MARSHALL STAR

Marshall Space Flight Center — April 27, 2000

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

Atlantis lift off Wednesday postponed due to weather

Shuttle Atlantis was scheduled to lift off Wednesday on a 10-day mission to prepare the International Space Station for the July arrival of the Russian Zvezda Service Module. The launch was postponed due to inclement weather at the emergency landing sites.

The next opportunity for launch will be in May.

Wednesday's launch was the third attempt. Strong winds twice postponed the launch, originally set for Monday. There was a 10-percent chance that weather would prohibit the launch Wednesday.

Launch controllers began loading Space Shuttle Atlantis' external tank at about 6:05 a.m. EDT in preparation for the 3:27 p.m. launch time.

The seven-member crew had a five-minute launch window. Crew members for the STS-101 mission are: Commander James Halsell; Pilot Scott Horowitz; flight engineer Jeffrey Williams; Mary Ellen Weber; Susan Helms; James Voss; and Russian cosmonaut Yuri Usachev.

Photo by Terry Leibold, NASA/Marshall Space Flight Center

Helping Mother Earth

Marshall Center Director Art Stephenson helps children plant flowers outside the Marshall Child Development Center last Thursday as part of Marshall's Earth Day observances. See related item on page 3.

Three Marshall experiments on Atlantis STS-101 mission

Three Marshall experiments will be conducted during the 10-day Space Shuttle Atlantis mission. Atlantis launched Wednesday on a mission to prepare the International Space Station for the arrival of the Russian Zvezda Service Module, set to launch in July.

Biotechnology Experiments

The protein crystal growth biotechnology ambient generic payloads are designed to provide opportunities to grow high-quality protein crystals in microgravity.

Marshall's Todd Holloway is the project scientist for these experiments. Principal investigator is Dr. Daniel Carter of New Century Pharmaceuticals Inc. of Huntsville.

Researchers use these crystals to understand the molecular structure of the proteins. This information can be used to develop drugs that someday may battle the effects of aging, and treat cancer, rheumatoid arthritis, periodontal disease, influenza, septic shock, emphysema and AIDS.

While many protein crystal growth microgravity experiments are conducted with stringent temperature controls and extensive participation by Shuttle crewmembers, the biotechnology ambient generic experiments require minimal crew support.

The payloads are flown as stowage items in Atlantis' middeck, where they are subject to normal temperature conditions aboard the Shuttle.

Shortly after liftoff, 504 individual experiments, stored in eight cylindrical containers, will be activated. Each experiment consists of two reservoirs separated by a flexible seal. When the seal is opened, the fluid in the protein drop will evaporate, starting the crystallization process. During the mission, this evaporation process will result in the growth of crystals that investigators can later study to determine the molecular structure of protein compounds.

Protein Crystal Growth

Through protein crystallography, protein crystals are grown in the laboratory and examined to determine their three-dimensional structure. That information is used to develop new drugs targeting the protein's structure. But crystals grown in Earth's gravity frequently have defects that make such analysis difficult or impossible. Space-grown crystals often have fewer defects and are larger than their Earth-grown counterparts, making them easier to examine.

The protein crystal growth experiments on board STS-101 will grow crystals of human alpha interferon 2b — a protein pharmaceutically used against several afflictions, including human viral hepatitis B and C, melanoma, hairy cell leukemia, multiple myeloma and AIDS-related

*See **Experiments** on page 6*

"Safety should be first on your mind"
— Safety slogan submitted by ***Mark King, ED15***

Yea Team!

Tech Development Team works to meet customer needs

The following article on teamwork, one of the Marshall Center's five core values, is part of an effort to show how Marshall organizations and people are coming together to work as a team. Bill Kilpatrick discusses how technology development teamwork is happening within the Engineering Directorate, and how it will impact the Marshall Center.

by Bill Kilpatrick

The newly formed Technology Development Team within Marshall's Engineering Directorate is all about teamwork.

This informal team includes technicians, management support assistants, program analysts, engineers, scientists, managers, technology coordinators and others who are involved in technology development.

These individuals work together to support the efficient development of advanced technologies to meet the needs of each of the product line directorates and the Space Shuttle Projects Office.

