

"We bring people to space — We bring space to people"

To be largest spacecraft ever built

NASA charts course to sail to the stars

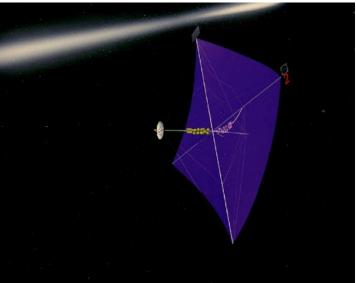
by Deana Nunley

NASA is setting sail for the stars — literally. The Marshall Center is developing space sails technology to power a mission beyond our solar system.

Marshall is leading NASA's transportation research for interstellar probes. Engineers at Marshall are conducting laboratory experiments to evaluate and characterize materials for space sails. Materials will be exposed to harsh conditions in a simulated space environment to test their performance and durability in extremely hot and cold temperatures. The emphasis of the current research effort is on the interstellar precursor missions designed to set the stage for missions to other star systems later this century.

"This will be humankind's first planned venture outside our solar system," said Les Johnson, manager of Interstellar Propul-

See Interstellar on page 3



Artist's concept



Photo by Emmett Given, NASA/Marshall Space Flight Center

Honoring von Braun

The University of Alabama in Huntsville on Saturday renamed its Research Institute "Wernher von Braun Research Hall" to honor Dr. von Braun, Marshall's first director. Participating in the ribbon cutting ceremony, from left, are Russ Brown, chairman of the Huntsville-Madison County Chamber of Commerce; Ron Greenwood, UAH vice president of research; U.S. Army Col. Herbert Carr; Marshall Center Director Art Stephenson; original rocket team member Ernst Stuhlinger; and Dr. Frank Franz, UAH president.

Inside the Star

- <u>Open House 2000</u> Music lineup, pages 4-5
- Open House volunteers,
 page 5
- NASA Administrator gives UAH commencement address, page 2
- Marshall inventor receives first royalty check, page 3
- Web casts used to teach NASA's role, page 6

"Prevent Accidents, Promote Safety" — Safety slogan submitted by Connie Wells, AD23

Safety skills can be acquired through proper training

Q: Why do I need Safety and Health Training?

A: When you think about it, there aren't many things we do for which we did not receive some form of training. From driving a car to programming your VCR, there was some type of training involved. Just as driving a car without the proper training would be dangerous, so can some jobs without the skills needed to recognize hazards in the workplace. The ability to work safely is a skill that can be acquired through heightened awareness and the proper training. Marshall training needs can be described in two categories: supervisor and employee training.

Supervisor training:

• Must understand hazards in their work areas.

- Potential effects on their employees.
- Ensure employees follow rules.

Employee training:

- Aware of hazards.
- Safe work procedures.
- Emergency situations.
- Personal Protective Equipment use.

Q: What about on-the-job-training and

certifications?

A: On-the-job training is an acceptable method of training, but it must be documented. Safety training can be accomplished through monthly safety meetings as long as documentation such as an attendance sheet and notes that highlight the training supports it. Some skills such as forklift or overhead crane operator require certification. A list of certification requirements is provided in the Certification MWI 3410.1, "Personnel Certification Program." Any type of training that requires certification should be conducted by persons who have the knowledge, training and experience in the skill to be taught coupled with the ability to evaluate the student's competence. The Safety Office tracks all certifications for training such as forklift and crane certifications.

Q: What is Marshall Safety & Health 2000 I've been hearing about?

A: Marshall Safety & Health 2000 is a mandatory eight-hour workshop for civil servants that uses a table group discussion format to teach and exchange ideas. Employees are shown the effects that injuries have on all of us. The course develops the skills needed to recognize and correct unsafe acts and conditions, how to approach co-workers who are working in an unsafe manner, and the resources available at Marshall to ensure a safe working environment.

Q: How do I find out more about Marshall safety and health training?

A: Safety-oriented classes such as forklift and overhead-crane certification, hydrogen safety, facility systems safety and first-aid/CPR are offered throughout the year at the Center. Ask your supervisor or contact the Employee and Organizational Development Department, to find out what safety training is available. Reference MWI 3410.1 "Personnel Certification Program" for training and certification requirements. You also can check AdminStar or the Safety Home page at: http://msfcsma3.msfc.nasa.gov/ for training opportunities.

