



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

## Four Marshall managers receive Presidential Rank Awards



Carolyn Griner



Tereasa Washington



Ann Whitaker



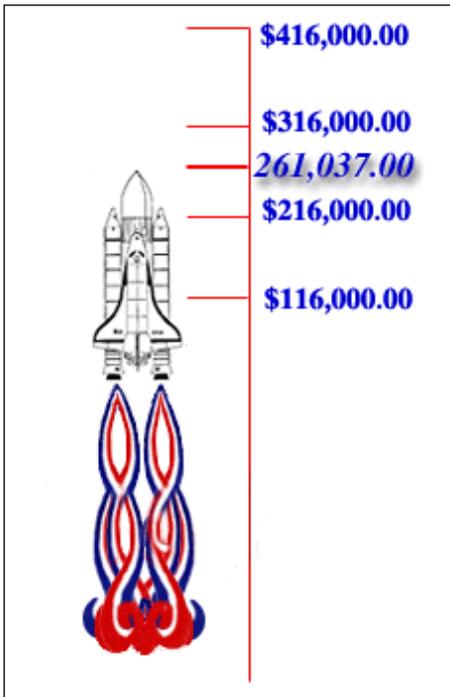
Keith Henson

Four Marshall managers recently received the Presidential Rank of Meritorious Executive Award, given annually to a select group of career senior executives for achievement recognized throughout NASA or nationally or internationally.

Receiving the award are Carolyn S. Griner, Marshall deputy director; Tereasa H. Washington, director of the Customer and Employee Relations Directorate; Ann F. Whitaker, director, manager of the Materials, Processes and Manufacturing Department in the Engineering Directorate; and V. Keith Henson,

manager of the Reusable Solid Rocket Motor Project before retiring earlier this year.

Award winners are chosen through a rigorous selection process that includes nomination by their agency heads, evaluation by boards of private citizens and approval by the president of the United States. The evaluation criteria focus on the executive's leadership in producing results. Meritorious executives receive a framed certificate, silver pin and cash award equal to 20 percent of base pay.



Graphic by Sandra Lamar



Oct. 4 - Nov. 12

## Challenges help spur CFC contributions

by Bruce Askins

In the first three days of the Combined Federal Campaign (CFC), Marshall civil service employees and contractors donated \$146,709. After only eight days, the total reached \$261,037.

The campaign kicked off Oct. 4 and continues through Nov. 12.

Civil service employees may contribute through payroll deduction or lump sum. Deductions can be made either online through the CFC Web site located on "Inside Marshall," or through key workers. This year, retirees and contractors may make one-time donations.

To encourage employees to reach the Center goal of 90 percent participation, the Materials Processes and Manufacturing Department of the Engineering Directorate

has issued a challenge to its employees.

If the department gets 85 percent CFC participation, Steve Gentz, the deputy group leader, and Wayne Gamwell, a team leader, will get the "Marine high and tight haircut." If the department gets 90 percent CFC participation, Paul Munafo, the deputy manager, will get the "Marine high and tight haircut." And, if the department gets 92 percent CFC participation, Ann Whitaker, the manager, will get a "pixie" haircut.

The idea is just one of many to increase participation. In the Army, a manager agrees to kiss a pig if his or her group reaches its goal. Sometimes it encourages participation to have interim goals that step up to the highest goal.

*The writer is the CFC chairman.*

**"Safety Soars"**

— Safety slogan submitted by Kurt Schultz, OAO

# Practical suggestions for hiring persons with disabilities

## Do!

- Do learn where to find and recruit people with disabilities.
- Do learn how to communicate with people who have disabilities.
- Do ensure that your applications and other company forms do not ask disability-related questions and that they are in formats that are accessible to all persons with disabilities.
- Do consider having written job descriptions that identify the essential functions of the job.
- Do ensure that requirements for medical examinations comply with the Americans with Disabilities Act.
- Do relax and make the applicant feel comfortable.
- Do provide reasonable accommodations that the qualified applicant will need to compete for the job.
- Do treat an individual with a disability the same way you would treat any applicant or employee — with dignity and respect.
- Do know that among those protected by the Americans with Disabilities Act are qualified individuals who have AIDS, cancer, who are mentally retarded, traumatically brain injured, deaf, blind or learning disabled.
- Do understand that access includes not only environmental access, but also making forms accessible to people with visual or cognitive disabilities and making alarms/signals accessible to people with hearing disabilities.
- Do develop procedures for maintaining and protecting confidential medical records.
- Do train supervisors on making reasonable accommodations.

