



MARSHALL STAR

Serving the Marshall Space Flight Center Community

Feb. 12, 2004



NASA/Renee Bouchard

O'Keefe, Diaz host NASA Update

NASA Administrator Sean O'Keefe, left, and Goddard Space Flight Center Director Al Diaz respond to questions during a NASA Update Monday. Diaz led the team that developed a report on how the Columbia Accident Investigation Board's findings can be applied to other NASA projects and programs. Entitled "A Renewed Commitment to Excellence," the "Diaz Report" can be viewed at <http://www.nasa.gov/home/index.html>.

Scientists find ozone-destroying molecule

NASA Headquarters release

Using measurements from a NASA aircraft flying over the Arctic, Harvard University scientists have made the first observations of a molecule that researchers have long theorized plays a key role in destroying stratospheric ozone — chlorine peroxide.

Analysis of these measurements was conducted using a computer simulation of atmospheric chemistry developed by scientists at NASA's Jet Propulsion Laboratory (JPL), in Pasadena, Calif.

The common name atmospheric scientists use for the molecule is "chlorine monoxide dimer" since it is made up of two identical chlorine-based molecules of chlorine monoxide, which are bonded together. The dimer has been created and detected in the laboratory; in the atmosphere it is thought to exist only in the particu-

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NASA Web-based education program expanded

by Sanda Martel

NASA has expanded NASAexplores, a Web-based education program that features express lessons and online resources for teachers and students.

The Web site includes articles about research conducted in microgravity, the low-gravity environment on spacecraft such as the International Space Station and the Space Shuttle.

Biology and physics space research material, provided by NASA's Office of Biological and Physical Research, adds to articles and lessons about aeronautics, exploration systems, and space flight. The site has attracted users in more than 100 countries and recorded more than 1.5 million hits monthly over the past two years.

New space research topics planned for the site include gravity and space environmental impacts on life; research opportunities that expand understanding of the laws of gravity and enrich life on Earth; issues around human survival in space; technologies to enable the next generation of explorers to explore space; and strategies for inspiring the next generation to take up the challenges of exploration.

"The new NASAexplores content will give K-12 teachers and students access to materials that focus on all aspects of microgravity, from its physiological effects on the human body to its physical effects on materials and biological samples exposed to the space environment," said Jim Pruitt, manager of education programs at the Marshall

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For the latest revision of the Return to Flight Implementation Plan, go to <http://www.nasa.gov/news/highlights/returntoflight.html>

AIAA selects 11 Associate Fellows from Marshall

from the American Institute of Aeronautics and Astronautics

Eleven members of the Marshall team have been selected as an Associate Fellow by the American Institute of Aeronautics and Astronautics.

The AIAA is the principal society of aerospace engineers and scientists and represents more than 30,000 professional and student members worldwide.

Associate Fellows must be AIAA Senior Members and have at least 12 years

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Marshall Center Black History Month program Feb. 26

Marshall is a great place to work, and we have much to be grateful for and excited about.

For me, as Center Director, my gratitude list is long. A day does not go by that I do not feel grateful for the opportunity to come here and work with this talented team. I am grateful for how this diverse group interacts with one another. I can't help but believe it is because we are inspired by our Core Values to treat each other with dignity and respect. This Center works hard to recognize our individual differences, and it is important that we continue to make progress in this area, not because it is politically correct, but because it is the right thing to do. Differences add value.

Sadly, it hasn't been that long ago that our nation was locked in a heated battle over this very issue – appreciating differences. Among the many prejudices

Director's Corner



Photo by Doug Stoffer, NASA/Marshall Center

King

and denial of equal rights, the mandate of separate schools based on race was brought to the forefront of national attention. The 1954 landmark case “Brown

vs. The Board of Education,” paved the way for important and necessary changes in this country. By unanimous decision, the U.S. Supreme Court issued its ruling that it was unconstitutional to separate children in public schools because of race.

Marshall will commemorate the 50th anniversary of this turning point in history during our annual Black History Month celebration in Morris Auditorium on Feb. 26. Our keynote speaker will be Dr. Beverly Daniel Tatum, president of Spelman College in Atlanta. I had the privilege of meeting Dr. Tatum last October and was impressed by her enthusiasm and love of learning. I look forward to hosting her as our honored guest, so please mark your calendars and come support the Marshall team.

