



NASA remembers its lost explorers

From NASA Headquarters Release

NASA Administrator Sean O’Keefe will host NASA’s Day of Remembrance Ceremony on Thursday at 1 p.m. at NASA Headquarters. This event, which will be broadcast on NASA-Television and in Morris Auditorium, honors those who have given their lives in the cause of exploration and discovery.

NASA’s Day of Remembrance was created last year to honor the brave astronauts who were lost during the Apollo 1 fire, Challenger launch and Columbia reentry. This year’s event also memorializes the NASA Jet Propulsion Laboratory employees who died in a tragic vanpool accident in December.

The Marshall Center will hang a Columbia memorial plaque in the lobby of the Bldg. 4200. The *Marshall Star* will have full details of the memorial events in next week’s paper.

Other NASA Centers will conduct a variety of activities:

- At the Glenn Research Center a wreath will be placed at the base of the astronaut memorial wall in the lobby of the Visitor Center.
- At the Stennis Space Center a wreath will be placed at the Apollo/Challenger/Columbia mosaic memorial in StennisSphere, the visitor center at Stennis.
- At the Johnson Space Center as employees will gather in the mall area or at the flagpoles, bells will sound over the center wide PA system to represent the lost members of the NASA family. This will be followed by a moment of silence and a flyover in a

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Mars rover finds iron meteorite

From NASA Headquarters Release

NASA’s Mars Exploration Rover Opportunity has found an iron meteorite, the first meteorite of any type ever identified on another planet.

The pitted, basketball-size object is mostly made of iron and nickel according to readings from spectrometers on the rover. Only a small fraction of the meteorites fallen on Earth are similarly metal-rich. Others are rockier. As an example, the meteorite that blasted the famous Meteor Crater in Arizona is similar in composition.

“This is a huge surprise, though maybe it shouldn’t have been,” said Dr. Steve Squyres of Cornell University, Ithaca, N.Y., principal investigator for the science instruments on Opportunity and its twin,

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Teacher training center helps inspire next generation

By Grant Thompson

NASA’s Marshall Center and Middle Tennessee State University in Murfreesboro have partnered to open and operate an on-campus training center for Tennessee teachers to help inspire the next generation of space explorers.

A ribbon cutting ceremony was held last month to open a new NASA Educator Resource Center in Murfreesboro for educators across Tennessee.

The 4,200-square-foot center will provide kindergarten, elementary and secondary science and math teachers professional development and instruction on the use of technology in the classroom. Through seminars and online meetings, educators will collaborate, share and reflect on the best practices for teaching and learning. They also will be

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Helen Henning, a teacher from Bolivar, Tenn., demonstrates teaching, tools and techniques to teachers and students during the opening last month of the Educator Resource Center at Middle Tennessee State University in Murfreesboro, Tenn.

Photo by Doug Stoffer, Marshall Center



Space Act Award winner

James McCarter, left, an aerospace engineer in the Flight Mechanics and Analysis Division, is presented a certificate from Marshall Center Director David King for winning a Space Act Award. He received the award and \$10,000 from the Inventions and Contributions Board for his computer program titled, Marshall Aerospace Vehicle Representation in C, or MAVERIC. The computer program has become NASA's primary tool for simulating space transportation vehicle designs.

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Spirit.

The meteorite, dubbed "Heat Shield Rock," sits near debris of Opportunity's heat shield on the surface of Meridiani Planum, a cratered flatland that has been Opportunity's home since the robot landed on Mars nearly one year ago.

"I never thought we would get to use our instruments on a rock from someplace other than Mars," Squyres said. "Think about where an iron meteorite comes from: a destroyed planet or planetesimal that was big enough to differentiate into a metallic core and a rocky mantle."

Rover-team scientists

are wondering whether some rocks that Opportunity has seen atop the ground surface are rocky meteorites. "Mars should be hit by a lot more rocky meteorites than iron meteorites," Squyres said. "We've been seeing lots of cobbles out on the plains, and this raises the possibility that some of them may in fact be meteorites. We may be investigating some of those in coming weeks. The key is not what we'll learn about meteorites -- we have lots of meteorites on Earth -- but what the mete-

orites can tell us about Meridiani Planum."

The numbers of exposed meteorites could be an indication of whether the plain is gradually eroding away or being built up.

NASA Chief Scientist Dr. Jim Garvin said, "Exploring meteorites is a vital part of NASA's scientific agenda, and discovering whether there are storehouses of them on Mars opens new research possibilities, including further incentives for robotic and then human-based sample-return missions. Mars continues to provide unexpected science 'gold,' and our rovers have proven the value of mobile exploration with this latest finding."