## Don't!

- Don't assume that persons with disabilities are unemployable.
- Don't assume that persons with disabilities lack the necessary education and training for employment.
- Don't assume that persons with disabilities do not want to work.
- Don't assume that alcoholism and drug abuse are not real disabilities, or that recovering drug abusers are not covered by the Americans with Disabilities Act.
- Don't ask if a person has a disability during an employment interview.
- Don't assume that certain jobs are more suited to persons with disabilities.
- Don't hire a person with a disability if that person is a significant risk of substantial harm to the health or safety of the public and there is no reasonable accommodation to reduce the risk or the harm.
- Don't hire a person with a disability who is not qualified to perform the essential functions of the job even with a reasonable accommodation.
- Don't assume that you have to retain an unqualified employee with a disability.
- Don't assume that your current management will need special training to learn how to work with people with disabilities.
- Don't assume that the cost of accident insurance will increase as a result of hiring a person with a disability.
- Don't assume that the work environment will be unsafe if an employee has a disability.
- Don't assume that reasonable accommodations are expensive.
- Don't speculate or try to imagine how you would perform a specific job if you had the applicant's disability.
- Don't assume that you don't have any jobs that a person with a disability can do.
- Don't make medical judgements.
- Don't assume that a person with a disability can't do a job due to apparent and non-apparent disabilities.

— from Marshall's Equal Opportunity Office

# Patent protection available for computer programs

The U.S. Supreme Court recently has allowed patent protection to become available for computer programs that amount to (1) *mathematical algorithms* and/or (2) *methods of doing business*.

When computer software arrived on the scene a few decades ago, neither the copyright law nor the patent law embraced this innovation. Nevertheless, copyright

law seemed to adapt rather quickly and to this day serves as the vanguard of computer software protection. However, copyright law has not helped Marshall authors of computer software because a U.S. copyright is not available for any work of the U.S. Government.

According to Bill Hicks of the Marshall Chief Counsel Office, the new

law is great news for Marshall authors because they now have a much greater opportunity to pursue patent protection and share in the royalties collected on their respective patent licenses just like other Marshall inventors.

Questions regarding patent protection for software should be presented to the Chief Counsel Office.

# NASA selects 290 innovative small business projects

As part of its mission to encourage the development of new and advanced technologies, NASA has selected 290 research proposals for negotiation of Phase I contract awards for its 1999 Small Business Innovation Research Program.

The total value of the awards is expected to be more than \$20 million and will be conducted by 220 firms in 34 states.

In addition to stimulating innovation, the program aims to increase the number of small businesses, including women-owned and disadvantaged firms, conducting federal research and commercializing the results of federally funded research.

NASA received more than 2,260 proposals from small, high-technology businesses located throughout the United States.

A listing of companies selected for the program can be found on the Internet at: <http://sbir.nasa.gov>



Photo by Doug Stoffer, NASA/Marshall Space Flight Center

## *Muy delicioso*

Elia Ordonez of the Marshall Procurement Office, left, and Jose Matienzo of the Space Transportation Directorate, enjoy a social gathering at the Hispanic Food Tasting Fair Oct. 7. The event was held to celebrate Hispanic Heritage Month. Door prizes were awarded to Phyllis Olinger of the Chief Counsel's Office; Oscar Gladney of Computer Sciences Corp.; and Sarah Datcher of the Engineering Directorate. Other activities included providing a Spanish-speaking tutor to Colonial Hills Elementary kindergarten classes, speaking to students at Randolph Middle School, and hosting elementary school children from Decatur.

# *Lockheed Martin receives authority from NASA to proceed on X-34 composite liquid oxygen tank*

Lockheed Martin Michoud Space Systems in New Orleans has received an Authority to Proceed from NASA to develop and test an unlined composite liquid oxygen (LO2) tank for the X-34 program.

The unlined composite LO2 tank to be built by Lockheed Martin under a cooperative agreement with the Marshall Center will be the largest ever fabricated and the first available for flight demonstration.

The prototype flight tank will be approximately 4.5 feet in diameter, 9.5 feet in length and weigh approximately 600 pounds. The design includes one barrel and four domes, two of which are internal and act as baffles to allow better management of the vehicle's center of gravity and control propellant slosh.

Composite parts will be fabricated and tested at several NASA facilities, with final assembly to be completed at Marshall.

The X-34 vehicle is designed to bridge the gap between the earlier Clipper Graham, or DC-XA subsonic demonstrator vehicle, and the larger, more advanced X-33 vehicle. The X-34 will demonstrate key technologies applicable to development of a future Reusable Launch Vehicle.

"Successful flight demonstration will put Michoud Space Systems in the forefront of composite space-flight launch vehicle technology," said Matt Wallo, program manager for the X-34 composite LO2 tank. "Flight demonstrations of this technology will ultimately lead to lower-cost, lighter-weight vehicles using fewer stages, parts and tooling. The result will be greater performance margins."

NASA has currently targeted late 2000 for flight demonstrations.

In order to meet NASA's accelerated 13-month schedule, Michoud Space Systems began preliminary tank design as part of Independent Research and Development activities. Michoud worked with several NASA Centers and other Lockheed Martin facilities to develop a proprietary material appropriate for cryogenic composite LO2 tanks.

Over the last three years, the company has employed a building-block approach to the development of cryogenic compatible composite materials, conducting hundreds of tests on numerous specimens, and manufacturing 18-inch bottles and a subscale 3-foot model to demonstrate a suitable material.

