



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

## Alabama governor to visit Marshall Center to endorse National Space Science and Technology Center

by Tracy McMahan

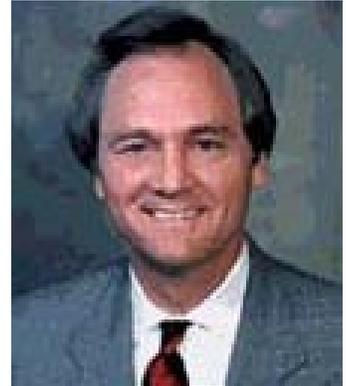
Alabama Gov. Don Siegelman is scheduled to make an announcement regarding the new National Space Science and Technology Center — a unique joint venture to expand high-technology research — during a special ceremony at noon Thursday at Marshall.

Siegelman will be joined by Marshall Center Director Art Stephenson, President of the University of Alabama in Huntsville Dr. Frank Franz and federal and state officials to discuss the vision for the new center.

The core center, to be located in Huntsville, will provide world-class facilities where some of the nation's best scientists and engineers will join forces to conduct advanced research. The U.S. Congress included \$4 million in funding last year for the space science and technology facility.

"The National Space Science and Technology Center will enhance the region's growing cluster of high-tech businesses by offering innovative opportunities for partnerships," said Dr.

Gregory Wilson, special assistant to the Marshall Center director for Collaborative Science and Technology. "This cooperative research will lead to cutting-edge technologies that will stimulate both the local and national economies," said Wilson, who is leading the effort for NASA.



Gov. Don Siegelman

Space science and technological expertise at the Marshall Center will provide the core for the newly developed science center, which will focus on research in materials science, biotechnology, Earth sciences, propulsion, optics and

See *Governor* on page 3

## NASA takes delivery of 100<sup>th</sup> Space Shuttle external tank

by Martin Burkey

It's been the backbone of the Space Shuttle for 18 years, and now the 100<sup>th</sup> Space Shuttle external fuel tank has been delivered to NASA.

NASA and Lockheed Martin Michoud Space Systems in New Orleans, builder of the Shuttle external tanks, will commemorate delivery of the tank in a ceremony Friday at Michoud Space Systems. The Marshall Center manages the tank program.

"Delivery of the 100<sup>th</sup> external tank is a major milestone for NASA's Space Transportation System," said Parker Counts, manager of the External Tank Project Office at Marshall.

"Flying safely is the top priority of NASA and the Shuttle program. Not only has the external tank successfully performed as designed on every launch, but our government and industry team has been able to help enhance the Shuttle's

performance by lowering the weight of the tank."

In two separate pressurized sections inside, the external tank holds 535,000 gallons of liquid hydrogen and liquid oxygen propellants for the Shuttle's three Main Engines — enough to fill more than 16 20-by-40-foot backyard swimming pools. The propellants are consumed in about 8.5 minutes. The Shuttle jettisons the tank at an altitude of about 70 miles. The tank falls back to Earth, disintegrating in the atmosphere over the ocean.

The giant cylinder is taller than a 15-story building, with a length of 154 feet (47 meters) and as wide as a silo with a diameter of 27.5 feet (8.4 meters). The largest single piece of the Space Shuttle, it must carry the stresses of the Shuttle and the solid-rocket boosters attached to it during launch. Machined from aluminum alloys, the tank is the only part of the Shuttle that is not reused.

The tank has gone through major changes since it was designed in the early 1980s. The most apparent is the color. After the initial three Shuttle flights, NASA determined 600 pounds could be shaved from the tank's launch weight by no longer coating the tank in white latex paint. Instead, the orange spray-on foam used to insulate the super cold propellants is left bare.

In 1983 on the sixth Shuttle launch, NASA introduced the first Lightweight Tank — 10,000 pounds lighter than the first tank. In June 1998, NASA launched the first Super Lightweight Tank — an additional 7,000 pounds lighter than the Lightweight Tank.

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

**"Believe in Safety"**  
— Safety slogan submitted by  
Betty Canestrari, SD81

# Senators Shelby and Sessions laud Marshall Center

Recently the U.S. Senate passed a resolution lauding the space flight accomplishments of the Marshall Center as well as the Center's role in the future of space transportation.

Alabama Senators Richard Shelby and Jeff Sessions introduced the resolution. Accompanying the resolution, Sen. Sessions made a floor speech.

