



MARSHALL STAR

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March 23, 2006

Expedition 13 crew set to launch to space station March 29

Two veteran crewmembers will launch on a Soyuz spacecraft March 29 from the Baikonur Cosmodrome in Kazakhstan to the International Space Station. The launch is scheduled for 8:30 p.m. CST.

Commander Pavel Vinogradov, 52, representing the Russian Federal Space Agency, and astronaut Jeffrey Williams, 47, a U.S. Army colonel, will make up the 13th crew of the station since continuous human presence began on the orbiting laboratory in November 2000. The six-month stay of

Expedition 13 will focus on station assembly preparations, maintenance and science in microgravity.

Vinogradov is making his second long-duration spaceflight, having lived on board the Russian space station Mir for 198 days in 1997. Williams is making his second spaceflight. His first on STS-101 Atlantis in May 2000 was a shuttle mission devoted to space station construction.

Vinogradov and Williams will spend more than a week with their predecessors,

Expedition 12 commander and NASA science officer William McArthur and flight engineer Valery Tokarev. Handover includes briefings on station safety, systems, procedures, equipment and science. Launching with the Expedition 13 crew will be Brazilian astronaut Marcos Pontes, 42, who will spend eight days on the station under a contract with the Russian Federal Space Agency. Pontes will return to Earth on Expedition

See Expedition 13 on page 5



Mitzi Adams

Marshall astronomer Mitzi Adams controls the cosmos to inspire future scientists

By Rick Smith

Solar astronomer Mitzi Adams has a trick up her sleeve to help inspire young stargazers. She can set galaxies tilting and whirling about their heads.

And she never tires of seeing its effect on them, helping to build their enthusiasm for pursuing careers in science and astronomy.

Adams, who studies the sun's turbulent behavior for the Marshall Center, is no sorceress. She is director of the Von Braun Planetarium in Huntsville. There, she uses a star-projector and the sprawling planetarium dome to lead middle- and high-school science classes, home-school groups and other visitors on simulated tours of the cosmos itself. She talks about the possibility of life on distant worlds, and puzzles yet to be solved in our own solar system.

Before long, even the chattiest teens and distracted adults fall silent, eyes cast up in wonder.

Happens every time, Adams says. "In our well-lit modern age, it's easy to forget what the sky looks like on a clear night. It's easy to forget that our busy little planet is part of a solar system, a galaxy and an unbelievably

See Adams on page 4

Emmett Owen/MSFC

After 18 years as retirement coordinator,
Bressette is retiring from federal service

Marshall's Retirement Office names new coordinator

By Jessica Wallace

Iris Rivera, currently a financial program specialist in the Marshall Payroll Office, will succeed Edwina Bressette, Marshall's retirement coordinator, at the end of March.

The Retirement Office, located within the Employee Services and Operations Office for the Office of Human Capital, provides services to Marshall employees and retirees.

The coordinator counsels retiring employees by supplying information regarding retirement policy and what an employee's expectations should be.

The office acts as a liaison between employees, retirees and the Social Security Administration.

It provides documentation to enable employees and retirees to file for certain Social Security benefits. The office also acts as liaison between the Office of Personnel Management and retirees in respect to problems arising with retirement or survivor annuities.

In addition, the Retirement Office extends its services to survivors of a deceased employee or retiree.

The coordinator is available for assistance in completing



Doug Staffler/NSFC

Iris Rivera, left, and Edwina Bressette in Marshall's Retirement Office.

applications for survivor annuities and benefits, applications for federal life insurance and at-home counseling if requested.

"I feel privileged to be appointed to this position," said Rivera. "I look forward to giving my attention to Marshall's employees, retirees and their families."

Rivera can be reached at (256) 544-1786, and is located in Building 4200, Room 328C.

The writer, an ASRI employee, supports the Public and Employee Communications Office.

NASA implements new Learning Management System

NASA will be implementing a new Learning Management System called SATERN, the System for Administration, Training and Educational Resources for NASA. SATERN is an e-government initiative that supports the president's management agenda to improve government's responsiveness to citizens and efficiency of operations. The system will be introduced in several phases.