Environmental Health Services provides training periodically in hazard communication, respiratory protection, hearing conservation, confined space entry, radiation safety, laser safety and bloodborne pathogens. For more information, call 544-2390.



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Dr. Dan Goldin speaks to UAH graduating class

NASA Administrator Dan Goldin gave the commencement address to the University of Alabama in Huntsville's graduating class Saturday. Goldin received an honorary doctorate in science from the university.



Invention pays off

Jeff Ding, center, a welding engineer in Marshall's Materials, Processes and Manufacturing Department, received the first royalty check for his patent on a friction stir welding technique he invented with Peter Oelgoetz of the Boeing Co. With him is Jim McGroary, left, Marshall's patent attorney, and Vernotto McMillan, right, deputy manager of the Technology Transfer Department. For information on patents, see the Web at: http://techtran.msfc.nasa.gov/working/ working1.html

Interstellar

Continued from page 1

sion Research at the Marshall Center. "This is a stretch goal that is among the most audacious things we've ever undertaken."

The interstellar probe will travel over 23 billion miles — 250 astronomical units — beyond the edge of the solar system. The distance from Earth to the Sun, 93 million miles, is one astronomical unit. For perspective, if the distance from Earth to the Sun equaled one foot, Earth would be a mere 6 inches from Mars, 38 feet from Pluto, 250 feet from the boundaries of the solar system, and a colossal 51 miles from the nearest star system, Alpha Centauri.

This first step beyond our solar system en route to the stars has an estimated trip time of 15 years.

Proposed for launch in a 2010 time frame, an interstellar probe — or precursor mission, as it's often called — will be powered by the fastest spacecraft ever flown. Zooming toward the stars at 58 miles per second, it will cover the distance from New York to Los Angeles in less than a minute. It's more than 10 times faster than the Space Shuttle's on-orbit speed of 5 miles per second.

Traveling five times faster than Voyager — a spacecraft launched in 1977 to explore our solar system's outer limits — an interstellar probe launched in 2010 would pass Voyager in 2018, going as far in eight years as Voyager will have journeyed in 41 years.

Johnson says transportation is quite possibly the toughest challenge with interstellar missions because they have to go so far, so fast. "The difficulty is that rockets need so much fuel that they can't push their own weight into interstellar space. The best option appears to be space sails, which require no fuel," he said.

Thin, reflective sails could be propelled through space by sunlight, microwave beams or laser beams — just as the wind pushes sailboats on Earth. Rays of light from the Sun would provide tremendous momentum to the gigantic structure. The sail will be the largest spacecraft ever built, spanning 440 yards twice the diameter of the Louisiana Superdome.

"Nothing this big has ever been deployed in space. We think we know how to do it, but we're in the beginning phases of turning a concept into a real design," Johnson said.

Researchers are optimistic about recent breakthroughs with strong, lightweight composite materials. A leading candidate for sails is a carbon fiber material whose density is less than onetenth ounce per square yard — the equivalent of flattening one raisin to the point that it covers a square yard. In space the material would unfurl like a fan when it's deployed from an expendable rocket.

Marshall is partnering with NASA's Jet Propulsion Laboratory in Pasadena, Calif. The Jet Propulsion Laboratory has overall responsibility for NASA's interstellar missions and the Marshall Center is responsible for developing transportation systems for the missions. Marshall's effort is part of its Advanced Space Transportation Program, NASA's core technology program for all space transportation. The Advanced Space Transportation Program is pushing technologies that will dramatically increase the safety and reliability and reduce the cost of space transportation.

The writer, employed by ASRI, supports the Media Relations Department.

Open House 2000

Popular music meets space program at Marshall Saturday

by Sherrie Super

It's a rare combination — pop, country, rock, jazz and gospel music and our nation's space program. But on Saturday, visitors can enjoy both music and space when the Marshall Center opens its doors to the public from 9 a.m.-6 p.m.

"Our Open House this year is much more than what people might traditionally expect," said Thom Holden, chairman of the event. "Of course, we're showing visitors what we contribute to the nation's space program. But we're also offering fun and entertainment for all ages."

