



# MARSHALL STAR

Serving the Marshall Space Flight Center Community

Dec. 5, 2002

## Space soybeans may yield Earthly benefits

by Tracy McMahan

**L**ike farmers who brought in their crops this season, researchers in Wisconsin are carefully taking stock of a very special harvest – one grown aboard the International Space Station.

They've measured and weighed plants, counted seeds, and collected additional physical information from the first-ever soybean crop grown aboard the orbiting research laboratory.

"This experiment and others are paving the way for improving crops grown on Earth, as well as potentially feeding people living in space," said Mark Nall, director of NASA's Space Product Development Program at the Marshall Center. The program has helped companies fly several experiments on the Station by working with one of NASA's 15 Commercial Space Centers located across America.



Photo by Emmett Given, NASA/Marshall Center

### King lights holiday tree

Marshall Deputy Director David King lights the Center's holiday tree Tuesday in front of Bldg. 4200. King said the tree should denote unity. "Let each light represent a loved one, a tradition, a goal," he said. "Let each branch represent collective teamwork ... needed to accomplish our missions. Let the tree represent 'One NASA' -- a unified Agency."

Space Shuttle Atlantis visited the orbiting laboratory in October during the STS-112 mission to deliver new experiment equipment and other supplies and return with the soybean plants

*See Soybeans on page 2*

## Winter Weather Awareness Week runs through Friday

from the Human Resources Department and Emergency Operations Center

**T**he National Weather Service and the Alabama Emergency Management Agency is observing this week as Winter Weather Awareness Week in Alabama.

Now is the time to prepare for the dangers and hazards a winter storm can bring. Following the last several years of relatively quiet winter seasons, there may be a need to become reacquainted with

winter weather safety.

A designated National Weather Service office serves each county in Alabama. Beginning Jan. 14, residents of Colbert, Cullman, DeKalb, Franklin, Jackson, Lauderdale, Lawrence, Limestone, Madison and Morgan counties can contact Tim Troutman or John Gordon at the new Huntsville weather office at (256) 890-8503 for updated conditions. Until then, contact Brian Peters or Ken Graham in

Birmingham at (205) 664-3010.

For information on road conditions, the Alabama Department of Transportation has a Web site at <http://www.dot.state.al.us/closures/> and information on Madison County roads and conditions are at <http://www.madisoncountyma.com>.

Keep ahead of a winter storm by listening to the latest weather warnings and bulletins on National Oceanic and

*See Winter on page 2*

## Soybeans

*Continued from page 1*

and other completed experiments.

Now, the research team on Earth is conducting several months of chemical and biological tests on the plants that will reveal whether microgravity – the low-gravity environment inside the Space Station — has changed the chemical make-up of the seeds.

Soybeans — a leading source of protein in the human diet — are used in a variety of products, from oil to crayons. Finding improved varieties could have a significant economic impact on a soybean business worth billions of dollars each year.

“We want to examine the seeds produced by plants grown on the Station to see if they have any unique, desirable traits,” said Dr. Tom Corbin, a research scientist for Pioneer Hi-Bred International Inc., a DuPont subsidiary with headquarters in Des Moines, Iowa, and the industrial sponsor for the experiment.

If we find changes, then we want to know if the positive traits can be inherited genetically by future generations of plants for the benefit of farmers and consumers,” Corbin explained.

“The first soybean crop grown in space returned in excellent condition, and

a total of 83 seeds were harvested from 42 seed pods,” said Dr. Weijia Zhou, director of the Wisconsin Space Center for Automation and Robotics at the University of Wisconsin-Madison. “Since a plant’s habitat plays a key role in determining the physiological and biological characteristics of the plant, we believe that reduced gravity may affect plant chemistry.”

The Wisconsin center is a NASA Commercial Space Center, and was responsible for building the ADVANCED ASTROCULTURE‘ plant growth chamber where the soybeans germinated and grew for 97 days.

“We will analyze the oil, proteins, carbohydrates and secondary metabolites in the seeds produced in space,” noted Corbin, whose company is the largest seed company in the world. “We will continue analysis of the soybeans at Pioneer’s laboratory in Johnston, Iowa, and we anticipate having results in two to three months.”

NASA is interested in the technologies that enable production of commercially important crops like soybeans in space because these technologies will be needed to produce vegetable crops that support a long-term human presence in space.