—David King
Marshall Center Director

Ozone

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larly cold stratosphere over Polar Regions when chlorine monoxide levels are relatively high.

“We knew, from observations dating from 1987, that the high ozone loss was linked with high levels of chlorine monoxide, but we had never actually detected the chlorine peroxide before,” said Harvard scientist and lead author of the paper, Rick Stimpfle.

The atmospheric abundance of chlorine peroxide was quantified using a novel arrangement of an ultraviolet, resonance fluorescence-detection instrument that had previously been used to quantify levels of chlorine monoxide in the Antarctic and Arctic stratosphere.

“We’ve observed chlorine monoxide in the Arctic and Antarctic for years and from that inferred that this dimer molecule must exist and it must exist in large quantities, but until now we had never been able to see it,” said Ross Salawitch, a co-author on the paper and a researcher at JPL.

Chlorine monoxide and its dimer originate primarily from halocarbons, molecules created by humans for industrial uses like refrigeration. The Montreal Protocol has banned use of halocarbons, but these halocarbons persist in the atmosphere for decades.

“Most of the chlorine in the stratosphere continues to come from human-induced sources,” Stimpfle said.

Chlorine peroxide triggers ozone destruction when the molecule absorbs sunlight and breaks into two chlorine atoms and an oxygen molecule. Free chlorine atoms are highly reactive

with ozone molecules, thereby breaking them up, and reducing ozone. Within the process of breaking down ozone, chlorine peroxide forms again, restarting the process of ozone destruction.

“You are now back to where you started with respect to the chlorine peroxide molecule. But in the process you have converted two ozone molecules into three oxygen molecules. This is the definition of ozone loss,” Stimpfle said.

“Direct measurements of chlorine peroxide enable us to better quantify ozone loss processes that occur in the polar winter stratosphere,” said Mike Kurylo, NASA Upper Atmosphere Research Program manager at NASA Headquarters in Washington.

“By integrating our knowledge about chemistry over the polar regions, which we get from aircraft-based in situ measurements, with the global pictures of ozone and other atmospheric molecules, which we get from research satellites, NASA can improve the models that scientists use to forecast the future evolution of ozone amounts and how they will respond to the decreasing atmospheric levels of halocarbons, resulting from the implementation of the Montreal Protocol,” Kurylo said.

These results were acquired during a joint U.S.-European science mission, the Stratospheric Aerosol and Gas Experiment III Ozone Loss and Validation Experiment/Third European Stratospheric Experiment on Ozone 2000. The mission was conducted in Kiruna, Sweden, from November 1999 to March 2000.

Education

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Center. Pruitt is responsible for the creation and management of NASAexplores.

Weekly e-mail notices, with abstracts of articles and brief descriptions of the latest lesson plans and activities, are sent to subscribers. The site is updated each Thursday with new material, including news and details about national education conferences and other events of interest to the education community.

Each NASAexplores lesson is presented in four versions, elementary, middle, high school and teachers' editions. Each grade-level article features two lesson plans for students, teacher sheets and a glossary. Special features such as puzzles, trivia, games and reading lists, with tie-ins to the educational material, are also posted.

NASAexplores products are developed using the national standards for science, mathematics, technology and geography adopted by the National Science Teachers Association; the National Council of Teachers of Mathematics; the International

Society for Technology in Education/International Technology Education Association; and the National Geographic Society.

Materials are suitable for both classroom and home school settings. Teachers can search the Web site by keyword, subject, grade level, preparation time, and materials needed or national standards.

"Educators have one of the world's most important jobs, educating the next generation," Pruitt said. "NASA's mission statement dedicates the Agency to inspiring the next generation of explorers, and we believe that partnering with teachers is vital to this goal."

The NASAexplores team consists of a program manager, a team leader who is also a certified teacher, a full-time staff of experienced classroom teachers, two science writers, an editor/marketing specialist and a Web author.

For information about NASA educational programs on the Internet, visit: <http://www.education.nasa.gov>.
The writer, an employee of ASRI, supports the Media Relations Department.

AIAA

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professional experience in their field.

