

Open House '98 Provides Visitors With Glimpse into Space



Photo by Emmett Given

A special guest during Marshall Center's Open House '98 was Oscar the Robot. He attracted the attention of all visitors at Saturday's event.

More than 26,000 people took a special look inside Marshall Center, where dreams leap from drawing boards and rocket into space. Visitors who attended Saturday's Open House were provided a wide assortment of activities and demonstrations.

Guests journeyed deep inside the labyrinth of Marshall laboratories and test facilities for a rare glimpse of where Marshall scientists and engineers turn their dreams into reality, using space exploration to improve the health and quality of life for people on Earth.

Open House Chairperson May Wales expressed gratitude to the more than 1,100 Marshall employees and contractors for their volunteer efforts.

"Our Marshall team never ceases to amaze me," Wales said. "They have come forth once again to showcase Marshall Center and help to enlighten the public on Marshall's roles and missions."

(Open House photos on pages 3-4)

Health & Fitness Expo Today Offers Exhibits, Features One-Mile Walk

Marshall will recognize National Employee Health and Fitness Day today, by hosting a Health & Fitness Expo from 10 a.m.-1:30 p.m. in Bldg. 4752. Marshall's Medical Center and the NASA Exchange Physical Exercise Program are sponsors of this event, to be held annually.

"I encourage each and every one of you to take a little time out of your busy schedule and participate in this event," said Marshall's Program Development Director Axel Roth, who is leader of this year's fitness walk.

The fitness walk is scheduled to begin today at 11 a.m. at

See Health & Fitness page 5

Gov. James To Speak at Update Luncheon Today

The Huntsville/Madison County Chamber of Commerce is sponsoring an Alabama Update luncheon with Gov. Fob James at noon today at the North Hall of the Von Braun Center.

James will present his assessment of the past legislative session and the "state of the state" from his viewpoint. Call Mary Rutledge at 544-5252 for more information.



Photo by Danny Reeves

Griner Addresses Space Club, Guests at TABES

Acting Center Director Carolyn Griner addresses National Space Club luncheon attendees during a luncheon last week at the Von Braun Center. The luncheon was one of many events scheduled during the Technical and Business Exhibition/Symposium (TABES) May 12-13.

Around Marshall

Nash-Stevenson Receives Fellowship; Will Serve At Alabama A&M University in Huntsville

Dr. Shelia Nash-Stevenson, an electronic engineer with Marshall's Astrionics Laboratory, Instrumentation Branch, will participate in the 1998-99 NASA Administrator's Fellowship Program. This program gives Nash-Stevenson the opportunity to help Alabama A&M University in Huntsville assist NASA in its research and development mission.

The program aims to enhance the professional development of mid-career science, mathematics and engineering faculty at historically black colleges and universities, Hispanic-serving institutions and tribal colleges and institutions.

The fellowship program, scheduled to begin in August and run through May 2000, will be administered by the National Research Council, Washington, D.C.

Transportation for Solar System Exploration Topic of Talk at AIAA Awards Dinner Thursday

The American Institute of Aeronautics and Astronautics (AIAA) awards dinner is scheduled to begin at 6 p.m. Thursday at the Bevill Center in Huntsville.

"Transportation for Solar System Exploration" will be the topic of a talk by keynote speaker Steve Richards, Marshall's Exploration Transportation Office manager. Several Marshall employees will be presented with awards during Thursday's ceremony.

For reservations or more information, contact Alfred Wright at 876-8037.



Courtesy photo

Earth Scientists Drs. Jeff Luvall, left, and Dale Quattrochi crouch under a plane to inspect the heat-sensitive instrument that will produce images to illustrate where a city's "hot spots" are located.

Students Join Center Scientists to Study What's Hot in Baton Rouge

by Kelly McFalls

What's hot in Baton Rouge and what's not? That, literally, is the question Marshall scientists and Baton Rouge area school kids tried to answer last week, when they took the city's "temperature."

The answer ultimately could lead to lower air conditioning costs, improved air quality and sustainable urban development in Baton Rouge and other major cities nationwide.

Researchers from Marshall collaborated with 15 Baton Rouge schools, the Environmental Protection Agency, the State of Louisiana, the City of Baton Rouge, Louisiana State

University and Baton Rouge Green to study how rapid urbanization has affected climate and air quality in the urban area.

A specially instrumented NASA plane flew over the city during the hottest part of the day to produce a thermal map of the area. And, Marshall researchers launched a weather balloon to measure atmospheric conditions in Baton Rouge.