Initial observation of Heat Shield Rock from a distance with Opportunity's miniature thermal emission spectrometer suggested a metallic composition and raised speculation last week that it was a meteorite. The rover drove close enough to use its Moessbauer and alpha particle X-ray spectrometers, confirming the meteorite identification over the weekend.

Opportunity and Spirit successfully completed their primary three-month missions on Mars in April 2004. NASA has extended their missions twice because the rovers have remained in good condition to continue exploring Mars longer than anticipated. They have found geological evidence of past wet environmental conditions that might have been hospitable to life.

Remembrance

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missing man formation.

- The Ames Research Center will conduct a memorial event in the Center's cafeteria. In the ceremony a moment of silence will be followed by remarks by Center Director G. Scott Hubbard about our remembrance of the Apollo 1, Challenger and Columbia crews and about what NASA has learned from the Columbia tragedy and will do in the future to enhance mission safety.
- The Kennedy Space Center will observe a moment of silence at noon. Also, on Tuesday, Feb. 1, a public memorial service hosted by the Astronaut Memorial Foundation will be held in remembrance of the Columbia STS-107 Crew. The ceremony will take place at 9:30 a.m. at the Space Mirror Memorial at Kennedy Space Center Visitor Complex.

TEAM Redstone celebrates Black History Month

TEAM Redstone will celebrate Black History Month with a program commemorating the 100th anniversary of The Niagara Movement at 9:30 a.m., Feb. 17, at the Sparkman Center on Redstone Arsenal.

The Niagara Movement was the first significant black organized protest movement of the 20th century. Guests include Lisa Washington, NewsChannel 19 anchor; performers from the nationally acclaimed Aeolians of Oakwood College; and music from 20th century artists, such as Duke Ellington and Miles Davis.

The Second Annual "Taste of Soul" Food Festival will immediately follow. Admission is free.

For more information, call Chanel Leslie at 544-3740.

Astronaut Fincke honors Silver Snoopy winners

International Space Station crewmember Mike Fincke visited the Marshall Center Jan. 18. He shared highlights of his Expedition 9 mission and presented Silver Snoopy awards to Marshall team members who have shown professional dedication to the U.S. space program.



From left, Harold W. Allen, SAIC; astronaut Mike Fincke, Michael D. Wilson, AD50; Dorothy L. Holloway, AD42; and Mark A. McCutchen, SAIC.



Ela M. Washington, right, of CD20, shares a smile with Fincke.



David L. Martin, left, of AD23, receives his Silver Snoopy from Fincke.



Michael L. Culver, right, of ASRI, and Fincke.

Photos by Doug Stoffer, Marshall Center

Educators

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supplied with NASA science and math curricula for their students.

Through the NASA Educator Resource Center Network – the organization of NASA educator training centers across the United States – educators can enhance their curriculum with information generated by NASA programs, technologies and discoveries. Although NASA educational materials relate primarily to mathematics, science and technology, they can be valuable curriculum supplements for all subjects. The Marshall Center manages Education Resource Centers in Alabama, Tennessee, Louisiana, Arkansas, Missouri and Iowa.

Staffed by Middle Tennessee State faculty, the new Tennessee center will provide a number of state-of-the-art features. Users will have access to high-speed Internet connections and a technology lab,

allowing more time and greater depth for computer training in Web-based learning programs; science instruction labs where teachers will discover new experiments to share with their students; video conferencing equipment that will connect the Tennessee center with other Educator Resource Centers across the country; and large seminar rooms for hosting educator workshops focused on strengthening science and math instruction.

“Teachers need professional development opportunities in environments that promote real learning,” said Jim Pruitt, manager of the Marshall Center’s Academic Affairs Office. “When teachers are trained with the best available resources, their students benefit. The goal for this learning center is to provide that environment, letting teachers collaborate, share ideas and work on new ways to engage

and excite students.”

“This is going to be an exciting partnership between NASA and the education community in Tennessee, and the potential for educational growth is on the horizon,” said Dr. E. Ray Phillips, professor emeritus of mathematical sciences at Middle Tennessee State and administrator of the new NASA resource center. “Teaching educators how to take advantage of technology in their classroom will make more Web-based materials available to Tennessee students. We expect the center will spur teacher creativity to discover new ways to teach science and math to the next generation of explorers.

“There is no end in sight for the educational opportunities that could result from this partnership,” he added.

The writer, an ASRI employee, supports the Public Affairs Office.