Marshall team members selected for Associate Fellow in the AIAA Alabama-Mississippi Section are:

- Michelle D. Bailey, ED
- Biliyar N. Bhatt, ED
- Jonathan W. Campbell, FD
- William J. Escher, SAIC
- D. Brian Landrum, University of Alabama in Huntsville
- John O. Lassiter, ED
- George M. Lide, SAIC
- Gordon A. Lowrey, Lockheed Martin
- Paul L. Luz, SD
- Lon F. Miller, Sverdrup
- Steven R. Noneman, TD



Bailey



Bhatt



Campbell



Escher



Landrum



Lassiter



Lide



Lowrey



Luz



Miller



Noneman

Judy Marie Tate fills lots of shoes for Space Station science

by Lori Johnston

Judy Marie Tate has so many shoes that if she could walk to the International Space Station, 240 miles up, she seemingly could swap out her footwear every mile along the way.

Tate took a big step, packing up her shoes and moving away from her family and friends in Houston to the Marshall Center for one year to coordinate Space Station activities with scientists and ground teams.

She laughed, saying her passion for shoes is “genetically” inherited from her mother, as is her work ethic. “My mother always told me that anything you do is a direct reflection of the person you are,” Tate said. “I hope that what I’m doing shows my love of science and finding out new things. That’s why I’m always looking to do my best in helping carry out the science mission on the Space Station.”

Tate is the first African-American woman to support Space Station science activities as a lead increment scientist representative, called a “LIS rep,” acting as the liaison between the lead increment scientist at NASA’s Johnson Space Center in Houston and the Payload Operations and Integration Center at Marshall that plans Space Station science activities.

“I’ve always liked to do things that weren’t easy,” Tate said. “I loved to read as a kid, and science challenged me. If others thought it was hard, I wanted to do it.”

Her mother, Julia Cash, who now lives outside Houston in Hitchcock, Texas, raised Tate and her older brothers James and Troy. She graduated from LaMarque High School, just south of Houston. With the entire family pitching in to help with the finances and moral support, Tate went on to become the first person in her family to graduate from college.

“I was taught that I could accomplish anything I wanted to if I worked hard, no matter what people thought of me,” Tate said. “I have stuttered since I was able to talk, hence most people assumed I could not answer. Because of this, I have always had to prove myself when doing any job. The nurturing environment I was raised in taught me not to let my stuttering hinder my ability to succeed.”

After graduating with a bachelor’s degree in biology from Southwest Texas State University in San Marcos, Tate became a research assistant at the University of Texas medical branch at Galveston. She studied the deficient immune systems of premature babies to fight bacterial and fungal infections. Tate enjoyed the research, and contributed to several professional articles about the research. But when the grant money ran out, Tate still



Judy Marie Tate at a console in Marshall's Payload Operations Center.

Photo by David Higginbotham, NASA/Marshall Center

wanted to work in research, and that’s when she found herself working with the most sophisticated laboratory ever built - the International Space Station.

By 2000, Tate had completed her master’s degree in biology from the University of Houston-Clear Lake, and signed on with the Lockheed Martin Corporation, a NASA contractor. At Johnson Space Center, Tate planned the science experiments and cargo, called payloads, that would eventually travel to the Space Station. But in November 2002, Tate was given the opportunity to work with the science research as it is being conducted on the Station. The only catch: the job required relocating to Alabama.

“I thought it was a great opportunity for me to expand my science knowledge and allow me to work in a different environment,” Tate said.

Working at the Payload Operations Center — the command post at the Marshall Center for all science activities aboard the Space Station — Tate determined what experiments were given priority when issues arose, and made sure all science research was completed.

“The environment there was always changing,” Tate said. “Every day when I came to work there were new situations, and there was always something different going on. Nothing was routine.”

Although she would some day like to have an experiment of her own on the Space Station, she has no desire to go into space to conduct them herself.

“I’m a perfectionist, but I’m willing to let someone else ‘fill my shoes’ as a scientist and conduct experiments in space for me,” she said. “I’d be happy just to watch the pictures of my experiment from down here on Earth.”

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

New crews named for 2004 Space Station missions

Johnson Space Center release

NASA and its International Partners have assigned new crews to fly to the International Space Station this year. As Expedition Nine, NASA astronaut Edward Michael "Mike" Fincke and Russian cosmonaut Gennady Padalka will be the next crew to live aboard the complex. NASA astronaut Leroy Chiao and Russian cosmonaut Salizhan S. Sharipov will serve as Expedition Ten.