To accomplish this, many individuals must focus on engineering research and developing advanced technologies while maintaining the directorate's long-standing excellence in engineering research and development of space-flight hardware.

The epitome of teamwork within the Technology Development Team is the Technology Coordination Team, made up of representatives from the Technology Development Office and each department within the directorate. It focuses the technology development effort within the Engineering Directorate.

After the recent reorganization, Center Director Art Stephenson challenged the Center to focus on technology development. It was recognized early on that traditional organizational barriers had to be broken down so people could work together as a true team.

The Technology Coordination Team reached out to the individuals within the directorate, and focused an effort on technology development that is responsive to its customers' needs. This led to individual technology development efforts for customers, Center Director's Discretionary Fund activities focused on advanced technology development, and the development of an Independent Research and Development program that seeks formal funding.

None of the accomplishments would have been possible without this cohesive team putting aside their individual organizational desires to determine how the Engineering Directorate can best meet the Center's needs.

This team plans to team more closely with its customers, the product line directorates and the Space Shuttle Projects Office to stay abreast of their latest technology needs. The team also plans to partner with universities and other government agencies to explore the latest breakthrough technology areas such as nano-technology and micro-electromechanical systems.

The writer is deputy director of the Engineering Directorate, and a Teamwork Values team member. Other Teamwork members include Tereasa Washington, director of the Customer and Employee Relations Directorate, and Jan Davis, Flight Projects Directorate deputy director.

Photo by Danny Reeves, NASA/Marshall Space Flight Center

U.S. Rep Lee visits Marshall

U.S. Rep. Sheila Jackson Lee of Houston visited Marshall last Friday. She is a member of the House Subcommittee on Space and Aeronautics. Lee, left, visits with Carlos Smiley of Marshall's Science and Center Operations Support Department of the Procurement Office.

London named manager of Pathfinder Program Office

John R. London has been named manager of Marshall's Pathfinder Program Office in the Space Transportation Directorate.

Prior to this assignment, London served as technical assistant to the manager of the Advanced Space Transportation Program; and manager of the X-34 Program Office.

London came to Marshall in 1997 immediately after his retirement from the U.S. Air Force, where he achieved the rank of lieutenant colonel.

During his distinguished Air Force career, he held a variety of positions primarily involved in the development and acquisition of military space and missile systems. At the time of his retirement, he was assigned to the Pentagon as program manager for the Space Based Laser Program.

Prior to that, he served as missile defense architect and congressional liaison officer for the Ballistic Missile Defense Organization at the Pentagon. He also completed assignments at Cape Canaveral Air Force Station at Kennedy Space Center, where he was detailed to NASA; at the Air Force Communications Support Facility at White Sands Missile Range in New Mexico; and the Air Force Space Systems Division in Los Angeles.

London is the author of several publications and papers including "LEO on the Cheap," which he wrote while a Research Fellow at Maxwell Air Force Base in Montgomery, Ala. He holds a bachelor's degree in engineering technology from Clemson University in Clemson, S.C., and a master's degree in engineering management from the Florida Institute of Technology in Melbourne, Fla.

Chandra shows new way to measure cosmic distances

Using the Marshall-managed Chandra X-ray Observatory, a team of scientists has attacked one of astronomy's oldest and thorniest problems, determining the distance to a cosmic object.

Through measuring the distance to an X-ray source by observing the delay and smearing out of X-ray signals traversing 30,000 light years of interstellar gas and dust, Chandra has "opened a new world," said Peter Predehl of the Max-Planck Institute in Garching, Germany, and lead author on a report to be published in the European journal, Astronomy and Astrophysics.

"Geometrical distance measurements are of particular importance for astronomy. Now we have a new method that works for distant sources," Predehl said.

One of the most crucial pieces of information needed in astronomy is the distance to the stars and galaxies. They also are among the most difficult to obtain because, with rare exceptions, astronomers cannot measure distance directly and must use a variety of ingenious but uncertain techniques.

This new method relies on the scattering of X-rays by interstellar dust grains between a source and the Earth. Although the scattering material is different, the dust produces a halo, much like the halo around a traffic light on a foggy night.

