MARSHALL STAR

Serving the Marshall Space Flight Center Community — *Jan. 13, 2005*

Photo by Carnegie Museum of Natural History

Carnegie Museum of Natural History paleontologist Dr. K. Christopher Beard introduces Samson to a group of students at the museum.

Marshall's X-ray scans dinosaur skull

By Sanda Martel

As NASA charts a bold new course into the future, the space agency is briefly taking a step back in time to examine a dinosaur skull.

NASA scientists are using equipment at the Marshall Center to scan the skull of a Tyrannosaurus rex. The state-of-the-art equipment was originally designed to examine rocket motor assemblies and turbine blades. Discovered on a South Dakota ranch in 1992, it is believed to be the most complete and well-preserved T-rex skull ever discovered. Discoverers dubbed the find "Samson," recognizing the beast's reputation as the strongest dinosaur to roam the Earth during the late Cretaceous period.

"Marshall is one of the few places in the

*See **Dinosaur** on page 2*

Explorer schools excite students about space

By Jack Robertson

Tomorrow's astronauts, engineers and scientists are living in towns like Phenix City, Ala., Belle Chasse, La., Bolivar, Tenn., Hot Springs, Ark., Sioux Rapids, Iowa, Potosi, Mo., Marvell, Ark., Chattanooga, Tenn., Fordyce, Ark., Baker, La., and Albertville, Ala.—communities where students are learning about outer space and how science can improve our lives here on Earth.

They will be the scientists, researchers, engineers, technicians and astronauts on the team that helps turn the Vision for Space Exploration into a reality. They will be in the laboratories, on the project teams, in mission control and in the spacecraft that will return humans to the Moon and on to Mars.

Students across the United States are participating in NASA's Explorer School program: a partnership between NASA and selected schools that brings mathematics, science and technology learning opportunities to students in underserved/underprivileged areas. The program, which began in 2003, is sponsored by NASA's Office of Education.

Last year, students in NASA Explorer Schools in Alabama, Arkansas, Iowa, Louisiana, Missouri and Tennessee met astronauts and NASA Administrator Sean O'Keefe, as well as the Marshall leadership team: Marshall Center Director David King, then-Deputy Director Rex Geveden and Associate Director Robin Henderson.

Photo by Emmett Given/ Marshall Center

David King, Marshall Center Director, interacts with Phenix City Intermediate School students as they worked in their computer lab during King's visit last year. The Phenix City school is a NASA Explorer School.

A Marshall team from Academic Affairs, Government and Community Relations, Protocol and the Public Affairs offices coordinated visits to 12 schools in Marshall's six-state area of responsibility.

*See **Explorer** on page 4*

Team work and open dialogue important at Marshall

Deputy Around-the-Corner

Photo by Doug Stoffer/ Marshall Center

Charles Chitwood
Marshall Deputy Director

Over the past few weeks I've been getting to know the people of the Marshall Center. I have found a deep passion for America's space program, personal pride in the Center's work, and strong support for the entire Agency. To those of you who attended the Director's Update on Dec. 13 you will recall that I shared my desire from many years ago to join NASA because it's known for doing "cool things." Today, I know why this Agency does cool things: commitment to explore the limits of what we can do.

I am fortunate that my career journey led to NASA, and I am excited about being your deputy center director. My goal is to assist in continuing the transformational work begun by Dave King, Rex Geveden and Robin Henderson many months ago. My desire is to bring my experiences and lessons learned to the Marshall table. My hope is for the opportunity to serve the Center and the Agency as we continue the goal of returning the Shuttle to safe flight, and begin our work toward the Vision.

In my few short weeks at Marshall, I have begun interacting with strong teams that I believe will accomplish more as we continue to come together for Return To Flight, Station completion, and the Vision. I am very team oriented and have found that the best organizations I've been a part of believe in the importance of the people and the teams they form. I look for connections, seek possibilities, and work to form partnerships. I am a strong believer in listening and applaud an environment that fosters open and honest discussions, even if the discussions are hard.