Group gets Director's Commendation for aiding ill co-worker



Rondal Mize, QD50, manager Industrial Safety Department, left, with Marshall Center Director David King, right, holding a framed Director's Commendation award.



Linda G. Myszka, Morgan Research Corp., left, with King, right, holding a framed Director's Commendation award.

Nine Marshall team members were honored last month with Director's Commendations for showing how the NASA Family cares for one another. The team members came to the aid of a co-worker who became ill while attending a safety conference in Las Vegas last fall. The team took turns staying at the hospital around the clock until their co-worker was released two days later after an emergency appendectomy. "We felt like this is family and we had to stick with it," said Ron Mize, who organized the round-the-clock care. Nancejo Ogozalek, who also participated, is not pictured.



Catherine Miller, AD62, emergency preparedness officer, left, with King, right, holding a framed Director's Commendation award.



Thomas Dollman, XD01, special assistant to the director of the Science and Technology Directorate, left, with King, right, holding a framed Director's Commendation award.



Elizabeth Skidmore, EV11, left, with King, right, holding a framed Director's Commendation award.



Rodney Key, SW10, Material Science Research Rack project manager, left, with King, right, holding a framed Director's Commendation award.



Judy Milburn, QD50, team lead, Industrial Safety Department, left, with King, right, holding a framed Director's Commendation award.



Lisa Zender, HEI, left, with King, right, holding a framed Director's Commendation award.

Photos by Doug Stoffer, Emmett Given/ Marshall Center

Announcements

World Year of Physics Conference is set for April 5-7 in Huntsville

The World Year of Physics Conference will be held April 5-7 at the Von Braun Center in Huntsville. The event will include two days of invited paper presentations and a day of education outreach activities. Thirteen speakers have been invited, including two Nobel Laureates. For more information, go to <http://www.wyp-ptm.org>. The Marshall Center is a co-sponsor of the conference.

Volunteers needed for Moonbuggy race

Volunteers are needed for the 2005 Great Moonbuggy Race set for April 8-9 at the U.S. Space & Rocket Center. Volunteers are needed from 8 a.m. to 12:30 p.m. and from noon to 5 p.m. Duties would include judging the obstacle course, keeping scores, reporting and pre-race qualifying. Shirts and lunch will be provided for those who volunteer. Call Julie Clift at 961-7896 for more information or sign up at <http://oscar.msfc.nasa.gov/hs/tgmr2005.nsf/lrf>.

Former Dryden Research Center director to speak at AIAA event

Kenneth J. Szalai, former director of the NASA Dryden Flight Research Center, will speak Feb. 11 at an American Institute of Aeronautics and Astronautics/ University of Alabama in Huntsville student chapter event. Szalai, an AIAA fellow, will discuss experimental flight research in the modern era.

The free event is from 6:30 – 9 p.m. in the UAH Technology Hall, room S105.

Lunchtime prayer is Tuesday and Thursday at noon

Marshall team members are invited to lunchtime prayer each Tuesday and Thursday from noon to 12:30 p.m. in Bldg. 4200, Room 432. Call Johnnie Wilson at 544-1007 for more information.

Volunteers needed to mentor SHARP students

The Marshall Center is seeking volunteers to work with students participating in the 2005 NASA Summer High School Apprenticeship Program, or SHARP. The eight-week program gives selected students opportunities to work in science and engineering areas. To volunteer, call Jennifer Simmons at 961-7544.

Mentors needed for summer college internship program

Volunteers are needed to serve as mentors to the 2005 Undergraduate Summer Internship Program participants. The program, sponsored each year by the Marshall Center, is May 16 to July 22. Mentors are needed from all technical directorates. Contact Madeline Hereford at 544-7420 for more information.

Chitwood to speak at Marshall Association Luncheon

Charles Chitwood, the Marshall Center's newly appointed deputy director, will speak at the Marshall Association Luncheon on Feb. 3 at 11:15 a.m. in the Marshall Center Activities Building 4316. The luncheon cost is \$9, payable at the door, and includes baked chicken, vegetarian pasta, sweet potato casserole, green beans, rolls, peach cobbler and tea. Call Cindy Upton at 544-5755 for reservations by Jan. 31.

NASA College Scholarship applications now available

The NASA College Scholarship Fund, Inc. is now accepting applications from dependants of NASA employees or retirees who are pursuing a college degree in science or engineering. The application deadline is March 21. For more information and an application, go to <http://nasapeople.nasa.gov/nasascholarship/index.htm>.