The senator congratulated the Center on its contributions to the Apollo 11 lunar landing. The following is an excerpt from the speech:

"I have talked to the people at NASA Marshall. They have lived with the Shuttle propulsion systems and they have

a lot of ideas that will make the next generation 100 times safer and 10 times cheaper than today; and their ideas don't stop there! They believe that, in 25 years, they can develop the technology that will improve safety over 10,000 times and reduce cost by 100 times that of the current Shuttles. I believe that the people at Marshall Space Flight Center, in cooperation with Stennis Space Center and the Glenn Research Center as well as other NASA scientists, can revolutionize space propulsion in the next 25 years. NASA administrator Dan Goldin shares this same view.

"They believe that they can combine

simplicity and with a robust capability that will increase reliability 100 fold while multiple abort options and safe crew escape systems will provide passenger safety equivalent to today's aircraft. They believe that they can develop the technology that will result in what they are calling 'a beautiful machine,' safe and reliable first, then affordable. This marriage of simplicity and performance can only be obtained through major breakthroughs in space transportation technology at the basic component and system level.

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## Marshall Values

### Standard of excellence takes hard work, commitment, follow-through

*(Editor's note: This is the third in a five-part series addressing Marshall's core values.)*

The Marshall team is committed to five core values: People, Customers, Excellence, Teamwork and Innovation. These values serve as the principles that guide our decisions and behaviors. This week the Star looks at the value of excellence. Robin Henderson, deputy manager for management for the Microgravity Research Program Office, discusses choosing excellence as a standard and living up to the commitment of excellence.

#### EXCELLENCE:

- We pursue excellence in our people and in everything we do.
- We promote continual learning and improvement.
- We hold one another accountable for doing what we commit to do.

"Excellence is an attitude and it takes hard work," Henderson said. "Marshall Space Flight Center cannot be excellent with just a few people making the commitment — it has to be a team commitment. Everybody has to make that commitment and then follow through with it."

Excellence is a choice each person has to make, she said. Individuals can choose to be mediocre, good or excellent.

"That we have chosen excellence as one of our values says that we have set a very high standard for ourselves, both corporately and individually," Henderson said.

From a corporate perspective, it means that Marshall employ-

ees will be given every opportunity to excel — whether that is in job performance or professional development.

"If your people are excellent, that will show in everything that is accomplished. People are the catalyst behind everything that is accomplished," Henderson said. "We can say that we will be excellent, but we also must enable people. That is a big commitment on the part of the Center."

But corporate commitment cannot exist without individual commitment to excellence, she said. That means each individual decides that he or she will do everything possible, be it training, educational study, or pursuing and accepting increased responsibility, to achieve excellence. It also means being accountable for what you do.

"I personally have seen an increased emphasis on accountability," Henderson said. "When you are accountable for something, it gives you a completely different perspective on what you have to do to make it succeed. It is important that we hold ourselves accountable. You need to be clear on what you are accountable for, and then follow through."

The Marshall Center is accountable for some big projects and programs, all of which are or will be major technical achievements — advanced propulsion systems, the Space Shuttle propulsion systems, Chandra X-ray Observatory, International Space Station vehicle components and scientific research and associated hardware, she said.

"That is a lot of responsibility," Henderson said. "I think the Center, both corporately and individually, should be commended for taking on and meeting hard challenges. In the future, we need to continue doing that. And we not only need to meet those challenges, we need to do it in an extraordinary manner. Excellence is all tied up in that."

### You Make the Difference

The new fountain in the middle of the 4200 complex has impressed me. Congratulations to Marshall's own artist, Jack Hood.

The rocket on top of the fountain speaks of the future of space. The obvious image is the future of space travel, but I take it to be everything we do related to space.

When I walk by it, I see a futuristic rocket going straight up and mirrors on the sides. Generally I just walk by without looking into the mirrors. I can do that easily without seeing the reflection of myself due to the angle of the mirrors relative to where I am going. But if I take the time to really look into the mirror I see the person or persons (if I am walking with someone) who is/are responsible for making a difference in the outcome of our efforts. Each of us is making a difference every day.

I want to challenge you to look at the job you do and how you do it and ask yourself, "Am I doing all I can to make a difference today?" "What am I doing to make sure safety is being properly addressed?" "What can I offer or do to improve this product or service?" When you have a sense of accomplishment that comes from knowing you have made a difference, the day goes by quickly and it just seems to be more fun. When you are burdened with a sense of having no control of the situation, the days get longer and it is not fun.

You may say, "I am really a victim of the system and I have no control." If you are feeling that way, I hope you will consider that you have more power over the situation than you may think. Talk to your fellow employees and your supervisor about ways the job can be improved to be more effective and I bet you will come up with some constructive ideas. For larger organizational issues, use the Marshall Corrective Action System. It is uplifting to be engaged in doing a job in a way that is better than ever done before. You can make the difference.