Fincke and Padalka are set for launch April 18 on a six-month mission. Padalka will serve as Expedition Nine commander and Soyuz commander, and Fincke will be the NASA Space Station science officer and flight engineer. They have been training together as a Space Station crew since March 2002.

Chiao and Sharipov will serve as backup for Expedition Nine and as the prime crew for Expedition Ten. They are scheduled to launch to the Space Station in October. Chiao will serve as the expedition commander and NASA science officer, and Sharipov will serve as Soyuz commander and flight engineer. Astronaut William S. McArthur Jr. and cosmonaut Valery I. Tokarev will serve as the Expedition Ten backup crew.

Russia proposed the new assignment to International Space Station partners through the Multilateral Crew Operations Panel (MCOP). The MCOP agreed to the exchange last week. The decision is still subject to internal review by each partner agency, and NASA anticipates that process to be completed soon.

In November 2003, McArthur and cosmonaut Tokarev were named as Expedition Nine commander and flight engineer, respectively.

In mid-January, astronaut Chiao was named as the Expedition Nine commander due to a temporary medical issue related to McArthur's qualification for that long-duration flight.

Following Chiao's assignment to fly with Tokarev, NASA and its partners continued to evaluate available crew resources for upcoming flights and decided it was optimal to keep teams together. Since Fincke and Padalka had trained together for years, as had Chiao and Sharipov, the partners made the decision to modify the crew assignments.

"As we've continued to evaluate the best use of crew training and resources, we altered our plans to accommodate a change in the Expedition Nine and Ten crews," Chief Astronaut Kent Rominger said. "Fortunately, the partnership has a pool of highly qualified crew members available, which gives us the flexibility to deal with unexpected circumstances. After a very thorough evaluation by our partners, I'm

confident that these assignments make the very best use of our crew resources and skills and will ensure the flights' full success."

European Space Agency Astronaut Andre Kuipers will also launch aboard the Soyuz with Fincke and Padalka in April. Kuipers will spend about a week aboard the Station conducting scientific experiments under a commercial agreement between the European Space Agency and Russia. Kuipers will return to Earth with Expedition Eight crewmembers Mike Foale and Alexander Kaleri.

Fincke, a U.S. Air Force lieutenant colonel, is a native of Emsworth, Pa. He will be making his first space flight. Fincke has trained as a backup Station crewmember for two previous missions, Expeditions Four and Five.

Padalka also has trained as a backup Station crewmember with Fincke for Expedition Four. Padalka will be making his second space flight, having completed 198 days aboard the Russian Mir Space Station in February 1999.

SHE Committee nominations open for chair, deputy

The Safety, Health & Environmental Committee is seeking nominations for chairperson and deputy chairperson. The term of office is one year, beginning in April. Chairperson nominees must be on-site civil servants. Deputy chairperson nominees can be on-site civil servants or contractors. The vote will take place at the Feb. 25 SHE Committee meeting. Nominations should be submitted to Cynthia.A.Behel@msfc.nasa.gov or call 544-2794.



Photo by Dennis Olive, NASA/Marshall Center

Presenting Student Launch Initiative design reviews

Lee High School students participate in a Critical Design Review as part of the NASA Student Launch Initiative. Two other area teams, Athens Bible School and Huntsville's New Century Technology High School, participated in the Jan. 30 review, as well as student teams from Indiana, Maryland and New York. The six teams presented plans for launch vehicles and scientific payloads, which they will design and build with the goal of reaching an altitude of one mile. After the review, students will begin construction in preparation for a launch in early spring.

Obituaries

Richard J. Stein, 79, of Birmingham, died Jan. 29. He was born Jan. 25, 1925, and retired from the Marshall Center in 1985, where he worked in technical management.

Jerry Thomson, 76, retired chief engineer for the Space Shuttle Main Engine at the Marshall Center, died Feb. 1.

Graveside services were held in Vincent City Cemetery in Vincent with Laughlin Service Funeral Home directing.