The result is a daylong adventure where the sights and sounds of rocket firings and other space-related attractions will mingle with those of today's favorite hits. Admission is free and includes live performances by country, rock, pop, jazz and gospel artists including:

Teresa:

An up-and-coming country artist, Teresa has been named the National Association of Campus Activities Country Artist of the Year for five consecutive years. Her current album,



Tina Swindell

"The Playground," is co-produced by legendary queen of song Linda Ronstadt.

Tina Swindell and the Nite Owls:

Tina Swindell, a Marshall employee, and her husband Bill Swindell are singersongwriters who have written "A Time for Courage," "Thank God Dreams Survive" and "Beyond the Stars." Their music has been embellished with scenes from NASA's video library, to inspire and honor those who have dedicated their lives to the space program.

Valor:

Members of this contemporary Christian group have shared program appearances with performers including Michael Smith, Amy Grant, Cindy Morgan and John Elefante.

"Alabama Elvis":

Elvis impersonator Gary Sanders will perform "The King's" top hits.

Top Secret Trio:

Enjoy jazz by musicians whose members have appeared on "The Tonight Show with Jay Leno," "Essence Awards Show" and at President Clinton's Inauguration.

Cecilia Halsey:

A singer-songwriter, Halsey has appeared on the Grand Ole Opry with Diamond Rio and has opened for artists including Sawyer Brown, Mark Chesnutt and Aaron Tippin.

Land Band:

This group has performed with some of the best-known acts in the music industry, including Grand Ole Opry legend Grandpa Jones, Kenny Chesney, Marty Stuart and Shenandoah.

Ladd Lewis and Bert Gangl:

Lewis is a Huntsville-based singersongwriter with a unique folk sound. He has recorded two albums of original material, "Postcards and Regrets" and "Spanntown Road." Gangl, an accomplished musician, collaborated with Lewis on "Spanntown Road."

Tina Reed:

A soloist and high school student, Reed has traveled and performed extensively in the Alabama area, performing hits by today's top female vocalists.

Creek Band:

Enjoy pop, rock and country influenced by entertainers ranging from Merle Haggard to Metallica.



Nita Draper

United:

Enjoy the a cappella sounds of this Alabama-based group of singers that includes Marshall employee Nita Draper.

Ruby Lucille & Feature 86:

Members of this group have appeared on local radio and television programs.

Desperado Band:

This group will entertain at Open House with today's hits by top country, pop and rock artists.

Nuthin' Fancy Band:

Enjoy Southern and classic rock by this Alabama-based group performing songs by groups including Lynyrd Skynyrd and ZZ Top.

Sharon Hancock:

This vocalist, a Marshall employee who recently cut her first CD in Nashville, will perform a range of country music ranging from traditional songs to today's hits of Martina McBride.



This group of high school students will perform original material and songs by

Sharon Hancock

l songs by

top artists such as the Red Hot Chili Peppers.

CenterLine:

NASA engineers by day and musicians by night, CenterLine will perform classic rock music.

Flywheel:

A group of junior-high "rappers" will entertain with original material as well as top hits by other artists.

Musical entertainment is just one of the many experiences awaiting visitors at the Marshall Open House. The event also includes appearances by NASA astronauts, space exhibits, tours of Marshall facilities, live propulsion test firings and an up-close look at real space flight hardware.

Food and official NASA souvenirs will be available for purchase.

On Saturday, visitors may enter Redstone Arsenal for the Marshall Open House through Gate 9 at the Rideout Road exit of Interstate 565; Gate 8, at Drake Avenue and Patton Road, or Gate 7 at Zierdt Road near the Huntsville International Airport.

For more information and directions, call toll-free (888) 901-NASA (6272). More information is also available on the Web at: http://openhouse.msfc.nasa.gov

The writer, employed by ASRI, supports the Media Relations Department.

Marshall volunteers respond to call for help

by Debra Valine

Marshall employees and contractors often are generous with their time — volunteering to help with a wide variety of events.

For Open House 2000, however, volunteers are coming out in droves.