Your attitude will determine your altitude. If you bring an attitude that things are not going well and will continue to not go well, my experience is that you will effect things negatively. If, on the other hand, you bring an attitude that you can make a difference, then in the end you will enjoy the satisfaction of having done so.

The best example of this principle that all of us can identify with is the recent move of 2,300 people here at the Center. Moving that many people was easily considered a six month or longer job, yet the team that was responsible for doing it, led by James Wycoff, decided they could do it in six days. Their attitude that they could do it in a short time made the difference.

Another example is the "Marshall on the Move" training conference. The team headed by Greg Walker brought a can-do attitude to the situation and pulled together a major training event at the Von Braun Center in just a few days.

When considering a situation, just remember that when you point at others to solve the situation, you will notice that one finger is pointing at someone else while three of your fingers are pointing right back at you. Take your hand and point at something and you will see what I mean. The person looking back at you in the fountain's mirror is the one you can talk to most effectively about making a difference.

I look forward to great things happening here at Marshall because each of you has great potential and are taking the attitude that you can and will make a difference. Don't forget to look at the person in the mirror the next time you walk by our new fountain.



Center Director Art Stephenson

—Art Stephenson

## Governor

*Continued from page 1*

other areas that support NASA's mission. While specific plans for the National Space Science and Technology Center are being developed, the new center will be a partnership of NASA's Marshall Center and the Alabama Space Science and Technology Alliance, a group of six Alabama universities including the University of Alabama in Huntsville; Alabama A&M University in Normal; Auburn University in Auburn; the University of Alabama at Tuscaloosa; the University of Alabama at Birmingham; and the University of South Alabama in Mobile. Joint research projects will be conducted with private industry, other federal agencies and universities from around the world.

"The National Space Science and Technology Center will help attract the best and brightest new scientists to the state, and it will bolster existing relationships with other national research institutions," Wilson said.

Joining Siegelman, Stephenson and Franz for the ceremony will be U.S. Rep. Bud Cramer of the 5th Congressional District; State Sen. Tom Butler of Huntsville; Alabama State Finance Director Henry Mabry; and Dewayne Freeman, director of the Alabama Department of Economic and Community Affairs. Other invited guests include U.S. Sen. Richard Shelby, U.S. Sen. Jeff Sessions, Huntsville Mayor Loretta Spencer, Madison Mayor Chuck Yancura, Madison County Commission Chairman Mike Gillespie, the Madison County legislative delegation and members of the Alabama Space Science and Technology Alliance.

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

### Obituary

**Childers, John H. Jr., 70**, of Huntsville, died Aug. 10. Childers retired from Marshall in 1994 where he worked as an electrical engineer in the Test Lab. He is survived by his wife, Dolores "Dee" Ownbey Childers, three daughters, one son, two sisters and 12 grandchildren.

# Sackheim named assistant director for Space Propulsion Systems

by Rick Smith

Robert L. Sackheim has been appointed assistant director for Space Propulsion Systems, overseeing all advanced space propulsion activities at Marshall. His appointment is a key element in a recent reorganization of the Marshall Center. Sackheim will join the Marshall Center in September.

In his new role, Sackheim will bring his technical expertise to all activities focused on the exploration of space — including new and innovative propulsion system development at Marshall.

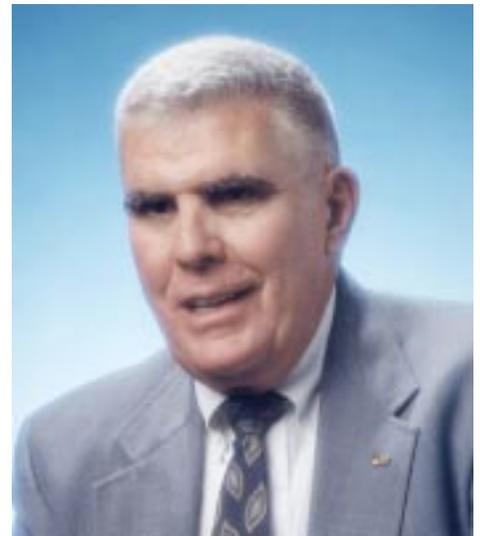
A native of New York City, Sackheim has served since 1993 as manager of the Propulsion Systems Center in the Space

and Technology Division of TRW Corp. in Redondo Beach, Calif. There, he has been responsible for design, development and testing of new propulsion, combustion and fluid system products and materials technology.

Sackheim holds a master's degree in chemical engineering from Columbia University in New York, and has completed all doctoral coursework in chemical engineering at the University of California in Los Angeles.