Other members of the team included Vadim Burwitz and Joachim Trumper, also of the Max-Planck Institute, and Frits Paerels of Columbia University, New York. Trumper and a colleague proposed using this method 27 years ago, but it could not be applied until an X-ray observatory with Chandra's unique capability was available.

For images connected to this release, and to follow Chandra's progress, visit the Chandra sites at:
http://chandra.harvard.edu
and
http://chandra.nasa.gov

Earth Day 2000

Photos by Terry Leibold, NASA/Marshall Space Flight Center

Above: Helping to plant a tree outside the Microgravity Development Laboratory to celebrate Earth Day 2000 April 20 are from left, Sheila Cloud, director of Marshall's Center Operations Directorate; Charles Weber, Huntsville superintendent of Urban Forestry and Horticulture; Center Director Art Stephenson; and Sid Saucier, Marshall's associate director.

At left, ceremony attendees received saplings as part of the Earth Day activities.

Avionics Department Open House

Marshall's Avionics Department hosted an open house April 20 to showcase new technologies being developed.

Judy Milburn, left, of the Safety, Reliability and Quality Assurance Department, discusses safety with Jim Kennedy, director of Marshall's Engineering Directorate.

Terry Roberts, a senior electronics engineer in the Avionics Department, shows visitors the importance of electrical packaging.

Photos by Doug Stoffer, NASA/Marshall Space Flight Center

Jeri Briscoe, right, an electronics engineer for the imaging team, demonstrates video test and measuring to visitors.

Marshall employees have several ways to report hazards

Q: Why should hazards, close calls or safety concerns be reported?

A: Hazards, close calls or safety concerns should be reported so unsafe conditions can be fixed and unsafe acts can be corrected before they become an accident resulting in injury, illness or damage. Reporting the condition is a chance for you to become involved in your own safety and the safety of others.

Q: How do I report a possible hazard, close call or safety concern?

A: There are several different ways to report hazards, safety concerns or close calls at Marshall.

• Report concerns to your building managers or supervisors first. Most concerns can be corrected at this level. Routine facility maintenance issues, such as replacing a bulb in an exit light, may be reported directly to the Facilities Help Desk by calling 544-HELP and selecting option 4, "Facilities Work Request." To assure appropriate priority, please tell the operator if it is a safety-related issue when calling.

• Use the Marshall Safety Concerns Reporting System. This reporting system provides a means for Marshall civil service or contractor employees to identify potentially dangerous situations before they become mishaps. Employees may submit a report anonymously if desired. Means of entering safety-related concerns and suggestions into the system include:

— Call 544-HELP and select option 0, "NASA Information Support Services Specialist." The specialist will help you fill out the report.

— Use the electronic version of the reporting system form located on the "Inside Marshall" Web site under the Safety/Health/Environmental tab at: http://msfcmail.msfc.nasa.gov/dbwebs/apps/scrs

— Call the Safety Hot Line at 544-0046. The Industrial Safety representative will fill out the report for you.

— Fill out the reporting form found on most bulletin boards.

• Employees also can follow-up on the corrective actions and status by checking the Web site.

• Use the NASA Safety Reporting System — a confidential, voluntary and responsive reporting channel that provides timely notification to NASA Safety officials. The NASA system supplements standard safety reporting channels. All NASA and contractor employees are encouraged to initially use the reporting mechanisms available at their work sites. It can be found at: http://www.hq.nasa.gov/office/codeq/nsrsindx.htm

Note: The Mishap Reporting System should be used for actual mishaps or close calls with mishap potential. It was discussed in a previous article that is found on the Voluntary Protection Program Frequently Asked Questions Web site at: http://vpp.msfc.nasa.gov:2000/program/vpp_faq.htm

Q: How do I find out more about reporting hazards, close calls or safety concerns?

A: Reference the following work instructions for more details about reporting: MWI 8715.13, Safety Concerns Reporting System (SCRS); MWI 8621.1, Close Call and Mishap Reporting and Investigation Program; and MWI 1700.3, NASA Safety Reporting System (NSRS) Corrective Action Process.

Lightning studies may provide earlier tornado alerts

by Rick Smith

It's been a year almost to the day, but NASA researcher Dr. Steve Goodman still hasn't forgotten May 3, 1999.

