

MARSHALL STAR

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Sept. 25, 2003

Scientists, astronauts focus on Chandra during Huntsville symposium

Nobel Prize winner praises Marshall roles

by Sherrie Super

To mark four years of exquisite images and spectra results from NASA's Chandra X-ray Observatory, scientists, astronauts and others whose professional lives have been impacted by the world's most precise X-ray telescope, met in Huntsville Sept. 16-18 for a three-day symposium.

The event — "Four Years of Chandra Observations: A Tribute to Riccardo Giacconi" — featured more than 50 speakers, 80 poster presentations and attendance by scientists from all over the world. Dr. Giacconi, who in 2002 received the Nobel Prize for research that led to the discovery of cosmic X-ray sources, was the symposium's honoree and keynote speaker.

President of Associated Universities, Inc. in Washington, D.C. and a research professor at Johns Hopkins University in



Photo by Doug Stoffer, NASA/Marshall Center

Dr. Riccardo Giacconi addresses participants in the Chandra symposium last week in Huntsville.

Baltimore, Giacconi was one of the originators of the proposal that led to Chandra's creation. During his presentation last week

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First laser powered aircraft flies at Marshall Center

By Vince Huegele

Since the Wright Brothers got off the ground 100 years ago, every powered airplane has had to carry its own fuel.

In a series of flights last week at the Marshall Center, as well as a 2002 test series at Dryden Flight Research Center in Edwards, Calif., a NASA and university research team has demonstrated a propulsion system that beams enough laser light energy from the ground to power the propeller of an aircraft and sustain it in flight. Special photovoltaic arrays on the plane receive the laser power and convert it to electric current to

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Getting ready for a test flight are, from left, David Bushman, Tony Frackowiak and Robert Burdine.

Photo by Doug Stoffer, NASA/Marshall Center

Chandra

Continued from page 1

he expressed gratitude to Marshall team members for their work on Chandra and on other high-energy astrophysics programs.

“Marshall played an important role in the development of X-ray astronomy,” Giacconi said. “Marshall did a great job for us, and I want to thank you.”

Chandra’s successes to date include new insights into all categories of astronomical objects — including black holes, neutron stars, gigantic clusters, active galaxies, stars and planets.

Chandra and its discoveries continue to garner public attention for NASA, noted Dr. Paul Hertz, NASA senior scientist for astronomy and physics at NASA Headquarters in Washington, D.C. “One in seven stories about NASA science results appearing in the weekly magazine ‘Science News’ is about Chandra science,” he said.

More than 150 scientists, engineers and others involved in the Chandra program attended a banquet at the U.S. Space & Rocket Center. During this event, Cady Coleman and Jeff Ashby, astronauts from the Space Shuttle STS-93 flight, discussed their 1999 mission that placed Chandra in orbit.

“Chandra was a very important payload that had a lot of people’s hearts and souls in it,” Ashby told the audience,



Photo by Doug Stoffer, NASA/Marshall Center

At the symposium banquet, astronauts Jeff Ashby, left, and Cady Coleman, right, discuss their 1999 STS-93 mission that placed Chandra in orbit.

after joking he originally didn’t believe that Chandra — the largest payload ever launched by a Space Shuttle — would fit in the Shuttle’s payload bay. “I marveled at how such a sensitive science instrument could survive liftoff,” he said.

Coleman, the mission specialist who deployed Chandra, said she felt a sense of kinship with those on the ground as she released the Chandra Observatory from the Shuttle. “As I hit the deploy switch, I felt like so many of you were right there with me.”

Throughout the three-day event, other speakers discussed current Chandra results and additional research in the full range of high-energy astrophysics.

Chaired by the Chandra Project Scientist Dr. Martin Weisskopf of the Marshall Center, the event’s Science Organizing Committee included representatives from nearly 20 research institutions.

“The symposium was wonderful!” said Weisskopf. “This, like the Chandra program itself, was a result of the splendid teamwork of all the individuals who helped make the arrangements and the exciting scientific results.”

The Marshall Center manages the Chandra program, and TRW, Inc., of 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., for the Office of Space Science at NASA Headquarters in Washington, D.C.