# Marshall's New Optics Center seeks to expand view of universe

by Sherrie Super

Telescopes with the power to view Earth-like planets in distant solar systems have so far existed only in "stargazers'" dreams. Now, after several years in the making, efforts to make large-scale space optics a reality are being led by a new technology center at Marshall.

NASA's Space Optics Manufacturing Center unites into one-organization groups working to expand our view of the universe via sophisticated new telescopes.

"The optics center's goal is to develop low-cost, advanced space optics technologies for NASA programs in the 21st century — including the long-term goal of imaging Earth-like planets in distant solar systems," said Dr. Scott Smith, director of the new Space Optics Center.

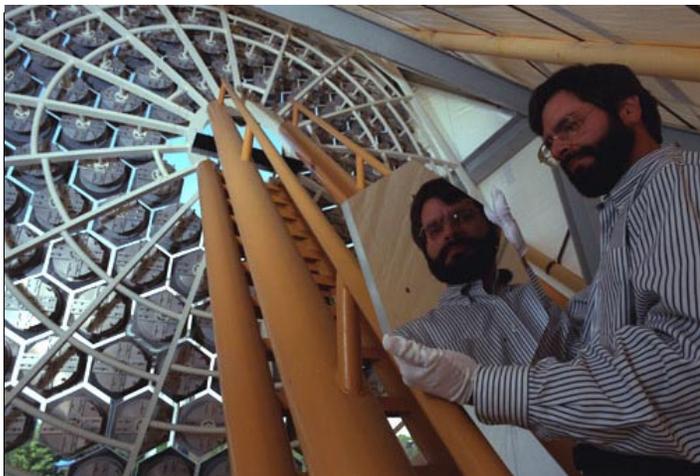
"This will require advances in large-optics technology previously considered beyond the realm of imagination."

Improving optics manufacturing methods is a critical step in this process, said Smith. "NASA's goal is to advance space optical system research while lowering costs."

Advanced optics missions are nothing new for Marshall. The Center developed several of the world's largest space-based observatories for NASA: Skylab's Apollo Telescope Mount launched in the early '70s; the High-Energy Astrophysics Observatory series launched in the late '70s, the Hubble Space Telescope launched in 1990, and most recently, the Chandra X-ray Observatory. In August, Chandra started transmitting unprecedented X-ray images from space.

"The mirrors for the Chandra telescope were custom-made one at a time," Smith said. "Now at Marshall, we have developed a replication process that allows us to make 70 mirrors for about the price of a single mirror used on earlier telescopes."

Replication uses reusable forms, called mandrels, to make telescope mirrors that require no final finishing. Without replication, producing a single large X-ray mirror can cost tens of millions of dollars.



A mirror element being examined by Marshall Optics physicist Vince Huegele is one of 144 segments needed to make up the hexagonal mirror array shown in the background.

The replicated mirrors are being developed for potential use in Constellation-X, a space telescope program led by NASA's Goddard Space Flight Center in Greenbelt, Md.

"Constellation-X will have 70 mirror sets on each of its four telescopes for a total of 280 mirror sets," Smith said. "When you compare this to the four mirror sets used on Chandra, you can see the importance of streamlining the manufacturing process."

By leading optics technology development, the Marshall Center is also supporting Goddard in developing the Next Generation Space Telescope. As part of this effort, it is sponsoring unprecedented work in the private sector to create ultra-lightweight optics for this and future optics missions.

Currently, mirrors are under development that would be 10 times lighter than the Hubble Space telescope mirror while having an equal light-collecting area. These mirrors are scheduled for testing in the Marshall cryogenic optical test facility this coming winter.

Even lighter-weight mirrors are envisioned for future missions, pushing the weight per unit area down by a factor of 100 from Hubble. Weighing less than one ounce per square foot (0.1 kilograms per square meter), these new mirrors would be almost as lightweight as clear plastic wrap.

The optics center's capabilities include optical fabrication, accurate surface measurements, optics testing and diamond turning, a high-precision process using diamond-tipped tools to cut metal.

The Space Optics Manufacturing Center is working to create governmental, industrial and educational partnerships to share technology, facilities and ideas.

For example, the new center is developing the world's industrial standards for large optical metrology under an agreement with the U.S. Department of Commerce's National Institute of Standards and Technology. It also will serve as a national center for large-size optical processing technology.

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



Photos by Emmett Given

Marshall optical physicist Bill Jones monitors a device used to chill a mandrel, causing it to shrink and separate from the telescope mirror without deforming the mirror's precisely curved surface.