*The writer, an employee of ASRI, supports the Media Relations Department.*

## Red freckles on Europa suggest ‘lava lamp’ action

*JPL news release*

**R**eddish spots on the icy surface of Jupiter’s moon Europa may indicate pockets of warmer ice rising from below.

This upwelling could provide an elevator ride to the surface for material in an ocean beneath the ice, say scientists studying data from NASA’s Galileo spacecraft.

“Europa acts like a planetary lava lamp, carrying material from near the surface down to the ocean, and, if they exist, potentially transporting organisms up toward the surface,” said Dr. Robert Pappalardo, a planetary scientist at the University of Colorado, Boulder.

The Galileo spacecraft, orbiting Jupiter since 1995, has produced strong evidence that Europa has a deep ocean of melted saltwater underneath a surface layer of ice.

Information about the mission and its discoveries is online at <http://galileo.jpl.nasa.gov>.

The Jet Propulsion Laboratory manages Galileo for NASA’s Office of Space Science.

## Winter

*Continued from page 1*

Atmospheric Administration Weather Radio, local radio and TV stations, or cable TV. Be alert to changing weather conditions. Call the Marshall Center’s Customer Help Line at 544-HELP, Option 5, for Marshall-related announcements and for recordings of weather-related delays or closures at the Center. The Marshall announcements will be updated by 5 a.m. on days with potential for winter weather conditions that may warrant changes in work schedules. Guidance on leave during emergency situations can be found on Inside Marshall, Inclement Weather Guidance, at <http://inside.msfc.nasa.gov/index.html/info/iwg.html>.

Storm systems can develop rapidly. The decision on the Center’s operational status will be made with the best information available at the time. If road conditions deteriorate after Center operational status has been determined, employees are encouraged to consider their safety first and decide for themselves whether they can safely drive on the roads. The Center will typically implement a liberal leave policy in these situations.



Marshall Imaging Services/courtesy photo

### **Who am I?**

**I was born in Madison County and grew up in the Harvest/Tony area. My father nicknamed me “Bill” even though I had five brothers and three sisters. To see who I am, go to page 6.**

# Singer first woman to lead Shuttle Reusable Motor Project; Coleman named Shuttle Projects deputy

by Lynnette Madison

**J**ody A. Singer has been named manager of the Space Shuttle Reusable Solid Rocket Motor Project at the Marshall Center. She is the first woman to lead a Shuttle Project Office at Marshall.

Sandra C. Coleman will replace Singer as deputy manager of the Space Shuttle Projects Office. For the past year, Coleman has served as chief operating officer at the National Space Science and Technology Center in Huntsville.

"The appointment of these highly qualified managers reflects the Marshall Center's commitment to continued safe flight of the Space Shuttle," said Alex McCool, manager of the Space Shuttle Projects Office.

Singer will oversee the work of more than 1,000 government and contractor employees involved in design and production of the Reusable Solid Rocket Motors. The motors, the propulsion element of each solid rocket booster, are recovered at sea after each Shuttle launch and refurbished for use on future missions.

Coleman will lead the work of several hundred engineers and technicians responsible for the flight safety, performance and hardware integrity of the Space Shuttle's propulsion elements — including the Main Engines, Solid Rocket Boosters, Reusable Solid Rocket Motors and External Tank. These propulsion elements boost the Shuttle into orbit during the first eight-and-a-half minutes of flight.

Singer received her bachelor's degree in industrial engineering from the University of Alabama in Tuscaloosa. She began her NASA career in 1985 in the Marshall Center's Program Development Office. She joined the Space Shuttle Projects Office in 1987, where she was responsible for tracking and evaluating contractor hardware deliveries on the Space Shuttle Main Engine Project.

She was appointed program business manager for the Space Shuttle's External Tank Project in 1990, and became the project's assistant manager in 1996. She was appointed deputy of the External Tank Project in 1998, and in 2000 became assistant manager of the Space Shuttle Project Office.



Singer

Singer has been recognized with NASA's Exceptional Service Medal, the Agency's award for Improved Financial and Resource



Coleman

Photos by Marshall Imaging Services

Management, and as a Space Flight Awareness Honoree. She also participated in NASA Fellowships at the Simmons College Graduate School of Management in Boston, and at Pennsylvania State University in State College, Pa. NASA Fellowship participants are chosen for their leadership, management ability,

work experience and achievements.