This Center has a profound legacy and an important future. Dave, Robin and the direct reports have been working challenging issues: Marshall's accountability through Full Cost, working toward the Vision, changes in programs and projects, and becoming more customer-focused. I plan to jump right in and hope to offer something useful in the midst of responding to these challenges and changes. I also look forward to being around creative people, teaching and, if I am very fortunate, inspiring. In hindsight, I believe that working through tough career challenges has prepared me for this job.

Thank you for welcoming my family and me to the Center. I am hopeful that I will get to know more of you in the near future. When you see me around the Center, please take a moment to let me know who you are and what you do. People connections are just as important as the programs and projects. They form the impetus to pursue excellence, and they are the cornerstone of success.

I am excited to be here, and I'm ready to roll up my sleeves.

Dinosaur

Continued from page 1

world with the technology needed for such a complex scan," said Dr. Chris Beard, curator of vertebrate paleontology at the Carnegie Museum of Natural History in Pittsburgh. "We are very excited NASA has agreed to provide space-age technology for this project."

Dr. Ron Beshears is leading the project at the National Center for Advanced Manufacturing located at the Marshall Center. Beshears' laboratory team is running various tests on the skull with a high-tech computed tomography scanner used for nondestructive testing of parts and equipment destined for space. The scans provide Carnegie Museum experts with detailed cross-section images of the skull. Such detail will help museum experts better understand the basic anatomy and lifestyle of the T. rex.

"The idea of working with 65 million year old dinosaur bones alongside next-generation space technologies is something we're quite excited about," Beshears said. "We're happy we can use our facility to assist in a scientific investigation of the dinosaur fossil."

The fossil arrived at Marshall Dec. 1, and tests will continue for several weeks. Carnegie Museum researchers will use results to compare Samson's skull with previous computed tomography scans of less well-preserved T. rex fossils, establishing a baseline to determine anomalies in future finds. Although privately owned, Samson is being prepared and studied by the museum for two-years. The skull, separated from its skeleton by the museum for study, is largely encrusted in rock. It arrived at Marshall enclosed in a shipping crate approximately 5 feet by 3.5 feet and weighing approximately 1,600 pounds. Because of the skull's fragility, it will not be removed from the crate while tests are performed. After tests and examinations are completed, it will be returned to the Carnegie to recreate the once-fearsome predator.

Marshall's National Center for Advanced Manufacturing is also working on analyzing Space Shuttle parts in support of safe Return to Flight.

The writer, an ASRI employee, supports the Public Affairs Office.

Bill Hicks named chief operating officer of NSSTC

Hicks

By Rick Smith

William R. Hicks has been named chief operating officer of the National Space Science and Technology Center (NSSTC).

The state-of-the-art NSSTC research facility is a partnership between NASA's Marshall Center and the Alabama Space Science and Technology Alliance, a consortium of seven Alabama research universities.

In his role, Hicks is the NSSTC's key liaison with NASA, educational institutions and industry. He also is responsible for day-to-day management and operation of the science center, including strategic business planning, safety oversight and supervision of facility resources. He serves as a principal advisor to NSSTC Executive Director Gerald W. Smith, and to the Marshall Center's Science and Technology Directorate.

"Bill Hicks plays a critical role in the work of the NSSTC," said Smith. "His depth of knowledge and insight into the business of research and discovery will improve our ability to conduct science in a broad range of fields -- exploring the unknown and bettering our society, our nation and our planet."

Hicks previously served for four years as deputy business manager for the Marshall Center's former Science Directorate. There, he supervised personnel, facilities and equipment, and other program resources. He has held a number of key positions at the Marshall Center, including research and technology programs manager and business manager for the Microgravity Research Program, which sought new understanding of the effects of gravity on biological, chemical and physical systems; business manager of science payloads for the International Space Station Payloads Projects Office, which plans and oversees all experiments aboard the orbiting research facility; and program and projects budget manager for the Office of the Comptroller, which maintains and audits the organization's business accounts.

A 23-year NASA veteran, Hicks first joined the Agency in 1980 as a program developer, estimating costs for the Marshall Center's role in building the International Space Station.

He spent a year away from NASA in 1986, working for Applied Research Inc., in Huntsville, as deputy project manager supporting the U.S. Strategic Defense Initiative.

The writer, an ASRI employee, supports the Public Affairs Office.