# Space Transportation Day '99



## Von Braun Center, North Hall

### Meeting Agenda\* Wednesday, Oct. 27

7-8 a.m. — Leadership Breakfast (invitation only)  
 7:30-8:30 a.m. — Badging/sign up for NASA Center meetings/  
 continental breakfast  
 8:30-8:45 a.m. — Welcome  
 8:45-9 a.m. — Overall Approach/Organization  
 9-11 a.m. — NASA Integrated Space Transportation Plan  
 11-11:45 a.m. — X-33  
 11:45 a.m.-12:45 p.m. — Lunch (provided)  
 12:45-1:15 p.m. — Pathfinder, X-34  
 1:15-1:45 p.m. — Pathfinder, X-37  
 1:45-2:15 p.m. — Pathfinder, other experiments  
 2:15-3:15 p.m. — Advanced Space Transportation Program  
 3:15-3:30 p.m. — Afternoon break  
 3:30-4 p.m. — Space Shuttle Upgrades  
 4-4:15 p.m. — International Space Station Propulsion Module  
 4:15-5 p.m. — Space Transportation Projects  
 5 p.m. — Wrapup  
 6-8 p.m. — Reception at the U.S. Space & Rocket Center  
 (Informal, sponsored by Science Applications International  
 Corporation)

### Thursday, Oct. 28

8 a.m.-noon — Individual discussions with NASA Centers  
 (Sign up at badging)  
 1-3:30 p.m. — Tours of Marshall Center  
 5:30-10 p.m. — National Space Club's Von Braun Dinner  
 (Formal, by invitation only)

*\*Agenda is tentative and subject to change.*

## Culbertson, Parazynski lend expertise to Space Station crews

**F**rank L. Culbertson, who has been leading NASA's efforts in the Shuttle-Mir program and the International Space Station, will return to space to command the third crew to live and work aboard the Space Station.

Culbertson, a retired U.S. Navy captain, was deputy for Operations in the International Space Station Program Office at NASA's Johnson Space Center in Houston. He headed the Shuttle/Mir Phase 1 Program, in which Shuttle missions to the Russian space station Mir prepared the United States and Russia to work together as part of the International

Space Station.

Culbertson replaces astronaut Ken Bowersox, a U.S. Navy captain, who continues to train as commander of the back-up crew for the first expedition mission in early 2000.

In another mission assignment, Scott Parazynski will join the crew of STS-100, the eighth American flight to continue construction of the space station, scheduled for mid-2000. He replaces astronaut Robert Curbeam, a U.S. Navy lieutenant commander, who will fly aboard STS-98 in early 2000.

## Countdown to Y2K 71 Days Left

**Food: Have a three-day supply of non-perishable packaged or canned foods and a non-electric can opener. Ready-to-eat canned meats, fruits and vegetables are good choices. Paper cups, plates and plastic utensils also are good items to have on hand.**

Courtesy of Information Services Department

# Marshall celebrates Chandra success

See photos on pages 7, 8, 9

Crew members of Shuttle Flight STS-93, the flight that deployed the Marshall-managed Chandra X-ray Observatory, visited Marshall Oct. 14 and 15 to celebrate the success of the project.

NASA Administrator Dan Goldin was on hand Friday to commend Marshall employees.

While at Marshall, the astronauts presented Silver Snoopy Awards to 38 Marshall employees honoring them for their support of the space program.

Air Force Col. Eileen Collins, the Shuttle commander, led a discussion on the mission and the deployment of Chandra. "When you see those first images from Chandra, those intriguing images, you can feel you were a part of making that happen," Collins said.

Air Force Lt. Col. Catherine "Cady" Coleman, a mission specialist, pulled the switch to release the \$1.6 billion Chandra into space. She felt a level of responsibility that she hoped matched that of Marshall personnel who built Chandra's parts and who signed paperwork leading to the telescope's final assembly, Coleman said.

The other crew members taking part in the celebration were Shuttle Pilot U.S. Navy Capt. Jeff Ashby and mission specialists Michel Tognini and Dr. Steve Hawley.



Photo by Dennis Keim, NASA/Marshall Space Flight Center

**Marshall Deputy Director Carolyn Griner, left, presents Shuttle Commander Eileen Collins a memento of STS-93. The crew members each received a memento.**



Photo by Dennis Keim, NASA/Marshall Space Flight Center

**NASA Administrator Dan Goldin, left, Fred Wojtalik, manager of Marshall's Chandra X-ray Observatory project, center and Eileen Collins applaud the efforts of Marshall employees.**

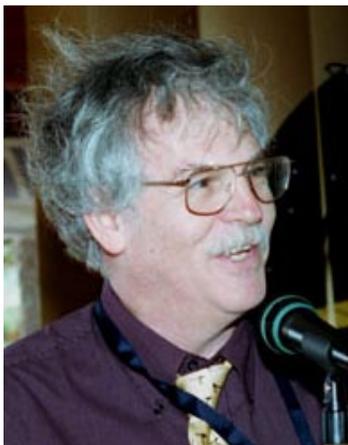


Photo by Doug Stoffer

**Dr. Martin Weisskopf, Chandra project scientist, speaks at the Chandra team recognition pizza party at the Marshall Picnic Pavilion.**