Coleman joined NASA in 1965, working in Marshall's Saturn program office, supporting the effort that launched Americans to the Moon. In 1969, she became a member of the Space Shuttle Task Team and served in three of the four main project offices — External Tank Project, Solid Rocket Booster Project and Reusable Solid Rocket Motor Project.

In the Shuttle Projects Office, she served as business manager, assistant project manager and deputy project manager of the reusable motor project office. In that role, Coleman became the first woman from Marshall to monitor and verify flight-readiness for a Space Shuttle launch from the Main Firing Room "hot seat." In 1997, she was appointed deputy chief financial officer for resources at the Marshall Center.

In 1999, Coleman joined Marshall's Science Directorate to manage the operations at the National Space Science and Technology Center during its critical start-up period. The center unites government, industry and academia to further science and engineering research.

Coleman earned her bachelor's degree in accounting from the University of Alabama in Huntsville and her master's degree in industrial engineering from the University of Alabama in Tuscaloosa — a degree that resulted from Coleman being one of the first women selected for Marshall's highly competitive full-time graduate study program.

She has received numerous awards, including NASA's Outstanding Leadership Medal, Exceptional Service Medal and the Silver Snoopy, awarded by astronauts to recognize outstanding contributions to human space flight missions.

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

# Chandra casts cloud on alternative to dark matter

From the *Smithsonian Astrophysical Society*

New evidence from NASA's Chandra X-ray Observatory challenges an alternative theory of gravity that eliminates the need for dark matter.

The observation also narrows the field for competing forms of dark matter, the elusive material thought to be the dominant form of matter in the universe.

An observation of the galaxy NGC 720 shows it is enveloped in a slightly flattened, or ellipsoidal cloud of hot gas that has an orientation different from that of the optical image of the galaxy. The flattening is too large to be explained by theories in which stars and gas are assumed to contain most of the mass in the galaxy.

"The shape and orientation of the hot gas cloud require it to be confined by an egg-shaped dark matter halo," said David Buote of the University of California, Irvine, and lead author of a report on this research in the 2002 Sept. 20 issue of *The Astrophysical Journal*. "This means that dark matter is not just an illusion due to a shortcoming of the standard theory of gravity - it is real."

According to the generally accepted standard theory of gravity, the hot X-ray cloud would need an additional source of gravity - a halo of dark matter - to keep the hot gas from expanding away. The mass of dark matter required would be about five to ten times the mass of the stars in the galaxy. If the dark matter tracked the optical light from the stars in the galaxy, the hot X-ray cloud would be more round than it is. The flattened shape of the hot gas cloud requires a flattened dark matter halo.

An alternative theory of gravity called MOND, for Modified Newtonian Dynamics, was proposed in 1983 by Mordecai Milgrom of the Weizmann Institute in Israel, and has remained viable over the years. MOND does away with the need for dark matter by modifying the theory where the acceleration produced by gravity is very small, such as the outskirts of galaxies. However, MOND cannot explain the observations of NGC 720. This is apparently the first dynamical evidence that has successfully distinguished dark matter from MOND.

The researchers also found that the Chandra data fit predictions of the cold dark matter theories, according to which dark matter consists of slowly moving particles, which interact with each other and "normal" matter only through gravity. Other forms of dark matter, such as self-interacting dark matter, and cold molecular dark matter, are not consistent with the observation in that they require a dark matter halo that is too round or too flat, respectively.

"Chandra's ability to precisely identify and locate the point-like sources contaminating the diffuse emission in the X-ray image was

absolutely essential," Buote said. "Only then could we make accurate measurements of the shape and orientation of the X-ray image contours."

The conclusion from the Chandra data that NGC 720 possesses a dark matter halo assumes that the hot gas cloud has not been unduly disturbed by collisions or mergers with other galaxies in the last 100 million years. The lack of evidence of such activity indicates that this assumption is valid.

Chandra observed NGC 720, which is about 80 million light years from Earth, for 11 hours with the Advanced CCD Imaging Spectrometer (ACIS).

Other members of the team include Tesla Jeltema and Claude Canizares of Massachusetts Institute of Technology (MIT) in Cambridge, and Gordon Garmire of Pennsylvania State University in University Park. Penn State and MIT developed the instrument for NASA.