Thomson was born Aug. 18, 1927, to Jeffie B. Williams and Randolph C. Thomson of Bessemer. When he was 16, he enlisted in the Merchant Marines and in 1944 he enlisted with the U.S. Marine Corps. Following World War II, Thomson graduated with a bachelor's degree in mechanical engineering from Auburn University. From 1953–1956, he worked in the development of the Liquid Oxygen/RP1 rocket motor technologies while working for North American Aviation in Canoga Park, Calif.

He worked for Rust Engineering in Birmingham from 1957–1960, then came to work for the Army Ballistic Missile Agency in Huntsville, before his transfer to the Marshall Center when it was opened on July 1, 1960.

Thomson served as a test engineer during the Mercury, Gemini, and Apollo programs during the development of the H-1, J-2, and F-1 engines for NASA. In 1968, he was selected by

NASA to begin preliminary design studies in development of the Space Shuttle Main Engine. From 1971 to 1986, Thomson was chief engineer for the Space Shuttle Main Engine, and in that position he organized the engineering efforts at Marshall — supporting 23 Shuttle flights.

“Jerry was an excellent engineer” said Alex McCool, recently retired director of the Marshall Center’s Space Shuttle Projects Office. McCool recalled when Thomson was working for Rust Engineering in Birmingham in the late 1950s and was considering coming to Huntsville. “I had a lot to do with his coming here to work in propulsion,” he said.

In 1981, Thomson was awarded the NASA Exceptional Service Medal for his contribution to the success of Space Shuttle propulsion. He retired from the Marshall Center in 1989, and went to work with Aerojet in Sacramento, Calif.,

until 1995 as chief scientist for advanced propulsion. Following his work at Aerojet, Thomson returned to Huntsville.

He is survived by three sons, Jeff Thomson of Owens Cross Roads, Larry Thomson of Lacey’s Spring, and William Thomson of Huntsville; and three grandchildren.



Thomson

Job Announcements

MS04S0069, Senior Executive Service, Deputy Director, Science Directorate. ES-1301-01, 06 (promotion potential to ES-6), Science Directorate. Closes Feb. 24. Contact: Diedra Williams at 544-5721.

MS04D0074, AST, Flight Systems Safety. GS-0861-14, Safety and Mission Assurance Office, SR&QA Policy, Assessment & Integration Department. Closes Feb. 19. Contact; Rita Evans-McCoy at 544-7507.

MS04D0075, Industrial Property Management Specialist. GS-1103-12 (Promotion potential to GS-13), Center Operations Directorate, Logistics Services Department, Property Management Group. Closes Feb. 26. Contact: Dana Blaine at 544-7514.

MS04N0078, AST, Aerospace Flight Systems. GS-0861-13, Flight Projects Directorate, Flight Systems Department, Pressurized Carriers Group. Closes Feb. 24. Contact: Carolyn Lundy at 544-4049.

NASA scholarship applications available

Applications for the NASA College Scholarship Fund are being accepted through March 22. There are five scholarships in the amount of \$2,000 each available to dependents of NASA employees and retirees.

The scholarships are made available through the NASA College Scholarship Fund Inc., a Texas non-profit corporation established by Pulitzer Prize-winning author James A. Michener. Since 1982, 109 scholarships have been awarded.

Applicants must pursue a course of study in science or engineering that will lead to a recognized undergraduate degree at an accredited college or university.

To download an application form, go to <http://jscppeople.jsc.nasa.gov/ncsf.htm>. Applications also are available at the Wellness Center, Bldg. 4315 or in the Space Shop in Bldg. 4203. For details, call Bill Mayo at 544-7220.



Photo by Doug Stoffer, NASA/Marshall Center

Director's Commendation awarded

Marshall Center Director David King, center right, presents a Director's Commendation to Melissa Van Dyke, center left, and to the Early Flight Fission Test Facility Team last week. King recognized Van Dyke and her team for their work on simulated reactor testing for nuclear propulsion.

Announcements

Marshall Deputy Rex Geveden to speak at NASA conference

Marshall Center Deputy Director Rex Geveden will be a speaker at the first NASA Project Management Conference March 30-31 at the University of Maryland Conference Center near College Park. Goddard Space Flight Center is coordinating the event, which will examine current trends in project management. Mike Kostelnik, NASA's deputy associate administrator for International Space Station and Space Shuttle, also will speak. The event is open to civil service and contractor team members. Seating is limited. For more information, go to <http://pmchallenge.gsfc.nasa.gov>.