On that date, more than 50 tornadoes cut a killer swath across the Great Plains of Kansas and Oklahoma. Property damage was estimated at $1.2 billion. More than 40 people died.

In hope of avoiding another May 3, 1999, Goodman and other scientists at Marshall's Global Hydrology and Climate Center are studying new methods of predicting severe storms.

And they believe another dangerous element of severe weather may be the key.

Using a combination of ground- and space-based weather monitoring equipment, Goodman and colleagues at the National Oceanic and Atmospheric Administration in Washington, D.C., and at MIT Lincoln Laboratories in Lexington, Mass., have documented nearly a dozen cases in which lightning rates increased dramatically as tornadic storms developed.

"Our studies show a very big spike in the lightning's flash rate prior to formation of a tornado," Goodman says. "It's an early clue for weather forecasters to take a more detailed look at other storm characteristics with radar. And perhaps a chance for them to get warnings out earlier, saving more lives."

Goodman's team will present its research to scientists, meteorologists and emergency management officials from around the country at the "National Symposium on the Great Plains Tornado Outbreak of 3 May 1999," which opens Sunday at the Westin Hotel and Resort in Oklahoma City.

Spotting the telltale lightning flashes isn't as easy as keeping an eye on the sky from your front porch. According to Goodman, the type of lightning NASA is researching occurs within clouds, invisible to the naked eye by day.

To properly monitor this type of lightning takes special equipment like NASA's Lightning Imaging Sensor, an instrument flying aboard the Tropical Rainfall Measuring Mission (TRMM) satellite launched in 1997. The sensor tracks worldwide lightning strikes and their relationship to storm centers.

Theories linking in-cloud lightning and tornadic storms have been debated for many years, according to Goodman. For decades, meteorologists and scientists pondered the connection. "But they lacked the ability to properly document and map in-cloud lightning," he says. "With the technological advances we've made in recent years, we can see what they couldn't."

Goodman is realistic about the work that remains ahead. "We don't have enough data yet to say how often the high flash rate precedes tornado formation," Goodman says. "But looking at this lightning signature can help pinpoint storms that are likely candidates, and that can make a big difference."

That difference would provide earlier warnings to increase citizens' chance of reaching shelter, and would likely reduce the number of false alarms that go out every year.

"Lead time for tornado warnings is better than it's ever been," Goodman says. "It's gone from eight to 12 minutes nationally. But the false-alarm rate hasn't changed. Only 30 percent of rotating storms ever make a tornado. That leads to a lot of false alarms lulling the public into ignoring the threat."

"It's a question of accuracy," he adds. "The more accurate we are, the more people take the proper response. That's what this research is all about."

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

Community Leaders Breakfast

Joe Rothenberg, left, NASA's associate administrator for space flight, and Marshall Center Deputy Director Carolyn Griner listen to speakers at the community leaders break-

Photos by Doug Stoffer, NASA/Marshall Space Flight Center

Marshall employees and Northern Alabama community leaders attended a community leaders breakfast sponsored by Marshall April 20.

Retirees Association

Marshall senior managers met April 19 with more than 80 retirees at the annual state of the Center briefing. Attending, from left, are Ed Buckbee, president of the Retirees Association; Norm Schlemmer; Center Director Art Stephenson; Gertrude Conard; Jack Waite; and Jay Foster.

Photo by Emmett Given, NASA/Marshall Space Flight Center

Sports

MARS Softball Club — The MARS Softball Club is looking for players. There are three divisions of skill:

• Division1 is for competitive teams. Players are young and fast. Call Jim Lomas at 544-8305.

• Division 2 is for recreational level Teams. Teams have the competitive spirit, just not as strong and fast as Division 1. Call Bill Telesco at 961-1461.

• Division 3 is for Coed teams. Call Leigh Young at 544-1744.

The teams average playing once per week and games are scheduled at 5 or 6 p.m. No games are scheduled on Fridays. If interested, call the division commissioner for the league you want to join.

MARS Fishing Club — A bream tournament will be held on Guntersville Lake on May 6. For information, call Ross Evans 961-2305, Don McQueen 544-9073 or Charlie Nola 544-6367.