Sackheim and his wife, Babette, will reside in the Huntsville area.

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



Robert L. Sackheim

## Marshall's mentoring program

### Mentors share expertise with lesser-experienced employees

Last year, the Marshall Center established a mentoring pilot process in which 24 mentors were each paired with a "mentee." (A mentee is a person being mentored.) The goals of the process focused on strengthening employee skills and abilities, encouraging coaching skills and integrating the mentoring process into Marshall's work culture.

Mentoring is the deliberate pairing of an experienced person with one of lesser experience, with the agreed upon goal of having the lesser-experienced person grow and develop in competency, work experience and knowledge of the organization.

Larry Ambrose, author of the book "A Mentors Companion" said, "Mentoring is a practical response to the need to rebuild the workplace as a locale in which employees can place their trust and realize their potential.

"Building a mentoring culture is vital for developing employees who are creative, courageous, involved and responsible for their own development," Ambrose said. "A mentoring culture mandates that its members help each other not only to produce but to grow; not only to get results but to learn; not only to achieve organizational goals but to become empowered. Mentoring is one of the most powerful developmental strategies known today".

According to mentoring coordinator Ela Washington of the Employee and Organizational Development Department, Marshall's pilot process proved to be successful.

"We will be soliciting for a new group of Marshall employees who are willing to participate in the program," said Susan Cloud, deputy director of the Customer and Employee Relations Directorate, who is a mentor in the Center's program. "The mentoring program should foster growth and confidence."

Cloud said mentoring is a developmental strategy that can be valuable for both the mentor and the mentee, and commitment from both can produce excellent results.

Cloud's mentee, materials engineer Dawn Cross of the Materials, Processes and Manufacturing Department, who participated in the pilot program said, "It was a wonderful experience because I had to be prepared to learn. The great advice and feedback that I received from Susan Cloud was extremely helpful. I hope our mentoring relationship continues."

During the pilot process, Rajiv Doreswamy, of the International Space Station Propulsion Module Project Office, was paired with Engineering Directorate Director Jim Kennedy. Doreswamy said Kennedy is genuinely concerned about his growth professionally and as a person. Both said the mentoring process is one of their most rewarding experiences in the workplace.

In every organization, employees must feel they have the opportunity to learn and grow from the experiences they are having on the job, with some sense of long-term contribution, Ambrose said.

Good mentees are goal oriented, willing to assume responsibility for their growth and development, receptive to feedback and coaching and seeking growth experiences and challenging assignments, Ambrose said. Characteristics of mentors include strong interpersonal skills, organizational knowledge, exemplary supervisory skills, technical/professional competence, and ability to share credit and willingness to contribute to someone else's growth.

For more information about the mentoring experience, contact Washington at 544-1164.

## Upcoming Events

**TFAWS '99 Workshop** — The Tenth Thermal & Fluids Analysis Workshop (TFAWS '99) will be held Sept. 13-17 at the Bevill Center in Huntsville. Marshall is hosting the event. The workshop will focus on applications of thermal and fluids analysis in the aerospace field. The workshop will bring industry, academia and government together to share information and exchange ideas about applications analysis tools and methods. To register, visit the Web at: <http://tfaws99.msfc.nasa.gov>

**Shuttle Replacement Technology Team Meeting** — The Shuttle Replacement Technology Team will meet Sept. 1-2 from 8 a.m.-5 p.m. at Bldg. 4203, room 1201. The meeting will provide Shuttle elements, equipment manufacturers and NASA personnel an opportunity to present and discuss measures being taken in eliminating ozone depleting chemicals and hazardous air pollutants. Elements to be discussed include the external tank, orbiter, reusable solid rocket motors, solid rocket booster and Space Shuttle main engine. Equipment to be discussed includes extra-vehicular equipment activities such as space suits, maneuvering units, etc. Changes to Environmental Protection Agency regulations affecting these items also will be discussed. Anyone interested in the topics to be presented and discussed may attend. For more information, call Vaughn Yost at 544-1998 or e-mail at [vaughn.yost@msfc.nasa.gov](mailto:vaughn.yost@msfc.nasa.gov)

**Information Technology Security Awareness Training** — Mandatory information technology security awareness training will be held Aug. 25 and Aug. 26 from 9-10 a.m. in Morris Auditorium. Annual information technology security basic awareness training is required for all Marshall employees and on-site contractors. Copies of the instructional CD-ROM used in the briefing will be distributed for use in training and reporting employee participation for documentation of the FY99 training. For more information, call Steve Jones at 544-4373.