Presales of the Saturn V Rocket auto license tags end Jan. 31

Presales of the Saturn V rocket auto license tags will end Jan. 31. At least 1,000 specialty tags must be ordered before the state will agree to produce them.

Proceeds from the new tag, "First to the Moon and Beyond," will be used to construct a permanent building at the U.S. Space & Rocket Center for the Saturn V rocket. The tag costs \$50 every year above the usual license plate renewal fees. Tags may be ordered online at <https://register.spacecamp.com/tag>.

Classified Ads

Miscellaneous

Oak computer desk with hutch, best offer. 772-7262
 Diamond engagement ring, round cut, .43 carat, 14k gold, \$700; matching jacket, \$250. 961-1479
 Web TV system; Web TV "Plus" system, IR wireless keyboard, PC compatible, new, best offer. 256-586-6450
 S-10 short bed camper shell, \$125; Sunn Model-T amp, \$500; Bach Stradivarius trumpet, mint, \$1,200. 851-8085
 Wallpaper, five double rolls, off-white moiré, \$125. 882-2369/Krebsbach
 Super Mario 3 Gameboy Advance SP game, complete w/box, instructions, \$20. 303-3702 after 5 p.m.
 Round pedestal table, 42", four chairs, \$95; Corel Corningware dishes, 66 pieces. 430-4349
 Hot Point dryer, \$95; GE washer, \$100. 837-6649
 Sony Playstation 2, additional controller, 2 memory cards, 5 games, many extras, \$200. 256-353-9020
 Barbie Power Wheels Jeep, \$50; Harley Davidson Power Wheels pink & purple motorcycle, \$100. 353-0370
 Barn type storage building, 12x16 w/loft, 110/220V wiring, a/c, vinyl siding, you move, \$2,200. 479-4359
 Body-Gard over-the-rail bedliner for extended cab, fits Frontier & others, \$175. 256-881-0755
 Sony 5.1 Dolby Digital home theater system, 500-watts, 3-yr. warranty, black, \$250. 256-864-2517
 Antique Seth Thomas mantle clock, made in 1918, works, \$125. 603-3343
 Oak roll-top desk, loveseat, bedroom furniture. 714-8580
 Bedding set/accessories, bedskirt, window topper, for girl's room, pastel colors, \$25. 830-4191
 Scooter, red, electric and pull start, lights, storage compartment, new, \$200. 534-8414
 Baby Italia picket fence crib w/mattress, converts to toddler bed, Pecan finish, \$150. 829-1296
 Light Oak entertainment center, fits 30" TV, stereo equipment and storage, \$225. 852-5092
 Oreck XL, approx. 7 yrs. old, 4 extra bags, \$95. 533-5942
 Tube steps for 99-05 GMC/Chevy extended cab, 4-door pickup, chrome, never installed, \$225. 895-0886/Ken
 Pennsylvania House video cabinet, Cherry, up to 30" TV, VCR/DVD, \$750. 931-427-2059
 Dyna-610 kerosene heater, RMC-95C2, \$75. 859-1188
 Pearl snare drum w/case, sticks, pad, stand, key, lesson books, \$150. 882-6449
 Apple IIe computer, monitor & printer, \$60; older Singer sewing machine, \$50. 656-2951

Whirlpool Heavy duty washer & dryer, large capacity, 4-years-old, moving, \$275. 931-438-2876
 Saltwater aquarium, 50-gallon, 3 fish, liverock, livesand, metalhalide lights, stand/hood, supplies, \$600. 468-7857
 Bow case, \$20; GameBoy, color, w/games and accessories, \$45 for all. 256-228-6353
 1999 Whirlpool electric range, \$125; small blue sofa, \$15; formal sofa, \$125; formal chairs, \$25. 430-6842
 Winbook XL notebook computer, floppy drive & battery bad, everything else works, \$100. 256-850-4185
 Craftsman workbench w/lighted/powerd back panel, new, \$300; L-shaped computer desk, shelves, drawer, \$150. 776-9165
 Blue metal bunk beds, single on top, double on bottom, \$125. 830-5154/evenings
 Chest with 5-drawers, \$110. 464-9408
 Two white metal Futon bunk beds, mattress available, \$150 each. 431-1556
 Pair of Klipschorn replica corner subwoofers, 15" drivers, blonde veneer cabinets, best offer. 881-7805
 2001 Procraft 180 combo fish/ski boat w/150 Mercury motor, \$14,950. 348-4899
 Leer green metallic fiberglass shell for long bed pickup, \$550; Scotty travel trailer, 10' \$1,500. 227-0339/Dave