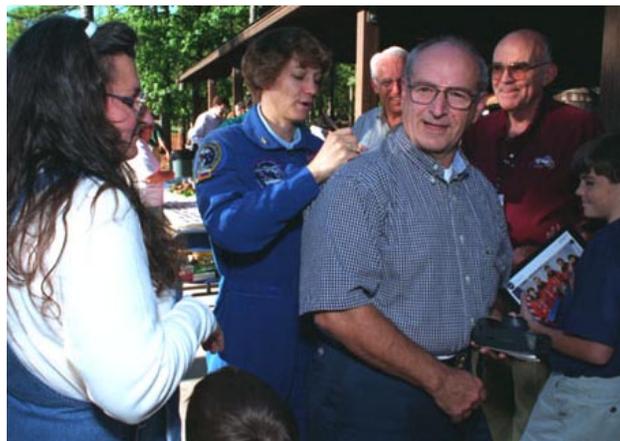


Photo by Emmett Given, NASA/Marshall Space Flight Center

**STS-93 Shuttle Commander Eileen Collins signs autographs at the fish fry and social.**



Photo by Dennis Keim

**Scott Phillips, of Lockheed Martin, right, shows a wooden model he built and had signed by the STS-93 crew to Mission Specialist Cady Coleman.**

# Thirty-eight employees, contractors receive Silver Snoopy Awards

The astronauts who flew the STS-93 mission to deploy the Chandra X-ray Observatory presented Silver Snoopy Awards to 38 Marshall employees.

Shuttle Commander Eileen Collins, Pilot Jeff Ashby, and Mission Specialist Catherine “Cady” Coleman and Michel Tognini presented the awards to Marshall civil service employees and contractors who have made significant contributions to the space program.



Photos by Emmett Given, NASA/Marshall Space Flight Center

STS-93 Silver Snoopy Awards were presented by Shuttle Commander Eileen Collins, fourth from left, to from left, Peggy Geddings, an administrative officer with the Chandra project; Jerry B. Graham, engineer with the Engineering Directorate; Gregory M. Wright, a computer engineer with the Chandra project; Fred Wojtalik, manager of Marshall’s Chandra project; John M. McDougal, engineer with the Engineering Directorate; Stephen C. Purington, engineer with the Engineering Directorate; Frank R. Fogle, electrical engineer with the Engineering Directorate; and Randy M. Baggett, engineer with the Chandra project.



Collins, center, presents Snoopy Awards to David L. Thaxton, left, an industrial hygienist in the Center Operations Directorate, and Owen H. Johnson, a computer specialist in the Center Operations Directorate.



Collins, left, presents the Silver Snoopy Award to James J. McGroary, an attorney in the Office of the Chief Counsel.

Mission Specialist Catherine “Cady” Coleman, third from left, presented Silver Snoopy Awards to, from left, Fred Bickley, an engineer in the Materials Laboratory; Sherman L. Avans, senior engineer with the Shuttle Projects Office; Willie J. Phelps, senior propulsion engineer with the Reusable Solid Rocket Motor Engine Project Office; and Michael Lieberman, liquid propulsion engineer with the Space Station Main Engine Project Office.



Photo by Dennis Keim, NASA/Marshall Space Flight Center

See *Snoopies* on page 8

# Snoopies

Continued from page 7



Photos by Dennis Keim, NASA/Marshall Space Flight Center

Science Directorate Snoopy recipients were Michael Robinson, a research scientist, left; and Barbara Facemire, a chemist. Coleman, center, presented the awards.



Susan Cantrell, left, senior safety engineer with Raytheon, accepts her award from Coleman.



Joel Anderson, aerospace engineer with the Quality Assurance Laboratory, left, and Julie Scott, management support assistant in the Quality Assurance Laboratory, receive awards from Coleman, center.



Photos by Doug Stoffer, NASA/Marshall Space Flight Center

Flight Projects Directorate Silver Snoopy awards were presented by Shuttle Pilot Jeff Ashby. From left are Jeff Lippincott, engineer; Cynthia H. Sanderson, engineer; Donald W. Holder Jr., aerospace engineer; and Ann S. Bathew, an engineer. Asby is third from left.



Engineering Directorate Snoopy recipients included Charles Dischinger, engineer; Jill Holland, management support assistant; Chris Casteel, management support specialist; Scotty Sparks, engineer; and Wilbert M. Gover, engineer. Ashby, fourth from left, presented the awards.

See Snoopies on page 9

# Snoopies

Continued from page 8



Photo by Doug Stoffer, NASA/Marshall Space Flight Center

William L. Schneider, right, service staff analyst with Lockheed Martin/New Technology Inc., received a Silver Snoopy Award from Shuttle Pilot Jeff Ashby.



Photos by Dennis Olive, NASA/Marshall Space Flight Center

Mission Specialist Michel Tognini, center, presented awards to Jeff Byrom, left, machinist; and Richard Boothe, the principal engineer/scientist, both with Thiokol Corp.