**Women's Equality Day Luncheon** — The annual Women's Equality Day luncheon will be held Aug. 26 at 11 a.m. at the Redstone Arsenal Club. The event is hosted by the Federal Women's Program Managers from Marshall, Office of Personnel Management, U.S. Army Aviation & Missile Command, Defense Intelligence Agency, and the U.S. Army Space and Missile Defense Command. Jean Warren, director of Huntsville's Broadway Theatre League, will speak. Awards will be presented to outstanding women achievers in clerical, business and engineering/science from each sponsoring agency. Each agency will recognize one supervisor/manager for exceptional support and recognition of women's contributions. Luncheon tickets, at \$8.50, may be purchased from Billie Swinford, Bldg. 4200, room 220. For more information, call 544-0087.

## Are you Y2K safe?

Marshall Center will host a Y2K Awareness Day Aug. 25, from 10 a.m.- 2 p.m., in Bldg. 4200, room G13. Representatives from community banks, the City of Huntsville and Huntsville Utilities will be participating. There also will be representatives from organizations at Marshall to explain what has been done to make employees Y2K safe.

The "Millennium Bug," as the year 2000 problem is sometimes referred to, has the potential to adversely impact all areas at Marshall. A programming flaw that could make computers worldwide interpret the year 2000 as the year 1900 causes the year 2000 problem. The federal government is spending an estimated \$7.2 billion for Y2K fixes, and billions more are being spent by state and local governments and U.S. businesses.

A simplified explanation of the problem is that after Dec. 31, some computers will not know what year it is. Computers have traditionally been programmed to store date information in two-digit fields. Across the Center, automated decisions and calculations are based on dates. Embedded year codes could cause computational problems or erroneous results when the year 2000 is represented as "00."

This problem also can exist within commercial off-the-shelf software applications that appear to use four-digit year fields. Such applications may use a four-digit year field that is actually a two-digit year field with a hard coded "19" in the century field.

Marshall has established the Y2K Working Group to assemble representatives from all areas that will be impacted by the Y2K. All known systems and facilities at Marshall have been inspected for Y2K compliance. Many systems have undergone substantial renovation in order to be certified as Y2K compliant.

The Information Services Department Y2K Team is working hard to ensure that all developed and vendor software, hardware, firmware, communications and networking elements at Marshall are Y2K compliant. The Year 2000 home page, located at <http://www1.msfc.nasa.gov/Y2K/>, offers additional information on conversion activities. Also, read the Information Services newsletter "password," distributed monthly, for Y2K articles.

## Senators

*Continued from page 2*

"NASA has accepted the responsibility for pushing technology because this is vitally important for our nation. The nation must focus resources on accelerated technology development if we are to remain the worldwide technology leader. We will drive the technology breakthroughs necessary to sustain and enhance U.S. military capabilities. Our Nation's defense in very dynamic times must rely on cutting-edge space launch technologies to protect our borders. But low-cost space transportation is not just about surviving. It is about thriving economically. Our wildest dreams of doing business on the space frontier surely don't even begin to skim the surface of the incredible economic opportunities waiting beyond the horizon."

For a complete copy of the speech, see: <http://stdweekly.msfc.nasa.gov/legalnews/lunaranniversary.html>

# MP&M's first open house shows Marshall team the department's services, technologies

by Beth Cook

The Engineering Directorate's Materials, Processes and Manufacturing (MP&M) Department hosted its first internal open house on Aug. 11.

The open house provided an opportunity for civil service and on-site contractors to learn about the variety of services and technologies offered by this department.

"We were very pleased with the turnout," said Department Manager Dr. Ann Whitaker. "I particularly enjoyed meeting so many people from around the Center, especially program and project managers who hopefully now have a better idea of how we can support them. It is very important to the Center that our internal resources are used wherever possible — and we are certainly interested in supporting the Center's efforts."

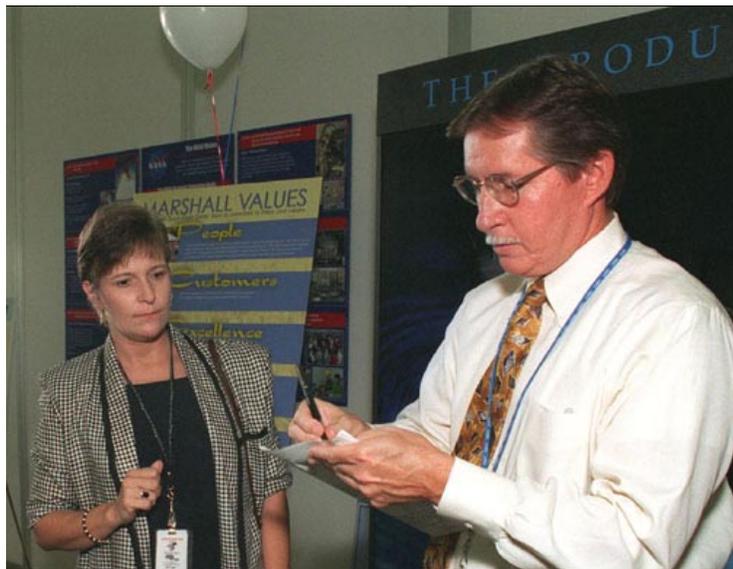
In several buildings around the Center, department personnel carried out routine daily operations and provided demonstrations of several advanced capabilities.