The initiative is expected to improve agency services and save taxpayer dollars by consolidating NASA's multiple learning systems. SATERN will provide NASA employees with one stop, online access to training information. The system will enable employees using a desktop computer to view course catalogs, enroll in courses, schedule training and view individual training history.

In addition, employees will have the

capability to launch online courses through SATERN. The system will standardize processes by providing new tools, functionality and capabilities for training administration and delivery.

Additional information and learning opportunities about SATERN will be available in the future. Contact Georgann Crump at 544-6525 or Mike Herston at 544-0369 for more information.

Students race to the future in NASA's 13th Great Moonbuggy Race on April 7-8

By Bill Hubscher

It's not common knowledge. But high school and college students across the country know it is quite possible to ride across the surface of the moon without ever leaving Earth.

Fifty-eight high school and college student teams are putting the finishing touches on designs of their very own lunar vehicles. Teams from the United States and Puerto Rico are competing in NASA's 13th annual Great Moonbuggy Race. The event, which is open to the media and the public, runs April 7-8 at the U.S. Space & Rocket Center.

The race is inspired by the lunar rover vehicles that astronauts drove on the moon during three Apollo missions. Students will race their human-powered vehicles in time trials across a simulated moon surface.

Teams have spent countless hours working on their designs. They had to find parts, and manufacture and fine-tune their vehicles to ensure they survive the rough terrain of the race's half-mile obstacle course. Along the way, students learn valuable lessons about teamwork, engineering and overcoming challenges to reach their goals.

"The competition draws the next generation of scientists and engineers," said Jim Ellis, manager of the Academic Affairs Office at the Marshall Center. "The lessons they learn here can be carried on into their future studies and eventually to their careers. These students may become our next explorers, carrying out NASA's Vision for Space Exploration to return to the moon and travel to Mars," he added.



A team from Arizona State University in Tempe pushes through a lunar obstacle during NASA's 11th Great Moonbuggy Race at the U.S. Space & Rocket Center.

Moon buggies don't race side-by-side, but against the clock. Awards are given to the top three teams in both high school and college categories for completing the course with the best times. Awards also are presented for unique, most improved and best overall designs. There's also a new category this year — an award for the team that designs its moonbuggy with safety in mind.

The first Great Moonbuggy Race was run in 1994. It commemorated the 25th anniversary of the Apollo 11 lunar landing.

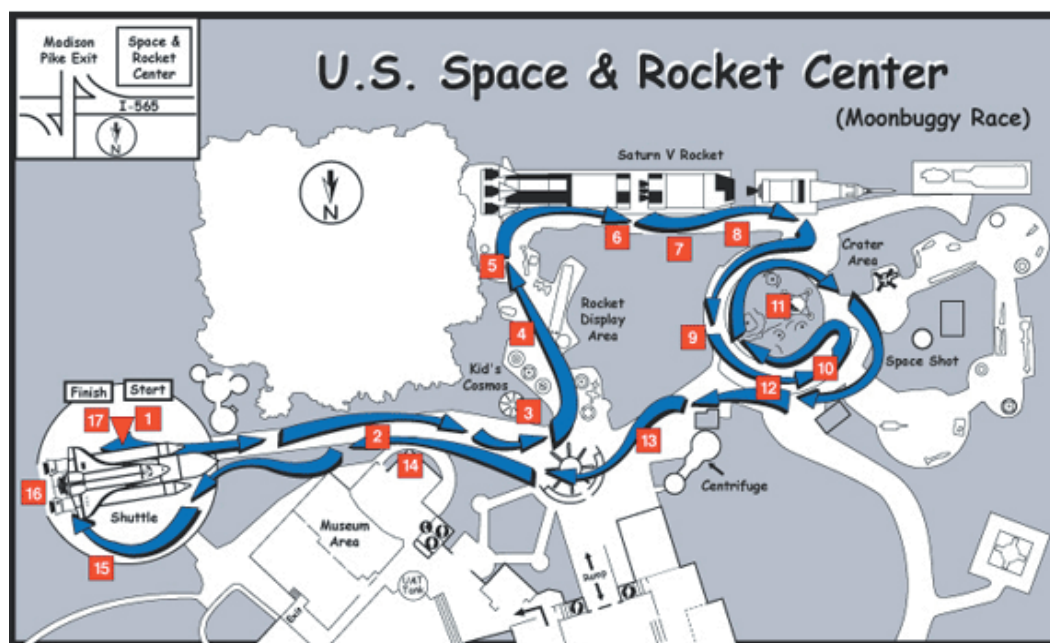
Eight college teams participated that first year, and in 1996 the race was expanded to include high school teams. For the 13th running of the race this year, 58 teams will rumble across the simulated lunar surface.