MARS Golf — A two-person best score golf tournament will be held at 9 a.m. May 6 at Guntersville State Park. Deadline for registration is Friday. The next event, a two-person best score tournament will be 8 a.m. June 3 at Chesley Oaks. Deadline to register is May 26. The Mars Golf Club is open to all NASA employees, onsite contractor personnel and NASA retirees. Events will be conducted in a variety of tournament formats. Some tournaments may have limited entries. 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. Entry fees are $5.

Experiments

Continued from page 1

Kaposi's sarcoma.

These alpha interferon samples will be crystallized under a range of conditions in sufficient size and quantity to assess the concentration and distribution of impurities. The Schering Plough Research Institute of Kenilworth, N.J., supplies the protein. The experiments will be performed in the protein crystallization facility that stimulates crystal growth through changes in temperature.

Steve Lide of Marshall's Space Product Development Office is the project scientist. Dr. Larry DeLucas, director of the Center for Biophysical Science and Engineering at the University of Alabama at Birmingham is the principal investigator.

Gene Transfer Experiment

The gene transfer experiment to be conducted on the STS-101 mission is a cooperative venture between Producers' Natural Processing Corp. and the Wisconsin Center for Space Automation and Robotics. The Marshall-managed Space Product Development Program sponsors the ASTROCULTURE™ flight experiment series.

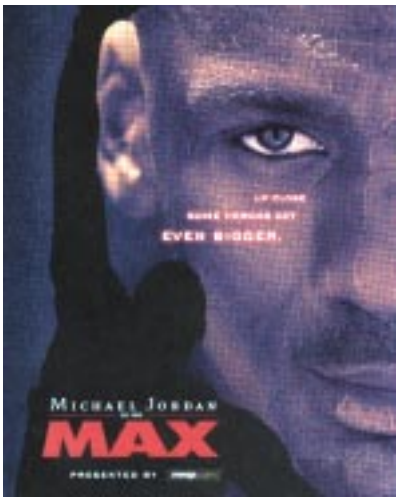
For the STS-101 mission, a sample size of 1,000 soybean seeds will be co-incubated on orbit, with Agrobacterium tumefaciens containing the proprietary commercial gene and rs-GFP reporter gene that will be used for in vivo detection of transformation events that had occurred during the time the seeds were in microgravity.

The results will be analyzed to determine the percentage of transient and stable transformation events, which will be compared with the results obtained during the STS-95. During the STS-101 mission, the crew will perform the transformation procedures.

'Michael Jordan to the MAX' opens May 5 at Spacedome Theater

A larger than life personality is about to get even larger. Imagine Michael Jordan at 7-stories tall and you will get an idea of "Michael Jordan to the MAX," a new IMAX film that opens May 5 at the U.S. Space & Rocket Center's Spacedome Theater.

The 45-minute giant-screen feature will celebrate the personal attributes that have made Michael Jordan a basketball champion, and also a hero who transcends borders, cultures, ages and gender.



Following Jordan's final championship run with the Chicago Bulls, the film uses the incredible visual and sound capabilities of the IMAX motion-picture format. Cameras take viewers on the court with Jordan as he demonstrates his ability to defy gravity, and capture a rare introspective view into Jordan off the court.

The film traces a career that combined athletic ability, discipline, determination, teamwork and a true love for basketball to make Jordan perhaps the most spectacular athlete of the 20th century, and one of the world's most recognizable people.

"'Michael Jordan to the Max' celebrates some of the most triumphant moments of my career and has given me the opportunity to share myself as an athlete and a person," said Jordan. "I hope that my story, captured in the powerful IMAX medium, will inspire people of all ages for years to come."

Beginning May 5, "Michael Jordan to the MAX" will be featured daily at the Spacedome with additional showings on Friday and Saturday nights at 7 and 8 p.m. Tickets will be available only in the Space Center's main lobby. Call 721-7114 for specific features and show times.

Obituaries

Lyle, James E., 35, of Taft, Tenn., died April 20. He worked at Marshall as a hardware maintenance technician for Computer Sciences Corp. Lyle was a former resident of Huntsville and had lived in Taft for three years. He was a member of the Navy Reserve and a veteran of the Army. He is survived by his wife, Donna E. Lyle of Taft; two sons, Zackery Lyle and Matthew Lyle of Huntsville; and two daughters, Keisha Lyle and Taren Lyle, both of Taft.