Chandra images and additional information are available at: <http://chandra.harvard.edu/> and <http://chandra.nasa.gov/>.

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

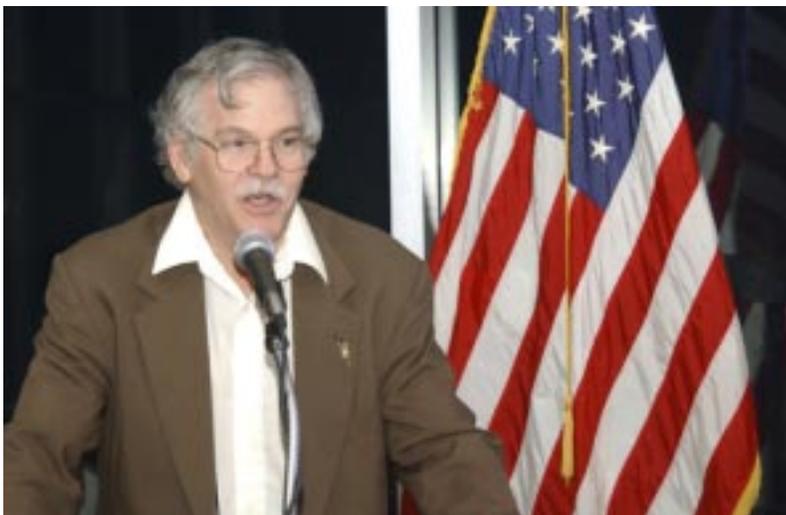


Photo by Doug Stoffer, NASA/Marshall Center

Chandra Project Scientist Dr. Martin Weisskopf of the Marshall Center welcomes scientists during last week’s Chandra symposium in Huntsville.

Laser

Continued from page 1

drive the propeller motor. It is – as far as the team knows – a “first-in-the-world” accomplishment.

“The vehicle could keep flying as long as the energy source, in this case the laser beam, is uninterrupted,” said Robert Burdine of the Science Directorate, Marshall’s laser project manager for the test plane. “This is the first time that we know of that a plane has been powered only by the energy of laser light.”

This demonstration was a collaborative effort between the Dryden Center, which designed and built the aircraft, and the Marshall Center, which integrated and tested the laser and photovoltaic cells.

Tim Blackwell, an optical scientist from the University of Alabama in Huntsville’s Center for Applied Optics, specified and tested the high-energy photovoltaic cells to match the laser wavelength. Vince Huegele, optical physicist in the Marshall Science Directorate’s Optical Design Group, developed the optics. Blackwell and Huegele also served as test engineers during flight operations. Dryden aerospace engineer Tony Frackowiak built and flew the aircraft. Program manager David Bushman directs the project, which is funded via the Dryden discretionary fund, and oversaw the flight tests.

The aircraft is a custom-built, radio-controlled model airplane with a special panel of photocells optimized in efficiency for the laser wavelength. The lightweight low-speed plane was flown indoors in the high bay of Bldg. 4755 to prevent wind and weather from affecting the flight. The airplane is more than 4 feet long and has a 5-foot wingspan. Its propeller is connected to an electric motor wired to a photovoltaic cell power collector.

During the series of a dozen flights, the plane was tossed like a glider into the laser beam. When the beam hit the airplane panels, the propeller spun into motion, flying the plane. The laser tracked the plane and maintained power on its cells until the end of the flight when the laser was turned off and the airplane glided to a landing.

The team made a similar demonstration flight last year at Dryden, using a theatrical searchlight as a power source. Last week’s flights at the Marshall Center are the first known demonstration of an aircraft flight totally powered by a laser from the ground. The demonstration showed the system’s capability to beam power to a plane, enabling it to reach higher altitudes and have a greater flight range. Without the need to carry fuel or batteries, such a plane could carry more scientific or communication equipment and stay in flight indefinitely. Future applications for laser-powered airplanes might include high-altitude and long-endurance missions for remote sensing and atmospheric monitoring.