Tognini, second from left, presented awards to Sverdrup Technology Inc. employees David Goggin, lead engineer, left; Jana Killebrew, senior engineer; and James Robinson, senior engineer.



Tognini, from left, presented awards to Janet Wilkes, administrative assistant with Boeing, Rocketdyne; Robert Robb, a computer systems specialist with Boeing, Rocketdyne; and Dino DiLuigi, a member of the technical staff with Boeing RSS.

## *Congratulations Chandra team!*

# Marshall staffing assistant named Employee of Year

by Debra Valine

Trish Caraway, a staffing assistant in Marshall's Human Resources Department, recently was named Employee of the Year as an employee in a clerical position by the Huntsville Area Committee on Employment of People With Disabilities.

Caraway has been with Marshall since 1997.

"Trish joined Marshall as a staffing clerk, responsible for maintaining a large filing system of personnel records," said Danny Hightower, manager of the Human Resources Department. "She tackled it with zest and a pleasant attitude." Caraway also mentors three FAST (Future Assets, Student Talent) employees who are assigned to the Human Resources Department. "Her pleasant and willing attitude is an inspiration to everyone," added Hightower.

Caraway performs a wide range of staffing support functions including responding to employment inquiries, preparing certificates of eligibles and recruiting bulletins, and setting up and reviewing files.

She was involved in an automobile accident in 1986 while a college freshman at Texas A&M University in College Station. The result was a spinal injury that confines her to a wheelchair.

Her husband, John, a Huntsville native, is a Department of the Army civilian engineer working with the Army's Aviation and Missile Research and Development Engineering Center at Redstone Arsenal. They came to Huntsville in 1997 with a large group of Army civilians who relocated from St. Louis, Mo. John is a Huntsville native.

Caraway, originally from a farm in Taft, Texas, met John while completing her bachelor's degree in agricultural economics. He was pursuing his master's degree in mechanical engineering.

They share a love of hunting. "My dad had me in a rifle club



Photo by Doug Stoffer, NASA/Marshall Space Flight Center

**Patricia "Trish" Caraway recently was named Employee of the Year by the Huntsville Area Committee on the Employment of People with Disabilities for her work as a staffing assistant in Marshall's Human Resources Department.**

when I was in second grade — which my mother wasn't very happy about," Caraway said. "I started hunting when I was 12 years old. I really enjoy it." She takes advantage of every opportunity when in Texas to hunt white-tailed deer.

Her ready smile and sense of humor makes one feel very welcome in her office. "I get my sense of humor from my mother," she said. "The work really is very interesting. I like reading the applications that come in for various positions, and meeting people who come through my office. What really makes the job neat to me is the people I work with. They are hard working and kind."

"We are proud to see Trish receive this recognition," said team lead Mack Blackman, a human resources specialist in the Human Resources Department. "It is certainly well-deserved."

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



Photo by Emmett Given, NASA/Marshall Space Flight Center

## Future Space travel

A futuristic spacecraft model sits atop a carrier on the magnetic levitation track recently built and tested at Marshall. The model and carrier were built by Ai Signal Research Inc. exhibit technicians Dewey Brown, Barry Howell and Randy Howell, who support the Media Relations Department exhibit team.

## Upcoming Events

**Open House** — The Structures, Mechanics and Thermal Department will host an open house on from noon-3 p.m., Nov. 3, in Bldgs. 4610 and 4619. We encourage everyone to tour the buildings and enjoy our displays, activities and refreshments.

**New Substore hours** — Beginning Nov. 1, operating hours for the Substore in Bldg. 4471 will be changed to 8 a.m.-3 p.m. These new operating hours were determined after reviewing results of a customer survey and analyzing peak usage hours. This change will allow Substore personnel to conduct routine inventories, restock shelves and stage customer orders for the following business day. During non-operating hours, requests for emergency issues should be directed to Robbie Saint at 544-9618 or 651-5009.

**Program and Project Management Forum** — All Marshall team members are encouraged to attend a Program and Project Management Forum from 9-11 a.m. Oct. 29 in Morris Auditorium. This forum will feature Sid Saucier and David Stephenson speaking on the Broad Area Review (BAR) report. This topic will provide insight into process changes in the launch vehicle industry that precipitated recent hardware losses. These findings are applicable to all of Marshall's aerospace projects, as well as the launch vehicle industry.



## What is VPP? What are the benefits? Is Marshall ready?

About 17 years ago, the Occupational Safety and Health Administration (OSHA) introduced the Voluntary Protection Program (VPP) to reward companies with model safety and health programs.

In 1982, 11 companies received the protection program's Star award recognizing them as having the best safety programs in the nation. Today there are approximately 525 companies that have received the Star, including Johnson Space Center in Houston and Langley Research Center in Hampton, Va.

VPP uses 19 elements to define the model safety and health program. To obtain the program's Star, OSHA verifies that a company's safety program meets the criteria. OSHA also reassesses periodically to confirm that the site continues to meet criteria.