Many volunteers from both Marshall and the space industry ensure the success of the event. The Northrop Grumman Corp. sponsors this year's Great Moonbuggy Race.

Other contributors include the American Institute of Aeronautics and Astronautics; ATK Thiokol; CBS affiliate WHNT Channel 19 of Huntsville; Jacobs/Sverdrup; Morgan Research Corp.; Science Applications International Corp.; the Tennessee Valley Chapter of the System Safety Society Inc.; and the United Space Alliance, LLC.

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

The writer, an ASRI employee, supports the Public and Employee Communications Office.



Moonbuggy race course at U.S. Space & Rocket Center.

Adams

Continued from page 1

complex universe.”

An Atlanta native, Adams was fascinated by those relationships even as a child. She recalls how the night sky, usually smudged black by city lights, became a breathtaking starscape whenever her family vacationed in rural settings. Those stars became her passion.

She earned a bachelor's degree in physics in 1987 from Georgia State University in Atlanta, and joined NASA as an astronomer the following year.

In her 18-year career at the Marshall Center, she has conducted research for a variety of missions focused on the sun and other stars. These include the Solar Maximum satellite, which orbited Earth from 1980 to 1989, studying the sun during the most active portion of its 11-year solar cycle; and the Ramaty High Energy Solar Spectroscopic Imager, named for the late NASA astrophysicist Reuven Ramaty and launched in 2002 to study solar flares. Adams also continued her education at the University of Alabama in Huntsville, where she earned her master's degree in physics in 1991.

Adams still studies the sun today, from her office at the National Space Science and Technology Center, the Huntsville research facility jointly operated by Marshall and seven Alabama universities. She monitors sunspots, solar flares and the titanic blasts of radiation known as coronal mass ejections, which can threaten satellites in Earth orbit and interfere with commercial air traffic and ground-based electrical systems.

In an age that relies so heavily on complex power grids and satellites, Adams says it's crucial to understand these solar explosions and seek new defensive strategies. Moreover, as NASA prepares to send human explorers to the moon and beyond in coming years, new insight into solar activity will help protect vehicles and crews from intense solar radiation.

Just as important, she says, is nurturing new scientists to continue the work — hence her dedication to all those upturned faces at the planetarium. Adams also leads teacher workshops at

NASA's Educator Resource Center in Huntsville, visits local schools to get kids fired up about careers in physics and astronomy, and tutors students on her own time.

In 2005, Adams and fellow Marshall scientist Dennis Gallagher started a program for disadvantaged Huntsville middle-school students. Once a month during the school year, they gather students to watch science fiction movies such as “Voyage to the Bottom of the Sea.” Afterward, they quiz the students, help them conduct experiments tied to science concepts in the films, and award books and other prizes.

The program, co-sponsored by the Huntsville Housing Authority, which promotes safe, drug-free, affordable housing in the city, is designed to reinforce students' enjoyment of learning.

“It also helps identify standout students who might, with some encouragement, become real scientists,” Adams says.

As a regular guest lecturer for science courses at the University of Alabama in Huntsville, Adams works to sustain that encouragement through the college level. This term, she led several sessions of “Theories of the Universe,” a class that explores how various cultures perceive the cosmos, discussing the astronomy-savvy Maya and Inca civilizations of Central and South America, respectively. She's well-versed in the subject matter — and not just the astronomy. An accomplished hiker and student of ancient cultures, Adams has repeatedly vacationed in Peru and Guatemala to visit the ruins of these lost empires.