Marshall Association kicks off membership drive

From left, Marshall Association treasurer Tom Fleming accepts membership dues from David King, Marshall Center director and Charles Chitwood, Marshall deputy director. Robin Henderson, seated left, gives her $25 dues to Nelson Parker, Marshall Association president, while Cindy Upton, vice president for programs, looks on. Steve Durham, vice president for communications is not pictured. The dues are used to pay for the organization's annual scholarship program. Membership dues may be paid to any Association officer.

'Star' Gazing

From the Marshall Center History and Archives Files

Forty years ago today, the *Marshall Star* reported that dynamic testing of the Saturn 1B was to begin soon at the Marshall Center after arrival of an adapter that would mate the rocket's Instrument Unit to the Apollo Service Module. The adapter was 260 inches in diameter at the base and narrowed to 154 inches at the top. It was about 30 feet tall and weighed 4,700 pounds. It was flown in from the Tulsa, Okla., plant of North American Aviation under an Army CH-47A helicopter. The adapter, which also was designed to protect the Lunar Excursion Module, would be used later for dynamic testing of the Saturn V rocket.

Explorer

Continued from page 1

The team traveled about 6,000 miles last year to tell approximately 5,000 students about the future of space exploration and how they can be a part of it.

The reception at each of these schools was enthusiastic, ranging from American flags flapping in a spring breeze at Bolivar Elementary in Tennessee to students lining the walkway on a chilly morning as a miniature Space Shuttle led the visitors into Sioux Central Middle School in Iowa.

During the visits, NASA leaders recognized each school for its selection to the Explorer School program. The events also provided an opportunity to share the Vision for Space Exploration and for students to learn about careers they can pursue at NASA.

"Visiting the schools is always a wonderful experience," said King. "It is inspiring to see the excitement in the children, teachers and community leaders about what NASA does."

During each school visit, students assembled for a video presentation about space travel and heard an astronaut relive his or her experiences in space. Following a question and answer session with the students, a NASA official, to loud applause, presented a Space Shuttle model to the school as a visible symbol of its Explorer School designation.

Students benefited when the visitors joined them in classrooms for hands-on learning experiences, such as conducting experiments or talking about what they've learned about space.

"This program brings a tremendous advantage to students – and their schools -- who often don't have such opportunities," said Alicia Beam, education officer for K-12 programs in the Academic Affairs Department at Marshall**.** "It is satisfying to see the students doing things in the classroom that will help prepare them for a career in science, math, and technology."

The writer, an ASRI employee, supports the Public Affairs Office.

Michael Foale joins exploration team

From NASA Headquarters Release

Foale

NASA Administrator Sean O'Keefe recently appointed astronaut C. Michael Foale as Deputy Associate Administrator for Exploration Operations reporting to both NASA's Associate Administrators for Exploration Systems and Space Operations.

Foale will advise the mission directorate senior leadership on immediate, near term opportunities to refocus and realign training, operations, engineering support and life sciences research towards accomplishing the Vision for Space Exploration.

"Mike brings his unique science and mission background to NASA Headquarters during a critical and exciting time for the agency. His knowledge, hands on experience, forward thinking and passion for exploration will enhance the efforts of the Exploration Systems and Space Operations Directorates for furthering the Vision for Space Exploration," Administrator O'Keefe said.

Foale's principal objectives are to ensure primary user needs, lessons learned and potential risk areas have been considered based on input from recognized experts from across NASA. The experts include astronauts, scientists, researchers, flight operators, logisticians, maintenance directors and other key personnel from critical areas affecting operations. He will work with key leadership across operations and research disciplines to assess NASA's human space flight activities and enhance alignment of current space operations and new exploration programs.

His tasking with the Exploration Systems Mission Directorate will entail leading activities and program planning efforts in support of advanced human and robotic space exploration missions. He will participate on multi-discipline teams to define and develop exploration scenarios, project objectives, mission architectures, flight operations and technology development strategies.

He will coordinate the transition of development programs to operational activities within established milestones to validate and test achievement of operational concepts and objectives.

Foale visited the Marshall Center on Sept. 22 where he discussed his time aboard the International Space Station and presented Silver Snoopys to team members.