The following benefits have been cited by current Voluntary Protection Program participants:

- Improved employee motivation to work safely, leading to better quality and productivity
- Reduced workers' compensation costs
- Recognition in the community
- Improvement of programs that are already good
- Participant sites generally experience from 60-80 percent fewer lost workday injuries than would be expected of an "average" site of the same size in their industries

Many of the elements already are part of Marshall's safety program. The remaining are being incorporated into the new Marshall Safety Manual that will be released later this fall.

The Center has initiated the application process. Teams are being formed to communicate the new Marshall safety and health program, to train employees and to improve safety throughout the Center.

## NASA unveils new, most accurate map of Antarctica

For 18 days during the Southern Hemisphere spring of 1997, a NASA-launched Canadian satellite called RADARSAT collected pieces of a puzzle that will help scientists study the most remote and inaccessible part of the Earth — Antarctica. Scientists now have the puzzle pieces put together, forming the first high-resolution radar map of the mysterious frozen continent.

With detail to the point of picking out a research bungalow on an iceberg, the new map has both answered scientists' questions about the icy continent, and left them scratching their heads about what to make of strange and fascinating features never seen before.

"This map is truly a new window on the Antarctic continent, providing new beginnings in our Earth science studies there," said Dr. Ghassem Asrar, associate administrator for Earth Science, NASA Headquarters, Washington, D.C. The new map was produced as part of NASA's Antarctic Mapping Project.

The most amazing features scientists now see are twisted patterns of ice draining from the ice sheet into the ocean. "We were surprised to see a complex network of ice streams reaching deep into the heart of East Antarctica," said Kenneth Jezek, a glaciologist from the Byrd Polar Research Center at Ohio State University.

## Obituaries

**Strange, Tommy D., 78**, of Huntsville, died Sept. 26. He retired from Marshall in 1976 where he worked as a production control specialist in the Test Laboratory. He is survived by two daughters, one son and eight grandchildren.

**Selvage, George R., 77**, of Huntsville, died Sept. 23. He retired from Marshall in 1975 where he worked as an aerospace engineering technician in the Test Laboratory. He is survived by his wife Louise M. Selvage.

**Employee Ads**

*Miscellaneous*

- ★ Casio keyboard, CT370, 10 rhythm patterns, 10 tones, auto harmonize, pulse code modulation, \$50. 881-5642
- ★ Woodstove, "Ember Hearth", 24" firebox, automatic blower w/controls, optional mesh door, \$295. 880-3851
- ★ Wing chairs, 2 each, peach color, \$200; Sears electric 1HP edger, \$35; mirror, 58"x36", \$25. 883-5168
- ★ Compound bow w/arrows for hunting, complete outfit. 852-6225
- ★ Scottish terriers, AKC registered, black and brindle, born 9/4/99, home raised, \$375. 851-0893
- ★ Entertainment center, up to 27" TV plus audio equipment, \$150 obo. 230-0068
- ★ 7-piece propane torch kit, \$250; bucket of large bolts/nuts, \$4; hardwood, 6' x8' long, 3/4"x1-1/8" thick. 881-8648
- ★ "Tap Dogs" tickets, Sunday, Nov. 7, 2 p.m., Von Braun Center Concert Hall, center loge, row B, two at \$23. 881-0278
- ★ Kitchen cabinet doors, 10 sets of assorted sizes, white w/blue accents, \$50. 883-2863
- ★ Set of 4 kitchen chairs, cushion seats, \$75; large microwave oven, Kenmore, \$65. 881-5088
- ★ Leather jacket, women's size 11-12, brown, zip front, side pockets, Thermolite lining, \$95. 722-9719
- ★ Two ferrets, 3 mo. and 6 mo., "Ferret Hotel" cage, \$400 obo. 350-2999
- ★ Vent-free (LP) gas fireplace insert w/blower, brass trim; couch w/two lamps. 837-7999
- ★ Red Top field fence, one roll, 12-1/2 gauge, new, two 165' pieces, \$55. 864-8042
- ★ Mustang parts, 302HO, new: stock cam, pushrods; used: heads, u/l intakes, \$200 for all. 881-5411
- ★ Storm door, 29-30"x81," Cole Sewell, 3/4 window, reversible, white, new, \$75. 551-0783
- ★ Rattan sofa-sleeper, love seat, end table, quilted floral loose cushion style, \$600. 880-6146
- ★ Alabama vs. Southern Miss tickets, two at \$35 each. 830-4304
- ★ Truck bedliner, 97-00 Ford F150, short bed, factory new, \$100. 534-7791
- ★ 2.24 carat diamond ring, Marquise w/18 princess cut diamonds, \$3,000. 830-0545
- ★ Playing-the-piano kit, \$20. 722-9483
- ★ Love seat sized sofa, blue-tan plaid, \$50. 971-1414