"It's been overwhelming," said Andrea Thompson, volunteer coordinator for Open House. "I anticipated 1,000 people coming forward to help. We have more than 1,500 volunteers. I think everybody is realizing how much fun Open House is. You get to see all of Marshall's missions and accomplishments in one day."

Thompson, who works in Marshall's Information Services Department, also is coordinating the graphics element for Open House. She designed the logo, brochure cover and submitted the winning slogan, "Opening the Doors to the Future," for this year's Open House.

"It's been a challenge to coordinate where they will work," Thompson said. Volunteers will serve primarily as hosts and hostesses, gate greeters, bus tour guides and staff the information booths. The bus tour guides and information booths are new this year.

"The information booths are one-stop safety and security centers," Thompson said.

Everything about Open House this year is bigger than open house has been in the past — more exhibits, displays, food service and entertainment. "In general, this Open House is bigger than any we have ever had," Thompson said. "So the need for volunteers is bigger."

Until supplies run out, each volunteer will receive a gold Open House T-shirt to be worn for safety and security. It is considered a small thank-you from NASA for their hard work. Volunteers will wear the T-shirts on Saturday so they are readily recognizable.

"Marshall employees and contractors are one big Open House team working together to make the event a success," Thompson said. "It takes every single person wearing that gold shirt — and those employees who were unable to participate on the day of the event — to make Open House happen. Many of the volunteers are supporting multiple teams, such as distribution of flyers and other information; creating, building and posting signs, etc. Obviously the team building training we have been taking is working.

"The entire Marshall team has provided phenomenal support to Open House 2000, and are truly contributing to 'Opening Doors to the Future' here at the Marshall Center," Thompson said.

The writer, employed by ASRI, is the Marshall Star editor.

Aerospace education specialists use Internet to teach NASA's role

Marshall's Education Programs Department is offering several Web casts and tours of "Aviation Challenge" at the U.S. Space & Rocket Center as part of the "Turning Goals into Reality" conference Thursday and Friday.

Aviation Challenge, based on actual military fighter pilot training, is a hands-on opportunity to discover how jet pilots prepare for flight.

Three aerospace education specialists — Steve Culivan, Dr. Will Robertson and John Lowerison — will conduct the Web casts. They are members of a team of specialists who acquaint the educational community with the role of NASA in the explora-



John Lowerison will present "Simplified Aerodynamics" at 10:40 a.m. Friday.

tion and development of air and space. The Web casts will be available online at: http://tgir.msfc.nasa.gov/education.html

Aviation Challenge tours will be from 1:30-3 p.m. both Thursday and Friday. The tour includes flight simulation, land and water survival techniques, flight planning and the history of aviation. Each tour accommodates 16 people.

The Aviation Challenge Tour will be Web cast at 11 a.m. Friday for viewing of highlights.

"Highway To Space," a Web cast workshop for educators (grades K-4), will be conducted at 10 a.m. Friday. This workshop answers the often-asked question, "How does a rocket fly?" Robertson will discuss the principles of rocketry on the elementary level. Teachers will develop a better understanding of rocketry using inquiry-based/hands-on science.

For more information on the workshops, refer to the "3-2-1 Pop!" Activity in the NASA "Rockets" Educator's Guide at the following address: http://spacelink.nasa.gov/ Instructional.Materials/NASA.Educational.Products/Rockets



File photos

Dr. Will Robertson teaches "Highway to Space" at 10 a.m. Friday.

At 10:20 a.m. Friday, Culivan will present on the Web, "Pushing the Envelope" workshop for educators (grades 5-8). The workshop promotes a better understanding of the principles of rocketry with emphasis on the X-33 Reusable Launch Vehicle. A brief study of Newton's Laws of Motion also is incorporated into the inquiry-based workshop. Participants will learn how to build and launch simple rockets as part of the hands-on activities in this workshop.

Lowerison will present "Simplified Aerodynamics" a workshop for educators (grades 9-12), to be Web cast at 10:40 a.m. Friday. Participants will do activities related to aerodynamics using everyday objects and easy-to-make devices. Participants are introduced to laws of aerodynamics at an intuitive level using basic Newtonian mechanics.

For more information about the Web casts, call Pamala Heard in Marshall's Education Programs Department at 544-0776.