Showcased technologies included space environment simulation, contamination control, precision electroplating research, advanced metallurgical diagnostics, materials properties testing in standard and adverse environments, vacuum plasma spray of metals, friction stir welding, composites development, computed tomography, bearing and tribology wear testing, and rapid prototyping.

Tours were also offered in the machine shop, precision cleaning facility, analytical and environmental chemistry laboratories, and nondestructive evaluation laboratories.

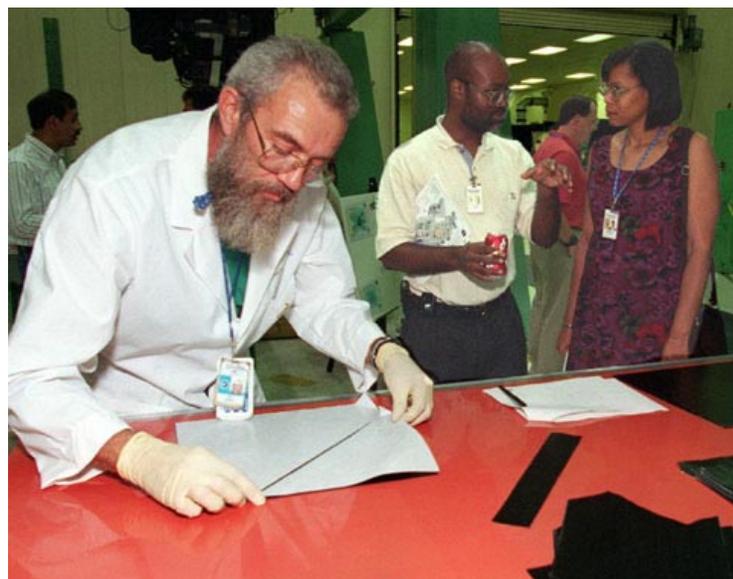
For more information about the MP&M Department, see <http://map>

*The writer works in the MP&M Department of the Engineering Directorate.*



Photos by Emmett Given

**Dr. Corky Clinton, right, the Nonmetallic Materials & Processes group lead, tells a visitor about various exhibits available for tour.**



**Ed Kirch of Lockheed Martin, left, and Johnnie Clark of the Engineering Directorate, center, discuss with attendees the process for preparing composite life compatibility panels for the X-33 technology demonstrator.**



**Michael Bowden, left, and Mischell Bennett, center, of Thiokol Corp., discuss composite technologies used in various propulsion systems with visitors to their booth during the open house.**

# Marshall employee making history as professional women's football quarterback

by Debra Valine

This fall, as students head back to classrooms, one Marshall employee will head to the University of Minnesota at Minneapolis to complete her master's degree in mechanical engineering. She'll also be playing professional full-contact, tackle football.

Shannon Davis, a mechanical engineer in the Structural and Dynamics Testing Group of the Engineering Directorate, is one of 80 women selected to make up two teams for an exhibition season of the newly formed Women's Professional Football League.

The league will play a series of seven exhibition games beginning Sept. 19 in Honolulu. Games also will be played in Chicago, Green Bay, New York City, Minneapolis, St. Paul and Miami. Davis will quarterback the Minnesota Vixens. Each game in the series will be played against the Lake Michigan Minxs, the only other team in the league this year.

"Carter Turner, the president of the league, hopes to have six teams next year and a regular season schedule," Davis said. She already had made plans to take a leave of absence from her duties at Marshall to complete her master's degree when she learned of the football tryouts.

"My education is my first priority," Davis said. "I tried to get into the study program last year, but it didn't work out." Davis, a native of Athens, Ala., received her bachelor's degree from the University of Alabama in Huntsville.

After applying for the NASA full-time study program and being accepted at the University of Minnesota, Davis learned of the tryouts for the women's football league being held in Florida. The long-time athlete thought it would be fun to try out.