- ★ Bicycle trailer, Burley-lite, seats two children, screen bug cover, \$100. 721-9005
- ★ Sears exercise bike, \$25; Sears Lifestyler stepper, \$25; WEN orbiter car waxer, \$30. 883-5955
- ★ Century bedside bassinet, pink, \$45; Evenflo infant car carrier, new fabric, \$35. 882-2076

*Vehicles*

- ★ 1987 Cadillac Cimarron, burgundy, leather, power seats/windows/locks, new a/c, tires, \$2,300. 582-5210
- ★ 1993 Buick Century, one owner, \$4,500. 828-6158
- ★ 1995 Mercury Villager, 112K miles, green, \$9,750. 355-7896
- ★ 1979 Winnebago, 46K miles, Dodge 440, new carpet, refrigerator, holding tank, \$7,500. 729-8020
- ★ 1998 Mustang Cobra, V-8, custom paint, tan leather interior, 12K miles, loaded, \$24,000. 961-1354
- ★ 1998 Toyota Tacoma SR5, extended cab, tan, 14K miles, 4-cylinder, 5-speed, AM/FM cassette, sliding rear-window. 461-6337
- ★ 1994 Nissan Sentra LE, 4-door, 4-cylinder, auto transmission, all power, a/c, \$5,200. 880-7381
- ★ 1987 Dodge Daytona Shelby, 4-cylinder, 5-speed, 140K miles, new tires, spoilers, \$1,350 firm. 753-2278
- ★ 1991 Oldsmobile 98 Regency, elite, Michelins, leather, remote entry, \$5,500 obo. 852-6952
- ★ 1990 Dodge Grand Caravan LE, 90K miles, white, V6, 3.3L engine, new transmission & a/c, one-owner, maintained, \$5,600 obo. 534-6166
- ★ 1991 Delta 88 Oldsmobile, 4-door, a/c, am-fm cassette, power windows/power door locks, one-owner, \$3,500. 734-8461
- ★ 1991 Mazda Miata, 5-speed, new top, 117K miles, \$4,750 obo. 895-2959
- ★ 1997 Jeep Wrangler, red w/black soft top, 6-cylinder, 5-speed, 4.0L, a/c, aluminum wheels, 72K miles. 355-1353
- ★ 1988 Jeep Wrangler, hard top, air, PS/PB, am/fm cassette, maroon/tan, one-owner, oversize tires, \$7,500 obo. 882-2645
- ★ 1986 Ford Tempo, sport, 5-speed, HO-2.0 engine, 4-door, parts, manual, \$800. 753-6230

*Found*

- ★ Vest and sweater, North parking lot in front of Bldg. 4200. 544-4758 to identify
- ★ Money found at Bldg. 4203. 544-4758 to identify

- ★ Key found in parking lot of Bldg. 4312. 544-4758

*Wanted*

- ★ Person to install ceramic tile in several rooms of home. 881-3527
- ★ Roommate, 3BR/2BA, home includes utilities, washer/dryer, cable TV, phone, non-smoker, no pets. 551-0276/Lisa
- ★ To form carpool from Boaz-Albertville-Guntersville area, 7 a.m.-3:30 p.m. tour. 659-6164

**Center Announcements**

- ☛ **MARS Tennis Tournament** — The MARS Tennis Club is holding a Closed Hi-Lo Doubles Tournament on Saturday. The tournament starts at 8:30 a.m., with check-in and warm up at 8 a.m. To participate, call Ronda Moyers at 544-6809.
- ☛ **Shuttle Buddies Breakfast** — The Shuttle Buddies will meet for breakfast at 9 a.m. Monday at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757 or Gail Wynn at 852-8189.
- ☛ **MESA Meeting** — The Marshall Engineers and Scientists Association (MESA) will meet Thursday at 11:30 a.m. in Bldg. 4471, room C-105.
- ☛ **Women Engineers Meet** — The Society of Women Engineers (SWE) North Alabama Section will hold its annual membership open house on Oct. 27 from 11 a.m.-1 p.m. at Heritage Bank on Balmoral Drive. For more information, e-mail Helen Stinson at: hhandp@mindspring.com
- ☛ **MOO Meets** — The Management Operations Office (MOO) retirees, present and former employees will meet for breakfast/lunch at 10 a.m. on Oct. 28 at the Cracker Barrel in Madison. For more information, call 539-0042.
- ☛ **Stovall Account Still Open** — The fund established at Colonial Bank, P.O. Box 1708, Huntsville, Ala., 35807 to help the Stovall family is still open. E'lee Stovall, the contractor with Labor Finders for Penwall, was working on the Saturn V replica at the U.S. Space & Rocket Center when he fell June 19 and later died.

**Job Opportunities**

**CPP 00-4-JP, AST, Liquid Propulsion Systems, GS-861-14**, Space Shuttle Projects Office, Shuttle Integration Office. Closes Oct. 28.  
**CPP 00-5-RE, AST, Propulsion Flow Dynamics, GS-861-14**, Space Transportation Dir., Subsystem & Component Development Dept., Functional Design Group. Closes Oct. 29.

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