NASA selected Foale as an astronaut candidate in June 1987.

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Who am I?

This photo of me was taken at age 13 while attending Challenger Middle School. I was born in Papillion, Neb., but was raised in Huntsville. I was a cheerleader and soccer player for Grissom High School. I celebrated my 18th birthday by going skydiving (13,600 feet). I am an Auburn graduate. "War Eagle!"

Do you know who I am? Find out on page 5.

Compiled by Michael McLean

Announcements

Astronaut Mike Fincke to speak Tuesday at the Marshall Center

International Space Station crewmember Mike Fincke will visit the Marshall Center Tuesday at 12:30 p.m. to present mission highlights during an assembly in Morris Auditorium. Fincke spent six months on the Expedition 9 mission where he continued science operations, maintained Station systems and performed four spacewalks. Marshall team members and retirees are encouraged to attend.

Project Management Institute social is Tuesday

The Project Management Institute will hold its annual Networking Social from 5:30 – 7:30 p.m., Tuesday at the Holiday Inn across from Madison Square Mall. A brief presentation on the project management professional certification process also will be given. For more information or reservations, call Camilla Canty at 544-5223.

Volunteers needed to mentor SHARP students

The Marshall Center is seeking volunteers to work with students participating in the 2005 NASA Summer High School Apprenticeship Program, or SHARP. The eight-week program gives selected students opportunities to work in science and engineering areas. Researchers and other science and engineering professionals serve as mentors to the students. To volunteer, call Jennifer Simmons at 961-7544.

Darlene Garner named Shuttle Office employee for December

Darlene Garner was named Space Shuttle Propulsion Office December employee of the month. Garner was commended for her performance and dedication to both the Business and Management Operations Office and the Propulsion Office. She was also recognized for her work on the Shuttle's safety program and her untiring efforts and persistence during the organization's recent employee relocation effort.

Weight to Win contest kicks off Jan. 24

Marshall's Wellness Center is again sponsoring the Weigh to Win weight-loss contest. Create a team of up to five people and after seven weeks see how much weight the team has lost. A team scores points for each pound lost. All Marshall team members and retirees are eligible to participate. Registration continues through Jan. 21. The contest begins Jan. 24 and ends March 11. Call the Wellness Center at 544-0252 for more information.

Weight Watchers classes meet Thursdays

Weight Watchers at Work meetings are held Thursdays at 10:45 a.m., Bldg. 4203, Room 3002. New classes begin Thursday. For more information, call Vanita Brown at 544-2476.

Shuttle Buddies to meet Jan. 24

The Shuttle Buddies will meet at 9 a.m. Jan. 24 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757.

Who am I?

Janine Danne is an intern in the Federal Career Internship Program, serving as a budget analyst in the In-Space Propulsion Technology Office. Danne has a bachelor's degree from Auburn University where she was a member of Phi Eta Sigma and Alpha Lamda Delta honor societies. She is currently pursuing a master's in management information systems. She enjoys traveling, reading and watching SEC football.