“A telecommunications company could put transponders on a small airplane and fly it over a city,” Bushman said. “This small aircraft could be used to relay cell phone calls, or it could be used for cable television or Internet relays.”

A relay station flying in circles at 65,000 feet could cover a 300-mile wide area, according to Burdine. “You could get rid of a lot of cell phone towers with that and improve transmission performance,” he said.

Bushman said the aircraft’s communications hardware could be upgraded or repaired easier than a satellite’s because the plane can be brought back to the ground cheaper than launching a replacement satellite.

Possible uses for the technology in space include beaming energy to “space tugs” capable of pushing other spacecraft to different altitudes, Burdine said. Another idea involves providing power to an airplane flying in the Martian atmosphere via a laser aboard a satellite orbiting that planet, Bushman said.

The team believes laser power beaming is now a viable technology for consideration in new aircraft design and operation and that it also supports NASA’s goals in the development of revolutionary aerospace technologies.

The writer is an optical scientist in the Marshall Center’s Science Directorate.

Celebrating Hispanic Heritage Month: A message from Sean O’Keefe

From Sept. 15-Oct. 15, NASA is joining with other agencies and organizations throughout the United States in celebrating Hispanic Heritage Month.

The theme for this year’s 34th observance of Hispanic Heritage Month is “Hispanic Americans: Honoring Our Past, Surpassing Our Present, and Leading Our Future.”

This month of celebration provides us an opportunity to salute the rich cultural diversity and significant accomplishments of Hispanic Americans.

Within the NASA family, we take

great pride in such Hispanic trailblazers as Franklin Chang-Diaz, the first Hispanic astronaut in space, Frances Cordova, the first woman to become NASA’s Chief Scientist, Al Diaz, the Director of our Goddard Space Flight Center and Orlando Figueroa, the Director of our Mars Exploration Program.

To help ensure the theme of “Leading Our Future” becomes a reality and that Hispanics are well represented in the next generation of explorers, NASA is supporting programs to encourage mathematics and science achievement in schools serving Hispanic communities. We share educational pioneer Jaime Escalante’s

conviction that what a person needs to succeed is el deseo de triunfar—the desire to triumph, along with some helpful inspiration and guidance along the way in order to “Lead our Future.”

Honoring Our Past, Surpassing Our Present, and Leading Our Future is what Hispanic Heritage Month and NASA are all about. During this month’s celebration I encourage you to participate in planned programs and activities at Headquarters, at your centers, and within your communities.

— **Sean O’Keefe**

— **NASA Administrator**

Games, prizes, music and children put

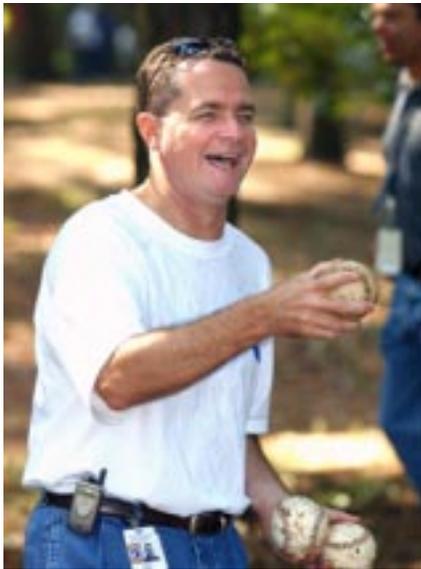
Marshall Center team members and their families spent a fun-filled Saturday last week at the MSFC Picnic Area playing games, winning prizes, listening to music and snacking on hotdogs and hamburgers during the annual Marshall Family Fun Day.

One of the more popular attractions was, as in past years, the dunking booth. Other activities included a 5K Fun Run, meeting astronauts, a magic show and plenty of midway games.



Norm Schmoeker leads the pack Saturday on his way to winning the first 5K Fun Run.

Photo by David Higginbotham, NASA/Marshall Center



Marshall Center Director David King takes his turn throwing a few balls to try and sink a co-worker at the dunking booth.

Photo by David Higginbotham, NASA/Marshall Center



Bayleigh Hicks receives a balloon dog from a clown during Family Fun Day.