Learn about X-33 Reusable Launch Vehicles during the Web cast taught by Steve Culivan at 10:20 a.m. Friday.

NASA Chair position at Naval Postgraduate School announced

Qualified applicants are being sought for a one- to two-year assignment in Monterey, Calif., as the Michael J. Smith Professor of Space Systems.

This chair professorship was created in 1995 to honor the memory of astronaut Michael J. Smith, pilot of the Space Shuttle Challenger, and a Naval Postgraduate School alumnus.

The chair is jointly sponsored by the school and NASA to provide a dedicated space systems faculty member to enhance educational opportunities for Space Systems students in the area of civilian and commercial space activities. The person selected will teach NASA-related courses and will facilitate and help structure research in connection with master's and/or doctoral theses at a NASA Center. The person also will advise students working on NASA-sponsored projects.

To be considered, submit curriculum vitae with a cover memo endorsing your consideration from your Human Resources Office directly to the school before July 1.

For more information, call Dr. Rudy Panholzer at (831) 656-2154.

Federal employees urged to voluntarily pay taxes

The system of taxation in the United States relies on volun tary compliance. Tax delinquency among federal employees can damage the credibility of the tax administration system. If the public perceives that federal employees do not maintain the highest level of tax compliance, public confidence in government will suffer.

The rate of compliance among federal employees and retirees continues to be better than that of the general public. However, recent data still show a significant number of potentially noncompliant federal employees and retirees who cumulatively owe almost \$2.5 billion.

In October 1999, 3.63 percent of NASA employees had some type of federal income tax delinquency in the form of a balance owed and/or an un-filed tax return. This data represent a snapshot of the noncompliance rate. When measured over 12 months, it would be higher. In all instances, the Internal Revenue Service (IRS) has attempted to contact these individuals. Although many of them are attempting to resolve their tax problems, some are not.

The Standards of Ethical Conduct require employees to satisfy their debts, including their tax obligations. The IRS is ready to assist employees in meeting their tax obligations. Employees can call the IRS toll-free at 1-800-829-1040 for assistance with filing returns or resolving any balance owed.

In addition, the IRS periodically holds "Problem Solving Days" at the local IRS office where taxpayers can get help by appointment, walk-in service or over the telephone. Dates, times and locations are available through the toll-free number or on the IRS Web site at: www.irs.gov

Upcoming Events

Fireside Chat — The Marshall Retirees Association will host the last in a series of talks recalling Huntsville's role in defense and space at 7 p.m. Thursday at the University of Alabama in Huntsville's Student Union Building. The event is free and open to the public. May's presentation is entitled, "Space Shuttle & Beyond — 1970-2000 and the Future." Ed Buckbee, president of the Retirees Association, and Jay Foster, also of the association, will moderate the panel. Panelists are George Hardy, former Shuttle Solid Rocket manager; Owen Garriott, former Skylab and Spacelab astronaut; Fred Wojtalik, former Skylab manager; and Sid Saucier, Marshall Center associate director.

'Turning Goals into Reality' Exhibits — The Marshall team is invited to view exhibits featured during the "Turning Goals into Reality" Conference from 2-5 p.m. Thursday in the Bldg. 4752 area. Exhibits are from NASA Centers and industry partners. The Marshall Center is hosting the conference Thursday and Friday where hundreds of aerospace and transportation officials, engineers and scientists, will gather to celebrate their accomplishments.

Author Ben Bova Book Signing — Dr. Ben Bova will sign copies of his new book, "Venus," from 2-4 p.m. Thursday in Bldg. 4752, as part of the "Turning Goals into Reality" Conference. The book is on sale at Bldg. 4752 for \$24.95. Bova is in Huntsville to address conference attendees at an awards banquet.

Asian/Pacific American Heritage — The Marshall Center and Team Redstone will sponsor an Asian/Pacific American Heritage Month program and festival from 2:30-5 p.m. May 24 in the Post Theater, Bldg. 3712, on Redstone Arsenal. Dr. Y.C.L. Susan Wu, the chief executive officer of ERC Inc. will speak. Following the program, there will be a food tasting fair in Bldg. 3711.