National Engineers Week Award Banquet is Feb. 26

The annual National Engineers Week Award Banquet will be at 6 p.m. Feb. 26 in the North Hall of the Von Braun Center in Huntsville. Tickets are \$25 per person for advance reservations and \$38 per person for reservations made after Feb. 18. For more information, see "Inside Marshall."

American Cancer Society 'Relay for Life' set for April 30-May 1

The American Cancer Society's "Relay for Life" fund-raising event will be from 5:30 p.m.-7 a.m. April 30-May 1 at Milton Frank Stadium in Huntsville. The overnight event remembers those who have lost the fight against cancer and honors those who have survived. Teams are assigned from businesses, clubs, families, friends, schools and churches. For more information, call Bennie Jacks at 852-8325.

NASA Fellowship Program applications available

The NASA Administrator's Fellowship Program is accepting applications through March 19. The program is designed to enhance relations between NASA and historically black colleges and other minority institutions. NASA employees at the GS-13 level or above are

encouraged to apply and must hold a master's or doctorate degree. The 18-22 month program allows NASA employees to teach or conduct research at a minority institution for one year and participate in other opportunities for the remainder of the fellowship. For details, call 544-3740 or 544-7527.

Earth Day contests open for submissions

Three Earth Day contests are open for submissions by Marshall team members. The theme for this year's Earth Day celebration is "Spaceship Earth: No Passengers ... All Crew." Gift certificates will be awarded in each contest -- "Earth Day Logo," "Earth Day Photography," and "Environmental Suggestions." For contest rules and submission deadlines, see "Inside Marshall." Marshall's Earth Day events will be from 10:30-11:30 a.m. April 15 in Center Activities Bldg. 4316.

Retired Federal Employees to meet Saturday

The National Association of Retired Federal Employees will meet at 9:30 a.m. Saturday at the Senior Center on Drake Avenue in Huntsville. Patricia White, a financial planner, will speak. For details, call 881-4944 or 882-2406.

Blood Drive set Friday

A blood drive sponsored by ALIFESouth Community Blood Center will be from 8 a.m.-1:30 p.m. Feb. 13 in the Marshall Center Activities Bldg. 4316. For details, call Rick Wallace at 544-8885.

Management operations retirees to meet Feb. 26

The Management Operations Office retirees will meet for brunch at 10 a.m. Feb. 26 at the Cracker Barrel Restaurant in Madison. For details, call 539-0042.

For more Announcements, see "Inside Marshall"

One NASA e-mail system for civil servants now online

The new One NASA e-mail system is online for civil servants. The new system does not use the "msfc" identifier in the address. Civil servants should edit their e-mail addresses using the SOLAR Web site. Contractor e-mail addresses have not changed. For details, see "Inside Marshall."

Geometric Dimensioning courses set for March, April

Two courses in Geometric Dimensioning will be offered at the Marshall Institute. Basic Geometric Dimensioning & Tolerance Training will be from 8 a.m.-3:30 p.m. March 1-4. Geometric Dimensioning Space Flight Design will be April 12-16. For details, e-mail pat.schultz@nasa.gov.

'NASA Night' with the Channel Cats set Feb. 28

The Marshall Exchange is offering discounted tickets for "NASA Night" to NASA employees, contractors and retirees to see the Huntsville Channel Cats hockey team play the Winston-Salem T-Birds at 7:05 p.m. Feb. 28 at the Von Braun Center. Discounted tickets are \$5 and must be purchased by Feb. 25. To receive the discounted ticket price, call Drew Carter at (256) 518-6163.

Marshall Exchange sponsoring oriental plants and crafts fair

The Marshall Exchange is sponsoring an oriental plants and crafts fair from 9 a.m.-3 p.m. Feb. 17-19 in the Bldg. 4203 lobby. Lucky Bamboo in gift ceramic pots with stone pebbles and Bonsai plants will be available along with wood desktop military and civilian collectible model airplanes and helicopters. For details, call Candy Kelley at 544-7565.