Photo by Dennis Olive, NASA/Marshall Center



Shar Hendrick, manager of Marshall's Government and Community Relations Department, watches daughter Olivia spin the arrow to win a prize while her sister, Jane Clair Hendrick, waits her turn.

Photo by Dennis Olive, NASA/Marshall Center



Benjamin Pitts, 2, waits while Jack Hood, left, draws a caricature of him. Pitts' mom, Cassandra, center, seems to be having fun as well.

Photo by David Higginbotham, NASA/Marshall Center

the 'fun' in Marshall Family Fun Day



Photo by David Higginbotham, NASA/Marshall Center

Cedreck Davis of the Center Operations Directorate is getting all wet in the dunking booth.



Photo by Dennis Olive, NASA/Marshall Center

John Howell of the Flight Projects Directorate, right, enjoys the day with his family and "friends." With him is his wife Rebecca and sons Grant, in the carriage, and Chase on the far left.



Photo by David Higginbotham, NASA/Marshall Center

Ford Baggs, 5, winds up a pitch.



Photo by Dennis Olive, NASA/Marshall Center

Jamie Penn enjoys the Giant Slide.



Photo by Dennis Olive, NASA/Marshall Center

Terry Hardy, CSC, holds his daughter Gwyneth and her new dinosaur.



Photo by Dennis Olive, NASA/Marshall Center

Miria Finckenor of the Engineering Directorate, and her daughter, Ruth, enjoy the face painting.



David Higginbotham, NASA/Marshall Center

Jyssica Pepper helps her 3-year-old brother, Matthew, steer the NASCAR simulator.

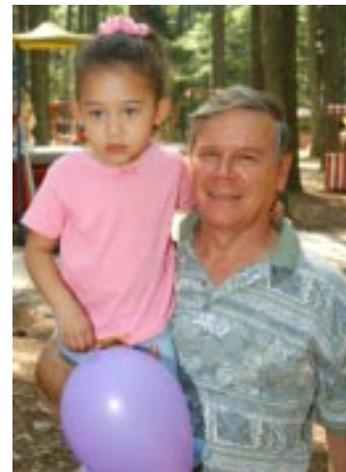


Photo by Dennis Olive, NASA/Marshall Center

Steve Allums of the Space Transportation Directorate holds granddaughter Alexis Hardy.

Job Announcements

MS03C0165, Executive Support Assistant. GS-0303-09-10, Office of the Director, Deputy Director. Closes Sept. 30. Contact: Kevin Plank at 544-961-0157.

MS03D0197, AST, Flight Vehicle Atmospheric Environments. GS-0861-09, Environments Group, Engineering Department, Engineering Directorate. Closes Sept. 25. Contact: Dana Blaine at 544-7514.

MS03D0198, AST, Flight Systems Test. GS-0861-13, Engineering Directorate, Structures, Mechanics and Thermal Department. Closes Sept. 30. Contact: Kevin Plank at 961-0157.

MS03D0199, AST, Structural Mechanics. GS-0861-09/11, Environments Group, Engineering Systems Department, Engineering Directorate. Closes Sept. 26. Contact: Kevin Plank at 961-0157.

MS03D0200, AST, Structural Dynamics. GS-0861-09-11, Engineering Directorate, Structures, Mechanics and Thermal Department. Closes Oct. 2. Contact: Kevin Plank at 961-0157.

MS03D0202, AST, Technical Resources Management. GS-0801-13, Space Shuttle Propulsion Office, Reusable Solid Rocket Motor Project. Closes Oct. 1. Contact: Edwina Bressette at 544-8115.

MS03D0206, AST, Heat Transfer. GS-0861-11, Engineering Directorate, Structures, Mechanics and Thermal Department. Closes Sept. 30. Contact: Kevin Plank at 961-0157.

MS03D0207, AST, Liquid Propulsion Systems. GS-0861-13, Space Transportation Directorate, Subsystems & Component Development Department. Closes Oct. 3. Contact: Jim Bramblett at 544-3398.