1978 Ford F100, 351/v8, 109k miles, ac/ps/pb, liner, tow package, \$5,200. 256-694-5743
 1996 SE3 Goldwing, pearl white w/gray panels, 28k miles, running lights, matching cargo trailer, \$10,500. 508-0183
 1996 Chevrolet Lumina, 4-door, auto, v6, loaded, 122k miles, \$2,000. 464-9910
 1999 Honda Accord LX, loaded, 120k miles, new timing belt, custom paint, many extras, \$9,000. 256-759-3119
 2000 F250 Lariat Superduty, 4-door, v10, automatic, leather, 90k miles, nerf bars, \$21,000. 683-6433
 1996 Maxima GLE, one-owner, black w/black leather, 87k miles, am/fm/cd w/Bose, all-power, spoiler, \$7,850. 256-337-0201
 1995 Ford Windstar GL, green, v6, 131k miles, \$2,300. 837-3192
 2000 Ford Explorer Sport, v6, 5-speed, 2wd, am/fm cassette, cd, 68k miles, one-owner, \$7,000. 256-828-9798
 1996 Chevrolet Lumina APV, white, 86,350 miles, loaded, 7-passenger, built-in child restraint seat, \$4,500. 837-8797
 1987 Lincoln Towncar SS, leather, navy, 120k miles, \$2,000. 772-9533
 2001 Ford Explorer Sport, 2-door, v6/4L, white, in-car phone, maintenance record available, \$6,900. 233-6197
 1996 Volvo 850 GLT, 80k miles, all-power, multi compact disc, black w/gray leather, \$7,900. 256-536-8480

Vehicles

2001 Ford Expedition XLT, 74k miles, rear air, 6-disc changer, backup sensors, towing, \$12,900. 895-0577
 1986 full-size Ford Bronco, 4x4, currently not running, best offer. 533-9683
 1994 Lincoln Mark VIII, 220k miles, new compressor, \$2,100. 520-3874
 1998 Camry LE, 112k miles, beige/beige, one-owner, \$5,500. 256-539-6932
 1998 Dodge Neon, 4-door, auto, red/gray interior, great gas mileage, \$3,300. 829-9112
 1993 Nissan Maxima GXE, v6, 4-door, automatic, new tires, power windows/locks, keyless entry, \$2,500. 852-6936
 1989 Ford Taurus, runs well, \$600 firm. 828-5246
 1998 Lumina, 49k miles, \$8,000. 828-5142 after 5 p.m.
 1996 Eclipse GS, 5-speed, 113k miles, \$4,750. 379-4677
 1996 Dodge van, Prime Time conversion, 75k miles, trailer hitch & trailer brakes, \$5,900. 256-772-9768
 1975 Olds Custom Cruiser, 455 engine, automatic, 172k miles, one-owner, \$1,000. 882-3326
 2000 Cadillac Catera, 25k miles, all-leather, Bose cd, all-power, new tires, front brakes, one-owner. 256-753-2928
 1995 Honda Accord DX, 4-door, auto, 200k highway miles, \$2,800. 256-366-5595

Wanted

Free or inexpensive fold-up or small treadmill. 256-653-1611
 Fuser for HP Laserjet II/III printer. 883-2757
 Witnesses to accident at intersection of Martin & Zierdt Roads, Gate 7, Dec. 23. 256-464-3791/256-679-3799
 Dog pen/kennel at least 10'x10'x6', prefer larger. 348-4697

Free

Gray male cat, 1-1/2 yrs. old, declawed, indoor only, sweet, loving. 339-6677

Found

Car keys/chain and tinted sunglasses. Call 544-3623 to claim/identify
 Pliers in the road. Call 544-3623 to claim/identify

MARSHALL STAR

Vol. 45/No. 18

Marshall Space Flight Center, Alabama 35812
 (256) 544-0030
<http://www1.msfc.nasa.gov>

The Marshall Star is published every Thursday by the Internal Relations and Communications Department at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. Contributions should be submitted no later than 5 p.m. Friday to the Marshall Internal Relations and Communications Department (CS10), Bldg. 4200, room 101. Submissions should be written legibly and include the originator's name. Send electronic mail submissions to: intercom@msfc.nasa.gov The Marshall Star does not publish commercial advertising of any kind.

Manager of Internal Relations
 and Communications — Steven Durham
 Editor — Patricia Dedrick Lloyd

U.S. Government Printing Office 2005-733-048-60138

Permit No. G-27
NASA
 Postage & Fees PAID
 PRE-SORT STANDARD