TABES 2000/Economic Summit — The 16th annual Technical & Business Exhibition & Symposium (TABES) and the Tennessee Valley 2000 Regional Economic Summit will be May 30-June 1 at the Von Braun Center in Huntsville. These events are expected to have an impact on understanding of business opportunities, economic potential and federal assets in North Alabama and the Tennessee Valley.

Obituary

Balch, Harry A., 74, of Valhermoso Spring, Ala., died April 3. He retired from Marshall in 1982 where he worked as a supply clerk. *Daniel, Gene E., 74,* of Mobile, died April 20. He retired from Marshall in 1981 where he worked as a special projects analyst. He is survived by his wife, Johanna Daniel, and two daughters, Debra Stratton Daniel and Susan Daniel. *Irvine, James F., 89,* of Huntsville, died April 28. He retired from Marshall in 1971 where he worked as an engineering technician. He is survived by his wife, Edith D. Irvine.

Employee Ads

Miscellaneous

- ★ Hogan H-40 oversize irons, 3 through SW with graphite shafts, \$175. 883-5114
- ★ Roll-top desk, \$100. 828-3633
- ★ Exercise cycle, 26", \$50. 539-7122
- ★ 1986 Sea Ray Sundancer 270, twin I/O, 28', 10' beam, genset, a/c, head, galley, \$23,800. 880-6146
- ★ Maple toddler bed, mattress, safety rail, \$75; boy's 12" bike, \$25; lawn mower, \$35. 464-6933
- ★ Fender ultimate chorus guitar amplifier, \$385. 971-0571
- ★ Sofa and matching loveseat, teal green and peach print, \$400. 883-5168
- ★ Entertainment center, \$50; Symphonic 4hd HIFI/ VCR, new in box, \$75; AM/FM stereo, \$25. 533-5942
- ★ Laptop computer, P233MMX, 20x CD, FDD, 3.0 GB HDD, 12.1 TFT, 2-USB, AV in/out, 56k modem, network card, \$950. 852-9240
- ★ Beanie babies, bears and others. 464-0621 after 5 p.m.
- ★ Emerson color TV, 19" w/ remote, \$25. 650-0789
- ★ Electric range, older model, 40", white, \$25. 534-4968
- ★ 1996 Gulfstream Innsbruck 21" travel trailer, microwave, large refrigerator, \$8,400. 881-5093
- ★ Colonel bed liner, 1998 and later F150, \$50; 1968 Camaro RS project car, \$500. 461-3803
- ★ Utility trailer w/tilt, 4'x8', pro-built, all steel, lights, ramp/gate, 13" tires, \$300. 753-2278
- ★ \$50 cash reward offered for return of lost bracelet, plain yellow gold, in or around Bldg. 4201 or 4610. 881-2211
- ★ Kelvinator refrigerator, 18 cu. ft., almond, freezer on top, \$90 negotiable. 858-0700

Vehicles

- ★ 1997 Sedan Deville Cadillac, green w/light leather interior, 34K miles, \$24,000. 539-3119
- ★ 1986 300ZX, \$2,400. 852-8763
- ★ 1990 Nissan 240SX hatchback, 120K miles, power windows/locks, sun roof, good tires, \$3,500. 728-5790
- ★ 1991 Mazda Miata (convertible), new paint, new top w/glass window, \$5,400 obo. 895-2959
- ★ 1988 Buick P.A., V-6, 4-door, a/c, new paint, all power, alpine am/fm cassette, 140K, \$2,800 obo. 880-7244

MARSHALL STAR

Vol. 40/No. 36

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 Monday noon to the Marshall Internal Relations and Communications Department (CD40), 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.

> Acting Manager of Internal Relations and Communications — Tereasa Washington Editor — Debra Valine

U.S. Government Printing Office 1999-533-127-80111

- ★ 1999 Explorer Sport, white, 2-door, 2WD, automatic, extended warranty, CD, chrome wheels, \$16,500 firm. 828-9861
- ★ 1996 Mazda 626 LX, V-6, 62K miles, 25 mpg, white, 5-speed, \$9,750. 574-5098
- ★ 1988 Ford Taurus LX, \$1,500; 1976 Mercedes 240D, low miles, all original, \$2,500. 721-2239

Wanted

- ★ Vegetable juicer in good running condition. 881-0883
- ★ DirecTV Satellite system in working condition. 776-5031
- ★ Old wrist and pocket watches, pilots, chronographs, divers, military, etc., running or not. 883-6969
- ★ Roommate for 2-bedroom apartment in Madison. 971-0048

Free

★ Dog, male, small, short-hair mix, 1-year old, house trained, loves children. 423-3376 after 6 p.m.