MS03D0208, AST, Solid Propulsion Systems. GS-0861-07, Space Transportation Directorate, Vehicle & Systems Development Department. Closes Oct. 3. Contact: Jim Bramblett at 544-3398.

MS03D0209, AST, Liquid Propulsion Systems. GS-0861-11, Space Transportation Directorate, Subsystems & Component Development Department. Closes Oct. 3. Contact: Jim Bramblett at 544-3398.

MS03D0210, AST, Liquid Propulsion Systems. GS-0861-11, Space Transportation Directorate, Subsystems & Component Development Department. Closes Oct. 3. Contact: Jim Bramblett at 544-3398.

MS03S0215, Director, Flight Projects. Senior Executive Service ES-0801-01-06, Flight Projects Directorate. Closes Oct. 13. Contact: Diedra Williams at 544-5721.

MS03D0216, AST, Liquid Propulsion Systems. GS-0861-07, Space Transportation Directorate, Subsystems & Component Development Department. Closes Oct. 3. Contact: Jim Bramblett at 544-3398.

MS03S0217, Director, Center Operations. Senior Executive Service ES-0301-01-06, Center Operations Directorate. Closes Oct. 13. Contact: Diedra Williams at 544-5721.

MS03D0218, AST, Liquid Propulsion Systems. GS-0861-09, Space Transportation Directorate, Subsystems & Component Development Department. Closes Oct. 3. Contact: Jim Bramblett at 544-3398.

MS03D0219, AST, Liquid Propulsion Systems. GS-0861-09, Space Transportation Directorate, Subsystems & Component Development Department. Closes Oct. 3. Contact: Jim Bramblett at 544-3398.

MS03D0220, Systems Accountant. GS-0510-13, Office of the Chief Financial Officer, IFMP Administrative Systems Implementation Office. Closes Oct. 2. Contact: Dana Blaine at 544-7514.

MS03D0221, Systems Accountant. GS-0510-13, Office of the Chief Financial Officer, IFMP Administrative Systems Implementation Office. Closes Oct. 2. Contact: Dana Blaine at 544-7514.

Obituaries

Alba P. Chenault, 87, of Trinity, died Aug. 15. She retired from the Marshall Center in 1978 where she was a secretary in the S&P Lab.

Chenault is survived by her husband, Prince Chenault.

Andrew J. Ellner, 82, of Decatur, died Sept. 10. He retired from the Marshall Center in 1985 where he worked in the Engineering Directorate.

Ellner is survived by his wife, Barbara F. Ellner.

Bentley Parks, 77, of Huntsville, died Sept. 3. He retired from the Marshall Center in 1986 where he was a contract price analyst.

Parks is survived by his wife, Iris L. Parks.

Classified ad guidelines

- ☛ Classified ads due no later than noon Mondays, limit 15 words, including home phone number of seller. Only one phone number allowed per ad. Ads are subject to editing for length and clarity.
- ☛ Civil servants, contractors and Marshall retirees may run ads at no charge. No ads for real estate, timeshares or for goods and services manufactured or provided as a home occupation or business.
- ☛ Ads may be submitted by e-mail to intercom@msfc.nasa.gov. Electronic forms for onsite Marshall team members are on "Inside Marshall." Go to "Employee Resources" to find the form, or to the "News Sources" tab, click "MSFC News" and "Submit Marshall Star Classified Ad."
- ☛ Classified ads can be mailed to: Marshall Internal Relations and Communications Department, CD40, Bldg. 4200, Room 101, Marshall Space Flight Center 35812
- ☛ Organization codes and work phone numbers should be included for clarification. Retirees should include their former org code or department name.
- ☛ Ads must be resubmitted weekly. Ads cannot be submitted by phone.
- ☛ For more information, call Janie Crawford at 544-0514.

Center Announcements

SEE Program to host Spacecraft Charging Technology Conference

NASA's Space Environments & Effects Program will host the eighth Spacecraft Charging Technology Conference Oct. 20-24 in Huntsville. The conference is an international forum to present and discuss spacecraft charging issues and mitigation techniques. For more information, go to <http://see.msfc.nasa.gov/sctc>.