Davis has played organized sports since age 6, quarterbacked one of Marshall's intramural flag football teams for four years, and played softball, basketball and tennis in college. She recently ran a marathon as well, so she knows what it takes — both physically and mentally — to succeed as an athlete.

To help her get ready for the upcoming football season, she trains at the Marshall Activities Fitness Center with physiologist Mike Clark, who has her on a rigorous training program of plyometrics — exercises designed to increase speed and agility through the use of energy explosive type exercises. She also works out at PRSM Sports Therapy in Huntsville, one of her sponsors for the season. Her quarterback coach, Collie Kellett also works at Marshall's Technology Evaluation Department in the Space Transportation Directorate. Kellett coached his son, Josh, who now quarterbacks for the Samford University Bulldogs in Birmingham.

"I accompanied her to the second tryouts in June," Kellett said. "She was a standout. If she wasn't playing quarterback,



Photo by Doug Stoffer

**Shannon Davis of Marshall's Engineering Directorate, working out at the Marshall Activities Physical Fitness Center, will make history as quarterback of the Minnesota Vixens Women's Professional Football League.**

she would be playing somewhere else because of her overall athletic ability. I would expect her to be a starter."

"There is a buzz around the intramural sports teams," Clark said. "The other players are excited about her opportunity. Shannon will be one of the first women to play professional football, but she is also a Marshall employee. She represents all of her co-workers. If she is successful, in some ways they are successful, too. They're all real proud of her."

Her family is proud of her, too, and supportive of her decision. "My mother is worried about me getting hurt," Davis said. "But she is behind me 100 percent. She knows this is something I want." Her mother, Wilda Davis, works in the Business Management Office of the Space Transportation Directorate.

"I'm not giving up my career," Davis said. "I am taking a year to finish my master's degree. I just happen to be playing football on the weekends while I go to college. When the year is up, I'm coming back here. This is a great job and I work with some fantastic people. I won't throw away my education and career for athletics, even though I love it."

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

Employee Ads

Miscellaneous

- ★ Long and smooth coat Chihuahua puppies, good bloodline. 757-5420
- ★ Black lacquer full queen headboard, dresser, 2 night stands, armoire, \$250; 55-gallon aquarium w/stand, \$100. 881-3800
- ★ Two white Childcraft baby beds, 3 yrs. old, excellent condition, \$200 each. 539-2483
- ★ Room air conditioner, 5,000 BTU, good condition, \$135. 882-9407
- ★ Rubber stamp collection, over 15 sets and 150 individual stamps, \$600 obo. 650-0518
- ★ Cannondale road/race bicycle, new condition, \$300. 464-9384
- ★ Schwinn exercise bike, electronic readout, reading stand, \$65. 772-1323
- ★ Satellite dish w/electronics, 10', \$200 obo; N-64 system with one controller, \$80. 882-0461
- ★ Hooked on Phonics and math, \$125; table w/ chairs, \$40; aquarium stand/55-gallon, \$40. 721-7377
- ★ Assorted off-white vinyl mini blinds: 22" (2), 30" (4), 46" (2) widths, \$50 for all, will price individually. 851-2929
- ★ 1996 Horton home, 16x80, 3 bedroom, 2 bath, lots of extras, payments \$289. 772-1843
- ★ Department 56 Snow Village, many retired, selling below green book value. 837-0037
- ★ 21' Chaparral ski boat, 4.7L, V-8, 1990 model, CD player, \$9,995, negotiable. 534-1108
- ★ King trumpet, \$100. 881-5088
- ★ All steel 14' boat trailer with 11' Dura-Craft Jon boat, \$500 obo. 650-0518
- ★ Solid oak corner entertainment center and matching bookcase, custom made, \$975. 851-6661
- ★ Spaulding regulation size pool table plus accessories, \$400 obo. 430-4074

Vehicles

- ★ 1987 Nissan Maxima GXE sedan, 4-door, A/C, cassette, automatic, security system, cruise, alloy wheels, \$3,900. 535-4618
- ★ 1987 Nissan 300 ZX, black, 5-speed, T-tops, 207K miles, \$1,800. 883-2863
- ★ 1996 Saturn SW1, 4-door, 5-speed, A/C, ABS w/ traction, dealer serviced, 34K miles, \$10,700. 772-9493
- ★ 1992 Dodge Dynasty, power windows/locks and driver's seat, A/C, 43K miles, excellent condition, \$7,000. 730-3767