Center Announcements

- No Taxi Service Due to the numerous special transportation requirements necessary to support the "Turning Goals into Reality" conference and Open House 2000 events, there will be no Marshall taxi service available on Thursday and Friday.
- Six Flags Over Georgia Discount Tickets A limited supply of Six Flags over Georgia discount tickets is available at the NASA Exchange for only \$19.50. That's \$19.35 off the regular gate admission price of \$38.85. The discount tickets must be purchased by May 31, but are valid throughout the 2000 Season. For more information, call Candy Bailey at the NASA Exchange Space Shop at 544-2185.
- Shuttle Buddies The Shuttle Buddies will meet for breakfast at 9 a.m. May 22 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757 or Gail Wynn at 852-8189.
- MESA Meets The Marshall Engineers and Scientists Association (MESA) will meet at 11:30 a.m. in Bldg. 4471, room C-105, May 18. Refreshments will be served.
- NARFE Meets The National Association of Retired Federal Employees-Decatur/Morgan County Chapter 736 will meet at 11 a.m. May 24 at Piccadilly's in Decatur. All retired federal

employees are welcome to attend. For more information, call Marty Eddy at 773-4826.

- Computers for Schools OAO Corp. and its partners, Compaq and Apple Computer, will donate an Apple iMac and a Compaq Presario for a drawing to benefit not-for-profit schools. To be eligible, participants at the Open House Saturday may register a non-profit school of their choice at OAO's exhibit from 9 a.m.-2:45 p.m. in Bldg. 4752. The winner will be chosen at 3 p.m. Registrant must be present for their chosen school to win.
- Marshall Activities Bldg. Closed Due to the "Turning Goals into Reality" Conference and Open House, the NASA Exchange, Fitness Center, gymnasium and racquetball courts in Bldg. 4752 will be closed until Tuesday.
- May Blood Drive The American Red Cross will conduct the May Blood Drive May 26, (Memorial Day Weekend), at the NASA Exchange, Bldg. 4752, in the multi-purpose room. Employees who cannot attend at the following times, but wish to donate blood, may go to the Madison County Chapter at 1101 Washington St. in Huntsville. The schedule is: A-B, 8 a.m.; C-F, 8:30 a.m.; G-H, 9 a.m.; I-L, 9:30 a.m.; M-O, 10 a.m.; P-S, 10:30 a.m.; T-Z, 11 a.m. If unable to make assigned appointment time, the Red Cross will be available until 1:30 p.m.
- ACA Alumni Reunion NASA's Dryden Flight Research Center is hosting the National Advisory Committee for Aeronautics (NACA) Alumni Reunion IX Sept. 14-17 at Dryden. The reunion committee is looking for names, addresses or telephone numbers for anyone who was employed by NACA at Edwards between Sept. 15, 1946 and Oct. 1, 1958. The information can be mailed to NACA Reunion IX, P.O. Box 1589, Lancaster, Calif. 93539-1589, or call (661) 258-7458 from 9 a.m. to 3 p.m. PDT Tuesday through Thursday, (661) 265-8049 or (805) 995-3430.

Sports

- NASA Ski Week The 10th annual NASA Ski Week will be hosted at Snowmass Jan. 20-27, 2001. Interested persons are encouraged to call 1-233-0705, or request additional information by e-mail at: Thomas.S.Dollman@msfc.nasa.gov
- MARS Golf A two-person best score tournament will be 8 a.m. June 3 at Chesley Oaks. Deadline to register is May 26. For more information or to enter a tournament, call Lee Foster at 544-1589, Joey Butler at 544-3808 or Robert Rutherford at 544-8117.

BULK RATE Postage & Fees PAID NASA Permit No. G-27