Safety team sponsoring fire extinguisher inspections

The Marshall Safety & Health Action Team, in conjunction with Fire Prevention Week, will host Home Extinguisher Maintenance Day from 10 a.m.-2 p.m. Oct. 7 in the Bldg. 4203 lobby. Marshall team members can bring their home fire extinguishers for inspection, recharging and hydrostatic testing. Safety items, including fire extinguishers, also will be available for purchase. Fire Prevention Week is Oct. 6-10. For more information, call Monte Gravunder at 544-1986.

Symposium on liquid space propulsion is Oct. 27-30

The Marshall Center is hosting the Fifth International Symposium on Liquid Space Propulsion in Chattanooga, Tenn., on Oct. 27-30. The invitation-only symposium is the principal international forum for all aspects of liquid rocket propulsion. This year's theme is "Long Life Combustion Devices Technology" and will cover all aspects of analysis, modeling and design. Experts from around the world also will conduct forums. For details, go to <http://www.chattanooga.com/hotel.com/5thinternational/index.html>. To inquire about an invitation to the symposium, call Roberto Garcia at 544-4974 by Friday.

Applied Systems Engineering workshop will be Oct. 14-17

An Applied Systems Engineering workshop will run from 8 a.m.-4:30 p.m. Oct. 14-17 at the Marshall Institute in

Room 711. The workshop is a review of the latest principles for systems engineering in the context of NASA and Marshall Center development cycles with realistic practice on how to apply these principles. The workshop is geared for program managers, project managers, systems engineers, technical team leaders and others who participate in defining and developing complex systems. Registration is online through AdminSTAR. For more information, call Jerry Miller at 544-7555

'Casual Conversation' with Marshall Director is Monday

Marshall Director David King will host a "casual conversation" with women team members from 12:30-1:30 p.m. Monday in Bldg. 4200, Room P-110. The event is sponsored by the Federal Women's Program.

Astrionics Retirees to meet Oct. 6

Marshall Center Astrionics retirees will meet at 9 a.m. Oct. 6 at Gibson's Bar-B-Q at 3319 Memorial Parkway Southwest in Huntsville. The group meets the first Monday of each month. For more information, call Jim Lewis at (256) 353-1557.

Year-end travel vouchers due

Marshall travelers should make sure vouchers for completed trips are turned in for processing in Travel Manager to ensure payment before the fiscal year ends Sept. 30. Final travel payments for fiscal 2003 will be made Friday and will not resume until mid-October. No travel vouchers will be paid during this period. For more information, see "Inside Marshall."

Instrumentation Division Astrionics retirees meet Oct. 7

Instrumentation Division Astrionics Lab retirees and friends will meet Oct. 7 at 11 a.m. at the Redstone Golf Course coffee shop. For more information, call Tom Escue at (256) 232-1549.

Nobel Laureate Dr. Eric Cornell to speak at Alabama A&M

The Sixth Annual Putcha Venkateswarlu Memorial Lecture at Alabama A&M University in Huntsville will be at 3 p.m. Oct. 3 in the Learning Resource Center. Dr. Eric A. Cornell, of the University of Colorado and the National Institute of Standards and Technology, will speak. He was awarded the 2001 Nobel Prize in Physics, along with Dr. Wolfgang Ketterle and Carl E. Wieman for "The Achievement of Bose-Einstein Condensation in Dilute Gases of Alkali Atoms." A reception will follow the lecture at 5 p.m. in the West Campus Ernest Knight Center at the university. Marshall team members are invited. For more information, call Professor Ravi Lal at (256) 372-8148 or (256) 372-8138.

Proposals sought for Center Director's Discretionary Fund

Proposals are being accepted for project awards from the fiscal 2004 Center Director's Discretionary Fund. The fund provides resources to pursue innovative and creative research ideas relevant to Marshall roles and missions for which other funding sources are unavailable. Proposals are due Oct. 9. For submission instructions and more information, see "Inside Marshall."