- ★ 1988 Cimarron, maroon, leather seats, new A/C, alternator, and tires, \$2,300 obo. 582-5210
- ★ 1996 Ford Taurus GL, silver, automatic, 53K miles, \$8,500. 971-9290
- ★ 1988 Toyota 4Runner, 4WD, 5-speed, sunroof, A/C, new brakes/clutch, well-maintained, \$5,000 obo. 351-6214
- ★ 1986 Chevrolet S10, short bed, 4-cyl., 2.5L, 4-speed manual, blue, \$1,200 obo. 931-433-6092
- ★ 1990 Mazda 626LX, maroon, 4-door, 5-speed manual transmission, A/C, sunroof, 144K miles, \$2,650. 883-9329

Free

- ★ Nice calico cat, 2 years old, spayed, all shots, good pet for elderly lady. 885-1771
- ★ Two bantam roosters, healthy, very attractive plumage, to good home. 776-9684
- ★ Cocker spaniel, buff, male, age 11, neutered, shots current, good health. 851-6661

Wanted

- ★ Three Alabama football tickets against Houston or Louisiana Tech. Philip/895-9520

Found

- ★ Bracelet at Center Ops all-hands meeting at SciQuest/Calhoun Community College. Call 544-4758 to identify

Lost

- ★ Earring, possibly Bldg. 4200, double pearl flowers w/white rhinestone center. 544-2243
- ★ Diamond tennis bracelet at COD All-Hands meeting at SciQuest/Calhoun Community College. 544-8503

Center Announcements

☛ **MARS Tennis Results** — Results from the men's tennis tournament held Aug. 7 are: Men's A Division — first place, George Noel and Neal Todd. Second place, Larry Craig and Tom Little. In Men's B Division — first place, Dave Carstens and Brenner Sherman. Second place, Fred Applegate and Don Tomlin. In the women's tournament held Aug. 14, Alice Daniel and Tammy Balch took first place. Betty Kilpatrick and Tracy Lynam finished second, Bernice Bowling and Margaret Craig finished third, and Fran Malone and Ronda Moyers finished fourth.

- ☛ **MOO Retirees Meet** — The Management Operations Office (MOO) retirees will meet for breakfast/lunch on Aug. 26 at 10 a.m. at the Cracker Barrel in Madison. Call 539-0042 if you have any questions.
- ☛ **Rocket City Rowing Club** — The Rocket City Rowing Club is offering a rowing clinic for adult beginners on Saturday, Sept. 11, 18, 13 and Oct. 2, from 10 a.m.-noon. Cost is \$60. To sign up, call Halley Little at (256) 539-8841.
- ☛ **Shuttle Buddies Breakfast** — The Shuttle Buddies will meet for breakfast at 9 a.m., Monday, at Shoney's on University Drive West. For more information, call Deemer Self at 881-7757, or Gail Wynn at 852-8189.

Job Opportunities

**CPP 99-71-RE, Supv AST, Technical Management, GS-801-14/15**, Space Transportation Directorate, X-33 Program Office. Closes Aug. 27.  
**CPP 99-82-CP, Program Analyst, GS-343-13**, Science Directorate, Business Management Office, Resources Group. Closes Aug. 24.  
**CPP 99-83-CL, AST, Technical Resources Management, GS-801-14**, Engineering Directorate, Business Management Office. Closes Aug. 24.  
**CPP 99-96-CV, AST, Mission Operations Integration, GS-801-14**, Flight Projects Directorate, Payload Operations & Integration Department. Closes Aug. 24.  
**CPP 99-97-CP, AST, Aerospace Flight Systems, GS-861-15**, Science Directorate, Office of the Director. Closes Aug. 24.  
**CPP 99-104-JP, AST, Technical Management, GS-801-14**, Space Shuttle Projects Office, Solid Rocket Booster Project. Closes Aug. 24.  
**Reassignment Bulletin 99-11-CP, AST, Technical Resources Management, GS-801-13**, Science Directorate, Business Management Office. Closes Aug. 26.  
**Reassignment Bulletin: 99-12-CP, Program Analyst, GS-343-12**, Science Directorate, Business Management Office. Closes Aug. 20.  
**Reassignment Bulletin: 99-14-CV, AST, Manned Systems, GS-801-12/13**, Flight Projects Directorate, Payload Operations and Integration Department, Operations Training Group. Closes Aug. 20.  
**Reassignment Bulletin: 99-15-CV, AST, Data Systems, GS-854-12/13 (3 Vacancies)**, Flight Projects Directorate, Payload Operations and Integration Department, Payload Systems Group. Closes Aug. 20.  
**Reassignment Bulletin 99-16-KP, AST, Technical Management, GS-801-11/12/13**, Engineering Directorate, Structures, Mechanics, and Thermal Department. Closes Aug. 26.

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