“That's what's great about astronomy as a career,” she says. “It's a fascinating blend of sciences — physics, chemistry, geology, history, mathematics — that keeps it new and exciting and more relevant now than ever to our everyday lives.”

For more about space science research at the National Space Science and Technology Center, visit <http://www.nsstc.org>.

For more information about the Von Braun Planetarium, visit <http://www.vbas.org>.

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— *Mitzi Adams, solar astronomer*

Obituaries

James Kellum “Jake” Levie, 90, of LaFayette, Ga., died March 3. He retired from the Marshall Center in 1986 as a security specialist.

He is survived by two sons, James K. Levie III of Huntsville and Harold W.

Levie of Livermore, Calif.; one daughter, Virginia A. Maloney of Brooklyn, N.Y.; two brothers, Dr. Walter H. Levie of LaFayette, Ga., and Jim F. Levie of San Francisco; and one sister, Jessie R. Gilreath of California.

Lois Lea Terry, 69, of Decatur died March 7. She retired from the Marshall Center in 1976 as a secretary. She is survived by her husband, Ralph K. Terry; one daughter, Teresa Becker of Indianapolis; and one brother, Bill Marquart of Quincy, Mass.

Expedition 13

Continued from page 1

12's Soyuz with McArthur and Tokarev.

In addition to welcoming the resumption of space shuttle flights to their home in orbit, the crewmembers are scheduled to resume three-person crew operations and assembly of the station. Vinogradov and Williams are scheduled to be joined during Expedition 13 by European Space Agency astronaut Thomas Reiter of Germany, 47. He is to fly into space on the STS-121 mission targeted for launch no earlier than July 2006. When Reiter arrives at the station, the long-duration crew will have three people for the first time since May 2003.

Station operations and maintenance will take up a considerable share of Expedition 13's time. The crew also will work with experiments across a wide variety of fields including human life sciences, physical sciences and Earth observation as well as education and technology demonstrations.

Many experiments are designed to gather information about the



Gagarin Cosmonaut Training Center

Attired in Russian launch and landing suits, cosmonaut Pavel Vinogradov, left, and astronaut Jeffrey Williams pause from a busy training schedule in Star City, Russia, for their crew portrait.

effects of long-duration spaceflight on the human body to help with planning future exploration missions to the moon or Mars. NASA's Payload Operations Center at Marshall will coordinate all U.S. science activities with the crew on the station.

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

- Two 12" Polk audio subs, \$100; Bandpass 12" enclosure, \$80. 990-1626
- Jacuzzi oversize whirlpool/bath w/faucet, almond color, 72"x41.5"x19", \$700. 783-4313
- La-Z-Boy lift power recliner, \$300; beige wing back chair, \$40; jump start system, \$18. 852-6952
- Two barstools, solid light oak, \$50 each. 509-2536
- Two crypts, side-by-side, eye level, Valhalla Memory Gardens, all fees included, \$5,200. 860-657-1618
- Three point hitch, 5' Bush Hog w/trailing wheel, \$200. 256-653-9137
- Aluminum Craft boat, many extras, \$700. 828-5246
- Ashley Millennium coffee and two end tables, gold colored metal frame w/glass tops, \$225. 503-5115
- Toy Steam Wagon, Green Mamod Model 1318, \$250. 430-1054 after 5 p.m.
- Unpainted antique poplar bread board & no nails assorted lengths/widths, pick up load, make offer. 931-438-2625
- Rose brass Yamaha trumpet, books, mouthpieces, case, \$275. 256-479-4345
- Maytag dishwasher, 2 months old, \$150; couch & love seat, matching pillows, few years old, \$300. 348-8640
- Camping gear, 2 packs, 2 bedrolls, 2 sleeping bags, and tent, \$75. 931-732-4742
- Tru-Cut 18" Reel Mower, \$300. 880-3703/leave message
- 2003 Epiphone Casino, sunburst, w/hardshell case, rarely played, \$570. 684-0910
- Pool table, 8' with 1" slate, Kasson, Victorian style, all accessories, \$3,000. 694-7399