Boeing to host Tech Expo Oct. 1-2 at Marshall Center

The Boeing Co. will host a Technology Exposition and Exchange Oct. 1-2 at Bldg. 4316 to showcase technologies, processes and programs that support space and military goals. For a schedule of exhibits and demonstrations, see "Inside Marshall" or go to <http://www.boeing.com/techexpo>. Attendance is restricted by U.S. export regulations and is open only to active duty military, government civilian personnel and invited support contractors.

For more Center Announcements, see "Inside Marshall"

Classified Ads

Miscellaneous

- ★ Eight tailored lace drapery panels, white, 60"Wx84"L, new, sealed in plastic, \$5 each/\$30 all. 885-2401
- ★ Two new Pioneer subwoofers, new in box, \$80. 527-0545
- ★ 1977 Avion travel trailer, 27', for hunting or camping, \$5,000. 931-427-2059
- ★ Dell mini-tower, 200MHz, 128MB RAM, 3.5GB HDD, 50X CD-ROM. Ethernet, sound, video, \$100. 765-532-4218
- ★ Phonics game, \$35. Ice hockey equipment, pants w/pads, helmet, stick, 80-100 lbs., \$50. 880-7106
- ★ Walnut dining room set: table w/leaf and 6 carved chairs, newly reupholstered, \$600. 533-4588
- ★ New Holland TC25D tractor, front-end loader, box-blade, finishing mower, 250 hrs, will deliver, \$16,000. 256-679-8041
- ★ 1997 Pop-up camper, sleeps six, cold a/c, \$3,500. 256-828-7013
- ★ Shogun 400 road bike, chrome/moly double-butted frame w/extra set of wheels, tires, \$100. 461-6337
- ★ Toddler fire truck bed, \$50. 509-6810
- ★ Puppies, 7-weeks, shots current, Chow & Border Collie. \$35. 723-4103
- ★ New York designer fabrics, 8 different rolls, for home decorating, pillows, drapes, etc. 882-1087
- ★ Formal swags for 3 windows, pewter gray w/ revealed powder blue lining, wooden silver rods. 882-1097
- ★ Australian Shepherd puppy, AKC registered, 8-weeks old, female, blue merle, shots/wormed, \$250. 256-828-3668
- ★ PowerCenter Pro Mac clone, G3 upgrade, internal Jaz, CD, modem, monitor, software, \$200. 772-8401
- ★ Ticket to BTL Miss Siagon, 10/26, 2 p.m., Row K, seat 14, \$47. 881-6077
- ★ 1995 Dynasty Elan 191 runabout, Mercury 4.3L/V6 engine, trailer, jackets, and tube, \$8,000. 256-882-3952
- ★ NordicTrack Pro w/video instruction, will deliver, \$100. 325-6000
- ★ Sauder audio/video storage cabinet, medium oak finish, \$25. 721-9005
- ★ Murray lawnmower, 21", 3.75HP, 3 yrs. old, \$55. 890-0755
- ★ Fall/winter clothes: Boy's 4T-5T, Girl's 24M-3T, \$2-\$3; Toy kitchen, \$40. 655-2055
- ★ Thistle sailboat, 17', trailer and two sets of sails, \$2,500. 256-650-5010
- ★ French Provincial dresser and chest w/bookshelf and vanity, \$200. 883-9578
- ★ Antique iron twin bed mattress/bedding, \$250,

