Two 55-gallon aquariums and stands, African cichlids and all accessories included, \$450 for all. 759-0911
Children's bedroom set: bunk beds, mattresses, desk and chair, dresser, \$300. 895-5063
Recessed fluorescent light fixture removed from kitchen ceiling, nice, \$8. 325-2919
John Deere LX176 riding mower, Kawasaki engine, \$300; Dodge Ram truck camper shell/cover w/windows, \$350. 527-8116
Flat ATV trailer, 4x6, 7/8-inch hitch, spare tire, \$200. 534-8414
Scent-Lock insulated parka & pants, \$350; Summit Viper XLS, \$175. 694-1094/Bryon
Kenmore king capacity washer/dryer, white, \$225 pair; king-size head/footboards and rails, \$150. 256-658-5684
China cabinet, \$250; many years copper collection, \$300; sofa, 11 feet, \$195; ladder, \$45. 852-6952
Formal dining room chandelier, 8 candles w/prisms, \$150. 883-1096

Vehicles

2001 Salem travel trailer, 24 ft., sleeps eight, kitchen and bath, \$7,500. 256-851-0938
1995 Mazda MPV van, 6 cylinders, 150K miles, \$1,800. 256-797-4107
2006 Harley Davidson Dyna Super Glide, red, 76 miles, \$13,500. 828-7625
Schwinn Moab I MTB, Deore LX 24 speed, Avid parallel brakes, Judy XC Rock Shox, \$750. 457-0206

Rare 1992 Richard Petty Limited Edition Grand Prix, 162K miles, needs transmission, \$895. 851-8085
1994 Kawasaki Ninja 250, \$1,200. 721-0637
2002 F250 Super Duty 4-door XLT, 7.3L diesel, 127K miles, sprayed bed-liner, \$19,000. 256-509-2319
2003 Mercedes E500, tan leather, 57K miles, \$34,000. 256-527-6148
1992 Honda Accord EX, 218K miles, power windows/locks, \$1,800. 256-784-5299
2003 Chevy Cavalier, 26K miles, 5 speed, 30 mpg, \$6,900. 651-1911
1972 El Camino, 51K original miles, numbers match, 350/350, 308-12 bolt, garaged, \$6,500. 256-233-4670
Customized 2001 Harley Deuce, 28K miles, many extras, \$16,900. 777-4144
2004 Chrysler Town & Country, 4 cyl., auto, all power, tilt, am/fm, air bags, tint, 5-disc CD, \$12,500. 256-503-3545
2000 Honda Goldwing Trike, many extras, \$23,000. 232-9143
2002 Kia Sedona minivan, \$7,000. 233-6197

Wanted

Child's swing set, metal, will disassemble and move. 256-881-6572
Stamp collector/hobbyist seeking to buy duck hunting stamps. 256-837-5466 after 7 p.m.
Need trailer for 14' V-Bottom boat. 256-347-4804
Used fishing equipment, rod/reel; used Soloflex or equivalent; in usable condition, price negotiable. 777-8229
Ride or carpool from Scottsboro or vicinity. 256-228-6353 after 6 p.m.

Lost

Orange cordless Black & Decker screwdriver, lost somewhere on base. 572-3567

'Earth Day Every Day' theme of Marshall Center celebration April 17

By Shelley Miller

The Marshall Center will celebrate Earth Day on Tuesday, April 17, from 10 a.m. to 2 p.m. at the Activities Building 4316. The theme of this year's event, sponsored by Marshall's Environmental Excellence Team, is "Earth Day Every Day."

Marshall team members are invited to kick off the celebration at the opening ceremony. Awards will be presented to winners of the Earth Day logo and photo contests.

A new award, the Environmental Hero, will recognize an individual's excellence in environmental stewardship through efforts to preserve and protect the environment.

A ceremonial tree planting on the Activities Building grounds will follow the awards.

"Marshall's Earth Day celebration provides an excellent opportunity to reflect on the center's mission and, as a community, collectively gain a better understanding of what we can do at work and home to protect the environment," said Allen Elliott, manager of the Environmental Engineering & Occupational Health Office in the Office of Center Operations. "If we don't protect our home planet, how can we go explore other systems? Hopefully, this event

will bring about a renewed commitment to protecting our living planet."