NASA's Marshall Space Flight Center in Huntsville, Ala., manages the Chandra program, and TRW, Inc., Redondo Beach, Calif., is the prime contractor for the spacecraft. The Smithsonian's Chandra X-ray Center controls science and flight operations from Cambridge, Mass.

## Fire extinguisher maintenance and repair offered at Marshall Dec. 13

The Marshall Safety and Health Action Team invites all Marshall team members to bring their home fire extinguishers to Bldg. 4752 for maintenance and repair. The event is from 8:30 a.m.-noon Dec. 13. North American Fire Equipment Co. representatives will be on hand to refill and repair fire extinguishers and refill scuba tanks as well. For a list of fees, see "Inside Marshall."



Photo by Emmett Given, NASA/Marshall Center

### The 'Bare Facts' safety campaign

John Nugent, left, as "Hazard Hunter" and Todd Macleod as Safety Bear, help Judy Milburn distribute safety tips to Frank Mayhall last week in Bldg. 4203 to support The Bare Facts safety campaign. The campaign's purpose is to bring attention to the hazards of slips, trips and falls and how to avoid injury at home and at work.

## Plan ahead to donate 'use or lose' leave time

*from the Human Resources Department*

**A**s the end of the 2002 leave year approaches, many of us are considering donating some of our "use or lose" annual leave to our fellow federal employees who are experiencing a personal or family medical emergency and have exhausted their available paid leave.

If you would like to donate leave to another employee this year, it is important to remember that Office of Personnel Management regulations limit the number of hours that can be donated at the end of a leave year.

Employees with use or lose annual leave may donate the lesser of one-half of the annual leave they would accrue in a leave year, or the number of hours remaining in the leave year for which the employee is scheduled to work and receive pay.

For reference, see Ref: 5 C.F.R. 630.908.

The 2002 leave year ends Jan. 11, 2003. Employees who want to donate some of their use or lose leave to a co-worker should keep this restriction in mind when making plans for the end of the year.

If you have questions about leave donation, call Amy Rape at 544-7002 or the human resources specialist who supports your organization.



Photo by Dennis Olive, NAS/Marshall Center

### **Champion duck caller**

Jeff Lackey, ED24, with the trophy he won for first place in the Alabama State Duck Calling Championship in October. The win qualified him for the World Championship Duck Calling Contest in Stuttgart, Ark., during the recent Thanksgiving holiday, which pitted him against 63 other contestants in three rounds. Lackey came in 24th. As the best duck caller in Alabama, Lackey gets to keep the trophy for one year.



Marshall Imaging Services

### **Boy Scouts visit Marshall**

Bob Sackheim, Marshall's assistant director and chief engineer for space propulsion, gestures toward test equipment as he hosts Boy Scout Troop 203 of Southside Baptist Church in Huntsville on Nov. 16. The scouts and their parents were given a tour of the East and West Test Stand areas, the historic Redstone Test Site, and visited Heritage Gallery and other Marshall sites as well as some of the static Army displays on Martin Road. Sackheim also gave an overview of Marshall's current roles in the space program.

## Apollo 17 anniversary celebration events set

*from the Government and Community Relations Department*

**W**ednesday marks the 30th anniversary of Apollo 17 astronauts Gene Cernan and Harrison Schmitt touching down on the surface of the Moon. They were the last humans to walk on its surface.

Both men will be guests of honor at a 30th anniversary celebration Wednesday that begins at noon at the Von Braun Center hosted by the Huntsville-Madison County Chamber of Commerce.

Marshall team members are invited to a presentation by Cernan and Schmitt from 3-4 p.m. in Bldg. 4200, Morris Auditorium. The astronauts will answer questions from the audience.

A new video of the Apollo 17 mission will be shown during the day.

As part of the celebration, Marshall has a new Web site on the Marshall History Page at <http://history.msfc.nasa.gov> dedicated to the Apollo 17 mission.

# Marshall Center 'Holiday Reception' is Tuesday

Marshall team members can celebrate the upcoming holidays by participating in the Center's Holiday Reception from 12:30-3 p.m. Tuesday in Bldg. 4316.

This year's theme is "the festival of trees." White pine trees will be donated to each organization for the event. The trees will be replanted afterward on Center grounds.