Classified Ads

Vehicles

1994 Jeep Wrangler Sahara, 4wd, 6-cyl., 4" lift, 31" wide tires, soft-top, $8,000. 232-1310 mornings

1996 Ford Ranger XLT, 4-cyl., 6-speed, a/c, toolbox, new tires, $2,500. 256-550-1961/Jerry

1984 Cadillac Broughn, new paint, 84k miles. 348-5468

1998 Mazda 626 ES, v6, auto, loaded w/options, $5,150 firm. 256-753-2278

1999 Lexus ES300, 72k miles, rebuilt title, $12,000. 895-6640

2002 HD Sportster 883R w/extras, 7.5k miles, $5,700. 509-9550

1996 GMC Suburban $7,500. 256-655-7964

1986 full-size Ford Bronco, 4x4, currently not running, best offer. 533-9683

1991 Prizm/Corolla, 170k miles, new brakes, muffler, radiator, thermostat, automatic, $1,400. 859-8798

1999 Chevrolet Tahoe LS, pewter, 2wd, 67k miles, dual a/c, one-owner, $12,500. 656-9527

1995 Mercedes C230, 4-door, black leather, gray interior, one-owner, 110k miles, all records, $9,500. 730-3364

2002 Toyota Tacoma, 4x4, automatic, six bi-fold doors. 585-0473

1991 Mazda B2600i KingCab pickup, blue, 128k miles, $2,900. 256-883-1003

2001 Ford Explorer Sport, 2-door, v6, automatic, loaded, $6,900. 233-6197

1998 Lumina, 49k miles, 4-door, v6, loaded, $8,000. 828-5142

2000 Dodge Dakota ext. cab, 40k miles, loaded, sunroof, v6, auto, tow pkg., $10,900. 837-1774

1994 Ford Probe, blue, 98k miles, $2,100. 851-8668

2001 Silverado 1500 extended cab, 5.3L/v8, loaded, dual power seats, $14,000. 256-738-2889

1978 Ford F100, 351/v8, 109k miles, ac/ps/pb, bedliner, towing pkg., $5,200. 694-5743

1975 Honda CB360T 8.5k miles, $900. 230-6819 after 5.

2001 Ford Explorer Sport, automatic, 2-door, loaded, $6900. 233-6197

2000 Honda Civic, 86k highway miles, cd/pdl, remote entry, new tires, $8,500. 256-895-0577.

2001 F150 Lariat, ext. cab, loaded, leather, 55k miles, $17,000. 881-9753/Jeff

2000 Honda Civic EX, 4-dr., auto, 57k miles, power/cruise/roof, beige/beige, new tires, $10,750. 256-536-4326

1999 Chevy Cavalier, 2-door, gold, 86k miles, sunroof, $4,000 256-883-1003

2001 Ford Expedition XLT, 74k miles, rear air, 6-disc changer, backup sensors, towing, $12,900. 256-895-0577

1996 Honda Civic LX sedan, 126k miles, black, auto, $4,600. 256-479-6560

2000 Ford Explorer Sport, v6, 5-speed, 2wd, am/fm cassette/cd, 68k miles, one-owner, $7,000. 256-828-9798

1996 Mitsubishi Eclipse GS, 5-speed, 113k miles, red, rims, $4,995. 379-4677

Scooter, red, gas-powered, electric start, basket, lights, new, $200. 776-9165

1996 Honda XR100 dirtbike, $1,100. 655-6293

2001 Volvo S60, 2.4L turbo, leather, sunroof, all-power, 10-disc cd, 31.6k miles, $21,000. 256-797-7937

2002 Jeep Grand Cherokee, 36k miles, 2wd, dark red w/black interior, $15,500. 256-837-2223

1993 Altima GXE, New tires. 149k miles. $1700.00. 830-1820

1993 Nissan Maxima GXE, excellent condition, 4-door, automatic, power windows/locks, $3500. 852-6936

1996 Ford T Bird 108k miles, all power, $2500. Ron Baine 885-1857

1995 Honda Accord DX, 200k miles, $2,800. 256-366-5595

1999 Yamaha TTR225 $1900; 1998 Honda XR100 $1300. 830-4191

Suzuki LT50 child size ATV, $500. 230-6382

1968 Chevy truck, 90 percent restored, white on white with new cedar bed floor, $5000. 679-0694

1999 Toyota Solara, 64k miles, silver, leather interior, cd/cassette player, moonroof, many extras, $9,500. 603-2618.

2001 Lexus IS 300, 46k miles, blue/leather interior, 4,000 miles left on warranty, $17,500. 423-593-5983

2000 Ford Explorer Sport, v6, 5spd, 2wd, am/fm/cassette/cd, 68k miles, one owner, $7000. 256-828-9798

1994 Lincoln Mark VIII, 220k, new compressor, $2100 obo. (256) 520-3874.

Wanted

Ride from near Huntsville Hospital, 7 a.m. to 3:30 p.m., will pay $7 per day. 533-6980

Free

Large plate glass mirror, great condition, approximately 96x35x0.375 inches, 721-1925

Lost

Silver snowflake pin, Bldg. 4200 complex, week of Dec. 20. Call 544-2571 if found

Found

Silvertone bracelet with gems, Wed. 1/5 in 4203 parking lot. Call
544-3650 to identify/claim.

All ads will appear next week.

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