An Environmental Expo will be held in the Activities Building until 2 p.m. The expo will feature more than 25 local vendors — organic farming to government organizations — giving employees an opportunity to see and learn about the latest environmental services and best practices, as well as energy-saving and environmentally friendly products.

Additional activities will include a green car exhibit by local auto dealerships featuring the latest hybrid and flex-fuel automobiles. Tree seedlings — red bud, red maple, shumard

oak and willow oak — will be given away on a first-come, first-served basis.

Attendees also are encouraged to participate in this green effort by donating used cell phones and eyeglasses at designated recycling stations in the Activities Building. Items will be donated to local charity and education organizations.

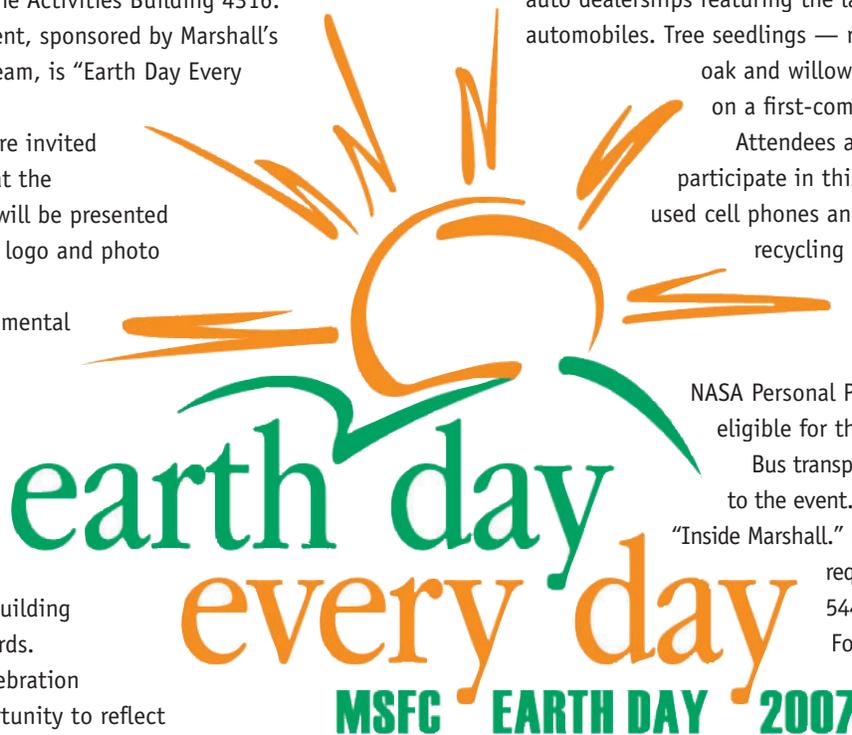
NASA Personal Property items are not eligible for this event.

Bus transportation will be provided to the event. A schedule is available on "Inside Marshall." Employees with special needs requiring transportation may call 544-8294.

For more information, contact Ben Morrow at benjamin.j.morrow@nasa.gov or 544-5573, or Sharon Scroggins at sharon.scroggins@nasa.gov or 544-7932.

Visit Marshall's Earth Day Web site at <http://eemo.msfc.nasa.gov/environmental/eday/index.asp>.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.



MARSHALL STAR

Vol. 47/No. 29

Marshall Space Flight Center, Alabama 35812
(256) 544-0030
<http://www.nasa.gov/centers/marshall>

The Marshall Star is published every Thursday by the Public and Employee Communications Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. Classified ads must be submitted by 4:30 p.m. Thursday, and other submissions no later than 5 p.m. Friday to the Marshall Public and Employee Communications Office (CS20), Bldg. 4200, Room 103. Submissions should be written legibly and include the originator's name. Send e-mail submissions to: intercom@msfc.nasa.gov. The Star does not publish commercial advertising of any kind.

Manager of Public and Employee Communications — Dom Amatore
Editor — Jessica Wallace

GPO: U.S. Government Printing Office 2007-623-033-20094

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