Arnts, Gerald W., 84, of Huntsville, died April 5. He retired from Marshall in 1991 where he worked as an aerospace engineer. He is survived by his wife, Dorothy T. Arnts.

Reitzel, Elva J., 86, died April 22. She retired from Marshall in 1974. She is survived by two daughters: Linda R. Swann, a Marshall retiree formerly of the Human Resources Department, and Cindy R. Towry of the Reusable Solid Rocket Motor Project Office.

Center Announcements

- ***Marshall Exchange Book Fair —*** The semi-annual Book Fair, sponsored by the Marshall Exchange, will be from 8 a.m.-4 p.m. Thursday and Friday in Bldg. 4203, room 1201. A selection of best sellers, cookbooks, decorating, sports and children's books will be available for purchase at substantial savings.
- ***Fireside Chat —*** The Marshall Retirees Association will host "The Lunar Program — 1960-1970" 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.
- ***Cooperative Education Conference —*** The 35th annual Southeast Regional Cooperative Education Conference will be May 17-19 at the Huntsville Hilton Hotel. Learn about the latest technology and marketing strategies to attract today's secondary, college and international students for cooperative education programs. For more information, call Sarah Ford at 851-5690.
- ***Housing for Students —*** Students for various educational programs for summer 2000 soon will be coming to Huntsville. These students require temporary housing, usually one month to 10 weeks. If you have lodging options available for these students, please call Frank Brannon, Education Programs Department, at 544.5920, or send e-mail to frank.brannon@msfc.nasa.gov
- ***Photo Lab Retirees Meet —*** Photo Lab retirees will meet at 9:30 a.m. May 2 at Shoney's on University Drive at Memorial Parkway. For more information, call Chuck Allen at 852-0917.
- ***Public Surplus Sale —*** The Marshall Center, Boeing, Teledyne Brown Engineering and others will hold a public surplus auction at 9 a.m. Saturday at Bentley's & Associates at 1025 Jordan Road in Huntsville. Viewing and inspection times are Thursday from noon-5 p.m.; Friday from 8 a.m.-5 p.m.; and Saturday from 7:30-9 a.m. Items include scrap metal, forklift, air compressors, main frames, file cabinets, computers, etc. For more information, call 800-841-4087

Employee Ads

Miscellaneous

★ 1996 Brother 4500ML multi-function center laser printer/scanner/copier/fax/telephone, Win 3.1, $200. 882-2369
★ Black and Decker circular saw, 7-1/4", $10; GM intake manifold, 4-bbl, small block, $20. 883-6284
★ Trundle bed, 2-mattresses, $50; Craftsman 7-1/4" circular saw, $50; drawing board, 39x63, w/ trestles, $20, upholstered chair, $40. 536-1834
★ Craftsman self-propelled mower, rear bag, 7 yrs. old, manual, $100. 461-8721
★ Oak office desk, $200 obo. 864-0465
★ Boys khaki Lee pipes, size 5, $12; Boys khaki Lee riveted, size 6, $12. 533-5942
★ Solid oak roll-top computer desk, 56"x30"x49", $600. 851-0871
★ Portable dishwasher, $125; truck shell, molded plastic, all windows open. 584-0315
★ Kenmore washer and dryer, $250; king size mattress, box springs and bed rails, $250. 464-0529
★ Firewood, oak, cherry, hickory, you haul, $30 load; you cut and haul, $10 load. 379-2159
★ Matching desk, bookcase, file cabinet, $350. 882-6449
★ 1990 Mastercraft Tristar 190, 351, V-8, 165 hours, $12,100. 721-7904
★ GE 15.6 cu. ft. refrigerator/freezer, no frost, power saver, rolls, $75. 725-4585 after 5 p.m.
★ Berber carpet, new, Gulistan/dupont cut-pile, 12'x15-1/2' (20 sq. yds.), brushwood color, new 8-lb. pad included, $325. 737-7246
★ 1996 Gulfstream Innsbruck travel trailer, 21', microwave, large refrigerator, $8,900. 881-5093
★ University of Alabama season tickets. 828-1981
★ Queen size sleeper sofa, gray/mauve color, $75. 851-7406
★ Royal cash register, electronic and programmable, operation manual included, $125. 881-5093
★ Friedrich air conditioners, 6,500-19,000 BTU, in boxes, never used. 881-5093
★ RCA DSS satellite dish and one receiver, $50. 498-6349
★ Oak desk, 30"x72", 3-side drawers, center and full slide out computer drawer, $150. 864-0465