- TV/DVD console for van, \$125; Christmas tree, 7.5', used once, \$50. 881-7000
- Universal home gym, 350 lb. total stack, 8+ workout stations, \$600. 256-783-4850
- SWR Super RedHead professional bass guitar amplifier combo, 350-450 watts, new speakers, must sell, \$600. 303-3702
- Troy-Bilt Pony Tiller, 5HP; Snapper rear-engine riding mower, 12hp, electric start, 28" cut. 883-8186
- Sears Kenmore microwave oven, full size, used occasionally by an MSFC Office, \$50. 881-6040
- Pugs, AKC, 2 males, fawn w/black masks, first shot/dewormed, ready now, \$400. 882-2037
- Motegi wheels, 17x7, gunmetal, fit Accord, \$300; Ruger "old army" stainless cap & ball revolver, \$290. 851-8085
- Schwinn Bowflex home gym, \$200. 880-7889
- Toshiba TV, 36", CRT, must pick up, \$225. 829-0285
- Queen bed w/mattress set, contemporary brass, \$500. 533-9683
- Weider home gym, weights attached with pulley/cable system, can deliver, \$100. 852-2438
- Blade Z Ion 450 electric scooter, \$200. 883-1667 evenings
- Computer RAM memory, 1GB, Corsair CMX512RE-3200LL, 400 MHz ECC registered, AMD Athlon 64FX, \$125.
- New Australian Sheepskin UGG boots, Ladies size 10, 11, & 12, \$45 each. 880-7490
- Cingular pre-paid cellular LG phone w/transferable number, includes some airtime, \$13. 604-9219
- Dell 8400 computer, 3 GHz, 160GB-HD, 1GB-RAM, new 128MB video, CD-RW, WinXP, \$660. 655-1986

Vehicles

- 1999 Ford Expedition XLT, black, V8, auto, 2WD, 139K miles, third seat, \$8,500. 679-9895
- 1984 Cadillac Seville, stereo, Cragar wire star wheels, \$400. 468-4300
- 1996 Toyota Avalon XLS, white, 4 door, sunroof, leather seats, many extras, \$5,500. 683-6521
- 1994 Dodge Grand Caravan SE, 130K miles, air conditioner needs repair, \$2,000. 694-9557
- 2005 Jeep Wrangler, Model X, black, 15.6K miles, valid dealer warranty, more. 412-708-5427
- 1995 Nissan XE standard pickup, green, 168K miles, 5 speed, air, AM/FM cassette, bedliner, \$3,200. 859-3029

- 2001 Toyota Tacoma Xtracab Pre-runner, red, V6/AT, SR5 trim, 74K miles, bedliner, toolbox, \$15,995. 256-683-9016
- 2003 Dodge Ram 1500, quad cab, 4-wheel ABS, Infinity, new tires, \$17,500. 256-337-6390
- 2004 BMW 325i, leather, automatic, CD, 12K miles, extended service agreement, \$28,500. 883-8340
- 1997 Ford Ranger XLT, 4 cyl., 5 speed, a/c, alloy wheels, bedliner, 86K miles, \$3,850. 864-8183
- 1990 Dodge 150, V8, engine/body good condition, 60K miles, \$3,000. 858-5018
- 1999 Ford Explorer XLS, 4x4, 4 door, Goodyear tires, towing & privacy package, 82K miles, \$7,100. 353-3229
- 1996 Yamaha RoyalStar 1300, 21K miles, black, full hp kit installed, garaged, many extras. 325-2070
- 2003 Mitsubishi Lancer, 45K miles, CD, a/c, power windows, keyless entry, remote start, warranty, \$9,000. 489-3120
- 2006 Sierra Denali, silver, fully loaded, 7K miles, towing package, rare, \$37,500. 256-479-5658
- 2004 Chevy Malibu, 4 door, automatic, 38K miles, 28mpg, power windows, locks, CD, \$13,000. 256-762-1213
- 1994 Gold Wing SE motorcycle, 1500cc, loaded, mint, includes helmets w/head sets, \$8,500. 325-8242