Mentors needed for Equal Opportunity summer internships

To be an Equal Opportunity mentor for a 10-week undergraduate program, call Madeline Hereford at 544-7420.

Classified Ads

Miscellaneous

- ★ Bachmann N-scale diesel electric train set. Complete, unused in box. \$50. 306-0700 Decatur
- ★ Craftsman wood lathe, used very little, w/4 drawers & storage stand, \$350. 852-2255
- ★ Myles Keller compound bow w/many accessories, \$75; Trampoline safety net, new in box, \$100. 325-6000
- ★ Hoover WindTunnel bagless upright vacuum w/HEPA filter, \$60. 205-305-9376
- ★ HP Deskjet 3650 color printer, USB interface, never used, \$35. 650-5128
- ★ Hogan Apex silver graphite 24.5 loft, \$50. 337-5825
- ★ Antique sterling silver gemstone ring and gold dome ring, \$25. 890-0755
- ★ Vented LP gas logs, new. 881-7000
- ★ Fisher Price Fold-Up & Go Deluxe take along swing w/music, lights, 8 speeds, \$25. 828-6387
- ★ Set of P205/60H15 tires w/15x7 American Racing Chrome rims, \$250. 256-895-9137
- ★ 1977 Avion travel trailer, 27', for hunting, camping or lake lot, \$4,500. 931-427-2059
- ★ Fiberglass topper from Mitsubishi p/u, 7.5', make offer. 461-7712
- ★ Dewalt 10" Bench-top saw, Model 744S, brand new, w/stand, carbide blade, \$475. 883-1788
- ★ Ladies Prague black leather jacket, new, never worn, \$100. 859-2633
- ★ Booster seat for 4-6 yr. old, w/drink holder, toy caddy, \$15. 890-0755
- ★ Chinchillas: gray pair, 2 yrs. old, \$120 for both. 430-0759
- ★ Chest of drawers, 5-drawer, & nightstand painted primary colors for child's room, \$100. 859-4048
- ★ Problem solver books: Electronics, 1&2; Linear Algebra; Electric Circuits, Automatic Control Systems/Robotics, \$12 each. 881-8130
- ★ Antiques: Walnut dining table w/6 chairs; Cherry corner cabinet; Cherry buffet; newer china cabinet. 256-232-9303
- ★ Kenmore electric slide-in range, white, \$100; NordicTrak Pro ski machine, \$70. 256-489-0609
- ★ Bowflex XL Pro, compact machine to exercise all major muscle groups, \$600. 881-1090
- ★ Weedeater, 5hp, 24", \$250; 1-1/2 ton floor jack, \$50. 883-9884
- ★ Little Tykes 3-wheeler w/trunk, \$15; Little Tykes motorcycle/rocker, \$15; Firetruck pedalcar, w/ladder/hose/bell, \$125. 351-1754
- ★ KitchenAid refrigerator, white, 25 cu. ft., side-by-side, compressor warranty, 5-yr. old, water/ice in-door, \$600. 883-5886
- ★ Bates queen bedspread, light pink embossed w/

- white, \$40; Sears chipper/shredder, 8hp, \$250. 837-6776
- ★ Full bed w/bedding, \$75; vacuum cleaner, \$75; computer desk, \$50; book case, \$20. 534-0939
- ★ This End Up beds w/mattresses & ladder, \$350. 533-5942
- ★ Kenmore trash compactor, brand new, \$175. 714-4742
- ★ Cell phone for Sprint PCS system, color screen, clamshell, car/wall charger, ear piece, \$35. 256-658-5855
- ★ Wireless video transmitter & receiver, 2.4GHz, 100' range, \$40. 765-532-4218
- ★ Stevens double-barrel, 16-ga., \$220; single, 20-ga., \$100; Remington 870 Express Slug gun, 12-ga., \$225. 265-498-5911
- ★ Palm V accessories kit, modem, charger, wireless web, GSM upgrade, carrying case, \$20. 772-8489
- ★ Paula Vaughn prints, signed, numbered, framed. 883-4723
- ★ Lab-top memory 512GB (256x2) PC2100. 256-658-4893
- ★ DR set, Bassett, French Pro, solid cherry, table, 6 chairs, hutch, buffet, \$2,995. 881-0883
- ★ Room air conditioner, 7,000 BTU, 7.5amp, 115vac, \$75. 230-0503
- ★ Compound bow, High Country, silent hunter w/extras, \$100. 256-586-4971
- ★ Two tickets to BTL Grease, Feb. 22, 2 p.m., VBC, orchestra seats, \$83 pair. 351-8221
- ★ Home Interior items: pictures, greenery, other household decorating items. 256-502-0400
- ★ Sofa & matching love seat; taupe/green design, \$600; outside wood door w/windows, 32", \$100. 883-5168
- ★ Sun auto tune-up kit, timing light, dwell/Tach & more, w/carrying case, \$100. 656-9009
- ★ Bowflex PowerPro 210XTLU fitness system w/LAT pulldown & squat attachments, \$875. 852-2219
- ★ Nordic Track Pro skier, \$75; Uniden radar detector, \$20. 506-3236