Vehicles

★ 1986 Ford Taurus. Front damaged in wreck. Great parts car: new transmission, air conditioning system, rear brakes. $750. 883-5396
★ 1991 Mazda Miata, white, convertible, new paint, new top w/glass window, $5,400 obo. 895-2959
★ 1974 Pontiac Granville, 455 engine, $700 obo. 539-7912
★ 1985 custom deluxe truck, 4x4, lots of new parts, 24K mile warranty on engine. 650-1179
★ 1991 Isuzu Rodeo, V-6, air, power, auto, CD player, $4,200 obo. 518-9802
★ 1990 Mazda Protege LX, 100K miles, a/c, cruise, sunroof, power windows/locks, $3,500. 881-7870
★ 1997 Mitsubishi Eclipse GS, alloy wheels, leather, moon-roof, keyless entry, 6-CD changer, 53K miles, $13,000. 990-2050
★ 1997 Jeep Wrangler Sport, red w/black soft-top, gray interior, 6-cyl., 4.0L, 5-speed, 84K miles, $12,000. 355-1353
★ 1992 Roadmaster, one-owner, $6,120 obo. 379-2159
★ 1996 Chevy Cavalier, 4-door, 4-cyl., automatic, a/c, stereo/cassette, $4,850 obo. 753-2278
★ 1972 Chevy truck, SWB, orange/white, 350 engine, 350 transmission, a/c, many new parts, $7,500 obo. 851-2929
★ 1986 Honda Accord LX, 4-door, 192K miles, $2,200. 830-4477
★ 1978 Ford F150 Ranger XLT, V-8, automatic, extended cab, work bins, $2,500. 881-5093
★ 1992 Acura Integra, red, 2-dr. hatchback, 5-speed, sunroof, a/c, power windows, am/fm stereo cassette, cruise, $5,800. 764-2492
★ 1989 Chevy conversion van, silver, four captains chairs, rear heater-a/c, folding rear seat, $3,200. 882-6446
★ 1989 Chevrolet Blazer, moon-roof, V-6, 156K miles, $2,450. 883-8947

Lost

★ Gold bracelet w/embedded gold hearts, Bldg. 4200, 3rd or 4th floor. If found, please call 830-9210

Found

★ Umbrella, Bldg. 4200. 544-7686 to identify
★ Key ring w/clippers, Bldg. 4200. 544-4758 to identify

Free

★ Cat, domestic short hair, black, female, spayed, healthy, all shots and license up-to-date. 880-6808
★ Kittens, gray and white, 6 weeks old; one yellow male kitten, eight weeks old. 772-9794

Wanted

★ Female roommate to share 3 br./3 ba. mobile home near Cracker Barrel on Wal-Triana. 772-9500.
★ Girl's white bedroom suite. 464-5850
★ Professional trumpet. 883-2757
★ Mature college-age babysitter for two boys (10 & 6) this summer, Hampton Cove, transportation required. 7:30 a.m.-1:30 p.m., 20 hrs. per week total. 533-5942
★ Camera, 35mm, donated to a Christian scouting group. 859-3756/852-9336
★ Electric range, free-standing, avocado color preferred, reasonable. 534-4968

Thanks

The family of the late Harold (Genie) Harris would like to thank each of you for your patience and consideration during his lengthy illness. Also, thanks for all your acts of kindness shown during our time of bereavement. Your prayers and heartfelt sympathy shown to our family lets us know how blessed we are. It is nice to know we have friends and family like you. May God Bless You. Harold's work on Earth is completed, and he now lives for an eternity with God.
— Mable Harris, U.S. Army Corps of Engineers; Amanda Goodson, director of Safety and Mission Assurance Office; and Yolanda Harris, Shuttle Integration Office

MARSHALL STAR
Vol. 40/No. 33

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 1999-533-127-80108

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