Wanted

- Children's gently used Little Tikes toys: Climb & Slide Castle, Water Play Table, Kitchen, etc. 881-8807
- Bowflex exercise machine. 714-8496
- Used pop-up camper with port-a-pot, sleeps at least 4. 256-734-1777
- Troy-Bilt tiller. 256-656-2965

Found

- Laboratory book; hands free cell phone unit; brown jacket w/logo; light jacket. Call 544-3623 to claim/identify

Free

- Labrador Retriever to farm home, 1 year old, needs room to roam. 468-4796
- To good home, Shepherd/Chow mix, female, 12 wks., 1st round of shots. 256-658-3431
- Firewood, walnut, on ground, you cut and haul. 679-5400

Technology Transfer hosts Southern Technology Council meeting

On Feb. 27-28, Marshall's Technology Transfer Program hosted a meeting of the Southern Technology Council, the technical division of the Southern Growth Policies Board. The meeting was held at the Marshall Center.

Formed in 1971, the Southern Growth Policies Board is a nonpartisan, public policy think tank based in Research Triangle Park, N.C. The board advances economic development for 16 Southern states by providing a forum for collaboration among a cross section of the region's governors, legislatures, and business and academic leaders. The specific role of the Southern Technology Council is to serve as the advisory council for the board, overseeing its innovation and technology policy issues.

The Technology Transfer Program is an active member of the council and focuses on partnerships that meet both NASA agency needs and those of the Southern Technology Council. The primary objective of the meeting was to brainstorm on leveraging resources to pursue joint collaborations. Participation from the Tennessee Valley Corridor Federal Alliance Board also brought perspective on regional opportunities. The meeting generated several viable ideas that will be explored by the council.

Marshall employees who participated in the meeting include Vernetto McMillan and Carolyn McMillan, Engineering Directorate; Shar Hendrick, Government and Community Relations Office; and Craig Seabrook, Business Development Office.

NASA announces new window for next space shuttle mission

NASA announced that the new launch planning window for Space Shuttle Discovery's mission, STS-121, is July 1-19.

The window gives the agency time to do additional engineering work and analysis to ensure a safe flight for Discovery and its crew.

Space Shuttle Program Manager Wayne Hale made the announcement March 14 during a news conference from NASA's Johnson Space Center in Houston.

The decision to target July followed a two-day meeting on the external fuel tank's engine cutoff, or ECO sensors.

The sensors indicate whether the tank still has fuel during liftoff. During testing, one of the four ECO sensors had a slightly

different reading than is expected. Shuttle officials have decided they will remove and replace all four liquid hydrogen sensors.

"We've been saying for months that our engineering work would determine when we fly our next mission.

Targeting July is the right choice in order to make smart decisions," said Bill Gerstenmaier, NASA associate administrator for Space Operations.

Another issue factored into the decision to adjust the STS-121 planning window

was testing and analysis required on the shuttle's modified external tank. The testing will help verify the tank is safe to fly without the protuberance air load foam ramp. The PAL ramp was removed after a large piece of foam fell from that

area during Discovery's July 2005 launch. More analysis is needed to decide whether changes are needed on the tank's ice frost foam ramps.

Repair work on the shuttle's robotic arm also must be completed. Technicians on a work platform accidentally bumped the arm, causing a tiny crack. The arm will be removed for repair. NASA has formed a board at the agency's Kennedy Space Center, Fla., to investigate the March 4 incident.

The STS-121 mission will take Shuttle Commander Steve Lindsey and six crew members to the International Space Station. This is the second mission in the Return to Flight sequence to evaluate new heat shield inspection and repair techniques and to deliver supplies and equipment to the station.

For more information about the Space Shuttle Program, the STS-121 mission and its crew, visit: <http://www.nasa.gov/shuttle> .



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