The reception will feature food and live music. Employees also are encouraged to bring donations of non-perishable food items for the North Alabama Food Bank, or toys for the Salvation Army, which will also make them eligible for door prizes. Employees must be present to win door prizes.

Center-wide bus service will be provided for all Marshall team members attending the Holiday Reception. Buses and vans will drop off and pick up passengers at Bldg. 4316 beginning at 12:15 p.m. and shuttle to and from each of the following locations until 3 p.m.

Individuals who need special assistance with transportation can call 544-4564.

☛ Stop 1  
4200 West side (main loop)

☛ Stop 2  
4203 North loop

☛ Stop 3  
4250 East End  
4207 Northwest

☛ Stop 4  
4705 South side  
4708 Northwest  
4707 North side  
4755 Main

☛ Stop 5  
4493 Main (North side)  
4481 West end  
4471 East end

☛ Stop 6  
4612 West side  
4610 North side

☛ Stop 7  
4487 Main (South side)

☛ Stop 8  
4663 Main (North side)  
4650 East side  
4666 Main

☛ Off-site locations: NSSTC - Sparkman Drive South side Main and IFMP - Intergraph Bldg. 800 South parking lot off Dunlop Road.

Pick up  
12:15 p.m.  
1:30 p.m.

Return  
1:30 p.m.  
3 p.m.

## Job announcements

**MS03N0016**, AST, Aerospace Flight Systems. GS-0861-13, Flight Projects Directorate, Flight Systems Department, Development and Integration Group. Closes Dec. 16.

**MS03C0018**, AST, Aerospace Flight Systems. GS-861-15, Space Shuttle Projects Office, Space Shuttle Main Engine. Competitive Placement Plan. Closes Dec. 9.

**MS03N0019**, AST, Aerospace Flight Systems. GS-0861-14, Flight Projects Directorate, Flight Systems Department, Development and Integration Group. Closes Dec. 16.

**MS03N0020**, AST, Aerospace Flight Systems. GS-0861-14, Flight Projects Directorate, Flight Systems Department, Development and Integration Group. Closes Dec. 16.

## Obituaries

**Rikard, Johnny Ray, 46**, of Courtland, died Nov. 26. Funeral services were held at Harmony United Methodist Church in Courtland with the Rev. Darrell Mosley officiating.

Burial was in Graham Cemetery with Lawrence Funeral Home directing.

Rikard was an employee of EG&G at the Marshall Center and a member of Harmony United Methodist Church.

He is survived by his wife, Kathy Rikard; two daughters, Stephanie Rikard and Johnna Rikard, both of Courtland; his parents, Melvin Jackson Rikard and Janet Renwick Rikard, both of Moulton; two brothers, Ronald Eugene Rikard of Trinity and Melvin Rikard of Decatur; and two sisters, Ronda Rikard of Moulton and Deborah Jaworsky of Elk Grove, Ill.



Photo by Terry Leibold, NASA/Marshall Center

### Who am I?

Bertha Gildon has been an employee of the Marshall Space Flight Center for 23 years. She is a management support assistant in the Science Directorate, Metallic Materials and Processes Group in Bldg. 4612. She has one son, one daughter, three grandchildren and one great-grandchild.

"Who am I?" is assembled by Michael Mc Lean of the Internal Relations and Communications Department.

# Center Announcements

## Dial 4-4PAY for payroll assistance

Marshall employees can now receive payroll assistance by dialing 4-4PAY. Questions on WebTADS, pay and leave will be answered. Employees also can e-mail questions to payroll\_office@msfc.nasa.gov or type "Payroll" in the "To" field of their e-mail application.

## All-Hands meeting with Sean O'Keefe to kick off 'One NASA'

NASA Administrator Sean O'Keefe will host an All-Hands meeting via television to kick off "One NASA." The event is Wednesday at 1 p.m. CST in Bldg. 4200, Morris Auditorium. All Marshall team members are invited.

## IFM Core Financial awards ceremony set for Dec. 16

NASA's Integrated Financial Management Core Financial awards ceremonies will be from 3-5 p.m. Dec. 16 in Bldg. 4200, Morris Auditorium.