Vehicles

- ★ 2000 Honda Civic, automatic, am/fm/cd, keyless entry, new tires, 71K miles, \$8,500. 895-0577
- ★ 1989 Buick LaSabre, needs head gasket/rod work, good body/tires, 258K miles, best offer. 721-4534
- ★ 2002 Dodge Intrepid SE, approx. 33K miles, dark blue. 256-464-9772
- ★ 1996 Plymouth Grand Voyager, white, one-owner, 113K miles, auto, V6, well maintained. 895-9414
- ★ 2000 Lincoln LS, beige, heated seats, custom tint, loaded, 52K miles, \$16,900. 797-6407
- ★ 1994 Cadillac DeVille, white, leather, 113K miles, garaged, \$6,200. 864-0155
- ★ 2001 Chevy Tahoe, burgundy, loaded, leather,

- sunroof, heated seats, Onstar, third seats, 63K miles. 599-9610
- ★ 2003 Ford Expedition, approx. 15K highway miles. 256-233-6197
- ★ 1996 Dodge Intrepid ES, 92K miles, auto, leather, ps/pb/ew/ex, auto-climate, 125-amp fm/am/cd, Trac control. 683-3745
- ★ 1998 Chevy Silverado crewcab Dualie truck, 454 auto, pewter, 92K miles, \$13,500. 534-8751
- ★ 1967 Chevy SWB, 327 steel crank; TRW forged pistons, 375HP, double hump heads, \$5,500. 256-655-3709
- ★ 2002 Chevy Cavalier, 5-speed, air, CD, 45K miles, \$3,900. 851-1854
- ★ 1991 Explorer XLT, 4-door, leather, sunroof, 64K miles, \$3,000+ in new parts, \$4,000. 880-6498
- ★ 1995 Ford Windstar GL van, one-owner, \$3,150. 256-722-0997
- ★ 1990 S-10, 4-wheel drive, all-power, black, 82.5K miles. 890-0499
- ★ 1995 Taurus GL, power driver's seat, pw/pm, 3.0L/V6, 173K miles, rebuilt transmission, \$1,950. 256-233-5403
- ★ 1989 Honda CR250R, \$1,000; 1996 Honda XR100, \$1,200. 655-6293
- ★ 1993 Ford Explorer, plum, all-power, new brakes, tires, air conditioning, \$2,900. 256-772-0430
- ★ 2000 Nissan Frontier, crew-cab, 4-door, auto, all-power, am/fm/cass/cd, 85K miles, \$11,500. 880-9025
- ★ 1998 Harley Wide Glide, black w/chrome, bags, windshield, extra seat, \$15,900. 882-2654

Wanted

- ★ 1988 up, Chev. p/u, bad engine or transmission that needs work, V8/auto, good body. 654-0789
- ★ Single or double jogging stroller. 479-2620
- ★ Model of Saturn V; men's Schwinn bicycle, 26"; chipper/shredder. 883-7851 after 5 p.m.

Found

- ★ Pair of sunglasses in P-110, Bldg. 4200. Call 544-2940 or 544-0988 to claim/identify
- ★ Pair of sunglasses turned in to Security Desk, Bldg. 4200. Call 544-3623 to claim/identify

Free

- ★ Pine logs suitable for pole building, cut to your length and diameter specifications. 881-6040
- ★ Hand-fed cockatiels, free to good home. 457-3396

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