- Loveseat, \$200. 256-498-6580
- ★ RayBan Aviators, new in box, gold frame, green lenses, \$50. 931-580-1553
- ★ Bow Flex Power Pro, 2 extra 50lb limbs, Rowing bar; Leg press belt, \$450. 461-7712
- ★ VHS Tapes. Assorted titles. \$5 each or 2 for \$8. 256-830-1844
- ★ Two Valhalla crypts, side by side, Masonic Bldg, price includes all service charges, \$5800. 860-657-1618.
- ★ Two tickets BroadwayTheatre League's "Jesus Christ Superstar." Nov28, 8 p.m. Loge 2, seats C10/11. \$70. 881-8953
- ★ "ForeverMine" Convertible Crib, Mattress, Bedding, 3 Drawer Changing Table, 5 Drawer Chest, White. \$550. 256-233-119
- ★ Farmhouse style table, 36" X 60" w/ 6 chairs, \$250 firm, 461-8848
- ★ Two ALABAMA vs. Arkansas tickets. Face value. 851-9519
- ★ Snapper lawnmower, 6HP, self-propelled, mulcher, \$100; Kenmore refrigerator, 22CF, frost-free, side-by-side, white/black front, \$400. 880-9025
- ★ Rabbit fur jacket, ladies size small, \$40 881-8674
- ★ Warren & Sweat climbing tree stand \$60. 461-7712
- ★ Simmons baby crib w/mattress, \$85. 256-348-6731
- ★ 1997 Viking Popup, sleeps six, cold ac, asking \$3,300.00. 828-7013
- ★ Bantam chicks, assorted, \$3 each. Jackson Vine, mature plants. 536-7906
- ★ Child's bedroom suit, dining room table w/6 chairs, New Home cabinet style sewing machine. 828-6325
- ★ Two old window-unit air conditioners. Worked last time used. \$100 for both. 256-306-0700

Vehicles

- ★ 1993 Toyota Paseo, 2 door, 5 speed, red, CD stereo, 40mpg, 140K miles, \$2950, 216-8868
- ★ 1995 Ranger XLT, 4-cyl., 5-speed, A/C, cruise, AM/FM/CD, chrome wheels, 155K miles, \$3,250. 828-3887
- ★ 1989 Chevrolet Astro van, runs, \$1,000. 650-0865
- ★ 2000 Mazda 626, 4-door, 41K miles, silver w/gray interior, PS/PB/PB/PL, AM/FM/CD cassette, a/c, \$9,950. 256-230-0806
- ★ 2000 Mitsubishi Eclipse GT, new tires, premium package, leather, Infinity audio, 45K miles, \$10,975. 971-0571
- ★ 1995 Dodge Caravan SE, automatic, 163K miles, blue w/gray interior, V6, \$2,100. 256-880-3337
- ★ 1994 Saturn, 4-cyl., 4-door, automatic, 130K miles, a/c, good tires, new brakes, \$1,975 firm. 256-

- 753-2278
- ★ 2002 SR5 Tundra, V8, access cab, 31K miles, off-road pkg., bedliner, CD, cassette, \$20,500. 837-2783
- ★ 2001 Land Rover Discovery, white, many extras, low miles, warranty, new tires. 348-4889
- ★ 1989 S-15 GMC Jimmy, gypsy package, 4.3L, 4WD, black/blue, 230K miles, \$1,650. 837-6517
- ★ 1999 Toyota Avalon XL, all-power, leather, sunroof, a/a wheels, CD/cassette, tan, 75K miles, \$11,500. 880-9025
- ★ 1999 Lincoln Towncar, Signature 4-door sedan, most options, 67,000 miles. \$15,000 obo. 256-881-6670
- ★ 2000 Durango Sport, 99k miles, Auto, V8, AM/FM/CAS, Cruise Control, Towing Package, \$10,500. 256/479-1912
- ★ 1995 Dodge Caravan SE automatic, 164k miles, blue exterior, gray interior, V6, \$2,000. 256-880-3337
- ★ Chevy/GM 1500 '81-'87 truck parts, tilt column, drivers' door, gauges, sliding back glass. 683-9364
- ★ 1999 Hyundai Elantra, under warranty, new tires, 39K miles, \$5,500. 883-1693
- ★ 2002 Chevy Cavalier, blue, 2dr, CD, 35K miles, \$5900. 655-0325

Wanted

- ★ Solid wood chest of drawers, dresser; queen-size bed; solid wood entertainment center; baby crib. 721-2239
- ★ Would like to buy bags of pine needles. 881-6077

Found

- ★ Lady's ring in Bldg. 4250 vicinity. Call 544-7845 to identify/claim

Free

- ★ Doberman female puppies, gentle mom & dad. 881-3035
- ★ Cats and kittens. One, 2-year-old female; three, 3-month-old female kittens; one, 6-month-old female. 828-6325
- ★ Two-month-old gray striped Tabby kitten, 881-8674

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