## Faculty/undergraduate programs information requests available

The request for task descriptions for the fiscal year 2003 NASA Faculty Fellowship Program and Undergraduate Student Research Program has been sent to Marshall directorates. For more information and a list of contacts, go to "Inside Marshall."

## Health benefits open season

The Federal Employees Health Benefits program open season is until Monday. For more information, go to "Inside Marshall."

## IFMP War Room sets new operating hours

New hours for the Integrated Financial Management Program War Room are now in effect. Operating hours are Mondays noon-5 p.m.; Tuesdays-Thursdays 8 a.m.-5 p.m.; and Fridays 8 a.m.-noon.

## MARS Ballroom Christmas dance is Saturday

The MARS Ballroom Christmas dance is 6:30 p.m. to 11 p.m., Saturday, at the Von Braun Center. Two bands will provide continuous music and a special buffet with turkey and all the trimmings is available. Tickets cost \$20 for members and \$25 for non-members and should be purchased no later than Dec. 3. To purchase a ticket, or for more information, call 544-3525, 544-5427, 544-3998, 461-0230, 534-7408, 880-2270 or 650-0200.

## SHARP mentors needed for student education programs

The Marshall Center's Education Programs Department needs volunteers to work with students participating in the 2003 NASA Summer High School Apprenticeship Program. SHARP offers high school students opportunities to participate in an eight-week science and engineering program. Researchers and other science and engineering professionals are encouraged to volunteer as mentors. For more information, call 544-6025.

## Mentors needed for Equal Opportunity program

Employees in Marshall's technical directorates are encouraged to volunteer as mentors for the 2003 Equal Opportunity Office Summer Internship Program. For more information, call Madeline Hereford at 544-7420.

## Freedom to Manage 'Town Hall' meeting is Dec. 12

All Marshall team members are invited to a Freedom to Manage "Town Hall" meeting from 10-11:30 a.m. Dec. 12, Bldg. 4200, Morris Auditorium. Courtney Stadd, NASA's chief of staff and White House liaison, and other members of NASA's F2M team will update Marshall employees on F2M activities and successes. Sessions with F2M Task Force Category Leads are from 1:30- 3 p.m. For more information, go to <http://f2m.msfc.nasa.gov/>.

## Exchange Council election open

Only civil servants can vote in the NASA Exchange Council election, which runs through Dec. 5. For details, go to "Inside Marshall."

## NASA Ski Week reservations being accepted

The 12th-annual NASA Ski Week will be at Big Mountain ski resort in Montana Feb. 22-March 1, 2003. This is a 3,000-acre ski resort overlooking Glacier National Park. All Marshall team members, retirees, spouses and dependents are eligible to participate. For more information, call 233-0705 or e-mail Thomas.S.Dollman@msfc.nasa.gov.

## Art Stephenson to speak at AIAA luncheon Dec. 18

Marshall Director Art Stephenson will speak at the American Institute of Aeronautics and Astronautics luncheon from 11 a.m.-1 p.m. Dec. 18. The event is at the Radisson Hotel in Huntsville. Cost for lunch is \$12. For reservations, call Tom Hancock at 961-4002.

## NSTC lockout/tagout class scheduled

An NSTC lockout/tagout class is scheduled for 8 a.m.-noon Dec. 12, in Bldg. 4200, Room 106. To register, go to the Safety, Health and Environmental training page on "Inside Marshall."

## Three Marshall satellite educator centers open

The Marshall Center's Education Resource Programs Office has negotiated with three universities in Alabama to house and operate satellite Educator Resource Centers. These centers, at the University of Alabama in Birmingham, Alabama State University at Montgomery, and the University of South Alabama at Mobile, will dispense materials and hold workshops using NASA education materials.

# Employee Ads

## Miscellaneous

- ★ Huffy baby jogger, needs tire, \$45; child's Power Play hockey skates, \$20. 837-2223
- ★ Eclipse titanium driver, Grafaloy Pro-Lite shaft, 10 degree, \$100. 851-7406
- ★ Troy-Bilt tiller; 7-8' silver Christmas tree. 881-6040
- ★ Space Camp tuition for 9-12 yr. old, includes space suit, good thru 12/03, \$700. 722-4069
- ★ Assorted Frost knives, \$4-\$7. 227-4522
- ★ Formal dress, navy, size 4, sequined bodice, chiffon skirt, scarf, V-neck, sleeveless, \$60. 883-7187
- ★ Portable bedside commode, \$75; standard walker, \$40; Bissell power steamer rug cleaner, \$100. 828-2178
- ★ 1997 Holiday Barbie, \$35; brass/glass vanity w/mirror, \$45; black sequin dress, large, \$50. 885-2450
- ★ Alan Shepard, first American in space, autographed Limited Edition leather book, "Moon Shot." \$250. 773-7730
- ★ Doll house, 2.5' tall, 3.5' long, 2' deep, 7 rooms, wood & vinyl flooring. 931-732-5112
- ★ Baby bed, \$45. 256-233-0025
- ★ 2001 John Deere LT133 riding mower w/mulching adapter, 13HP, 38" cut, \$1,750. 534-3351
- ★ Mead digital electronic telescope w/star finder automatic object locator, manual and instruction tape, \$150. 694-2967
- ★ Diamond marquise ring, 2-carat, w/ baggette diamonds on each side, \$2,000. 232-0390 after 5 p.m.
- ★ Nocona cowboy boots, ladies size 5-1/2B, chocolate color, new, lizard, \$50.

- 885-2401
- ★ Three sections used 50'Lx5'H mesh welded fence wire, \$10 each. 721-9601
- ★ Lateral file cabinet, 4-drawer, legal size, 52"Hx36"Wx19"D, almond color, \$100. 880-3263
- ★ Computer desk, light oak color w/file storage drawer, \$35. 721-1512
- ★ Federal Airtight wood burning insert or free-standing stove, \$300. 828-3181/lv. msg.
- ★ Used fence (5'x160'); three corner posts; fifteen iron posts; \$50; will sell items individually. 721-9601
- ★ To good home, brown bunny, includes all supplies, cage, food, etc. make offer. 527-6293
- ★ Space Shuttle Challenger children's play tent, discontinued 1985-86, never set up, in box. \$80. 306-0700

## Vehicles

- ★ 1995 GMC Serria X-71, extended cab, white, new Michlen tires, all-options, \$9,500. 931-937-6518/931-937-8761
- ★ 1991 Taurus wagon, new parts, \$1,950 obo; 1992 Lumina Euro, highway miles, \$2,200 obo. 961-1210
- ★ 1997 Lincoln Continental, V8, garaged, leather, heated seats, new tires, 94K miles. 256-464-5003
- ★ 1989 GMC full size van, 109K miles, almost new tires, \$3,700. 931-759-5776
- ★ 1972 Boise motorhome, 32K miles, \$5,000; 1980 Datsun 200SX, 5-speed hatchback, \$1,500 obo. 256-881-9150
- ★ 1999 Honda CRV EX, automatic, 4WD, CD player, luggage rack, garage kept, 46K miles, \$15,000. 353-0370/565-3022

- ★ 1996 Dodge Grand Caravan SE, 132K miles, 2<sup>nd</sup> sliding door, rear air, \$5,600. 864-3236/656-8902
- ★ 1996 Chrysler Towne & Country van, loaded, rear air, 156K miles, \$4,400 obo. 828-6806
- ★ 1990 Toyota Celica, 5-speed, CD player, 144K miles, \$2,800 obo. 256-739-2160
- ★ 1990 Olds Cutlass Supreme, 4-door, 173K miles, \$1,500. 256-737-9492
- ★ 1999 Toyota Avalon XL, all-power and options, side air bags, 65K miles, beige, \$14,700. 880-9025
- ★ 1994 Voyager, 3.3L, 145K, leather, all-power, CD, premium sound, \$4,000. 880-3263
- ★ 1997 Jeep Wrangler, 4-cyl., 5-speed, red w/tan interior, 55K miles, new brakes & tune-up, \$8,500. 679-7101
- ★ 1994 Chevy S-10 Blazer LT, 5WD one-owner, \$4,500; 1991 Firebird, 8-cyl., T-tops, one-owner, \$4,000. 653-0406

## Wanted

- ★ Ping-pong table in good condition. 256-233-0025
- ★ Set of drums in good condition for beginning drummer. 828-7377
- ★ Used ping-pong table in good condition. 885-0729
- ★ Small storage building, 8'x10' to 10'x12'. 230-6846

## Free

- ★ Two 34" wide aluminum storm doors. 534-4968

# MARSHALL STAR

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