On the ground, the school students took part in the experiment by taking temperature readings of different surfaces at their schools in conjunction with the flight. The students will compare and verify their measurements with those recorded by instruments on the airplane.

Once the science team members collect and analyze the temperature data, they hope to work with the city to develop an urban planning tool that allows Baton Rouge to better plan for long-term sustainable development.



Photo by Jack Ray

North Alabama Industrial Development Association Visits Marshall

Members of the North Alabama Industrial Development Association tour Bldg. 4707 during a Center visit last week. Association members attended a briefing about Marshall programs and toured the Space Station Manufacturing and Assembly Facility, Productivity Enhancement Complex and Structural Laboratory.



The Morphis Movie Ride was a hit, attracting long waiting lines.



Open House guests, in above photo, tour the Space Station mock-up. In photo at right, visitors tour Marshall's test area.



You can tell from these expressions how fun the day was. From left, Acting Center Director Carolyn Griner; Customer and Employee Relations Director Teresa Washington; Science and Engineering Director Bill Taylor and Center Operations Director Sheila Cloud.



Astronaut Owen Garriott autographs photos at the Skylab display area.



Open House Chairperson May Wales, center, with cochairmen Mark Boudreaux, left, and Thom Holden.



Marshall Open House

Fun-filled Day of Sights and Sounds

Coverage by
Marshall
Center
Photographers



Model rocket launches were big crowd-pleasers at the Open House grand finale.



A crowd gathers for the Open House grand finale.



Astronaut Kalpana Chawla autographs photos for Open House guests.



Open House attendees set their sights toward the heavens.



Open House guest receives a gyro demonstration with the help of volunteers.



Visitors collect brochures and posters at Open House.

Upcoming Events

May 31 Picnic to Celebrate Asian-Pacific American Heritage Month

A fun-filled afternoon of food, games, music and dance is planned May 31 during a potluck picnic celebrating Asian-Pacific American Heritage Month. The picnic is scheduled to begin at noon at Marshall's picnic area.

All Marshall employees, contractors and family members are invited. Anyone interested in attending is asked to bring a dish from their native country as the admission ticket. For more information, call Lynn Chou at 544-1591 or Alan Chow at 544-7107.

Marshall Management Association To be Renamed at May Meeting

A ballot will be prepared for the Marshall Management Association (MMA) luncheon May 28 at the Bevell Center and a new association name will be selected at that time.

MMA members have commented on more than three-dozen suggested names and have narrowed the choices to three.

The luncheon, set to begin at 11:30 a.m., is open to all Marshall employees, contractors and MMA alumni. The cost is \$12 and the reservation deadline is May 25. Contact T. Jerry Williams, GP30, at 544-0295, or via e-mail.

Bloodmobile to Visit Friday

The American Red Cross bloodmobile will be at the Center Friday at Bldg. 4752. The blood bank is currently at very low levels of O+ and O- blood. The schedule is: A-B, 8 a.m.; C-E, 8:30 a.m.; F-H, 9 a.m.; I-K, 9:30 a.m.; L-P, 10 a.m.; Q-S, 10:30 a.m.; and T-Z, 11 a.m. If you are unable to attend the assigned times, volunteers will be here until 1:30 p.m.

Obituaries

Hendrix, James, 72, Huntsville, Ala., died May 8. He retired from Marshall in 1968 where he worked as an electrical technician.

Hubble Provides Views of How to Feed a Black Hole

Astronomers have obtained an unprecedented look at the nearest example of galactic cannibalism — a massive black hole hidden at the center of a nearby giant galaxy that is feeding on a smaller galaxy in a spectacular collision. Such fireworks were common in the early universe, as galaxies formed and evolved, but are rare today.

Although the cause-and-effect relationships are not yet clear, the views provided by complementary images from two instruments aboard NASA's Hubble Space Telescope are giving astronomers new insights into the powerful forces being exerted in this complex maelstrom. Researchers believe these forces may even have shifted the axis of the massive black hole from its expected orientation.

The Hubble wide-field camera visible image of the merged Centaurus A galaxy, also called NGC 5128, shows in sharp clarity a dramatic dark lane of dust girdling the galaxy. Blue clusters of newborn stars are clearly resolved, and silhouettes of dust filaments are interspersed with blazing orange-glowing gas. Located only 10 million light-years away, this peculiar-looking galaxy contains the closest active galactic nucleus to Earth and has long been considered an example of an elliptical galaxy disrupted by a recent collision with a smaller companion spiral galaxy.

Using the infrared vision of Hubble,

astronomers have penetrated this wall of dust for the first time to see a twisted disk of hot gas swept up in the black hole's gravitational whirlpool. The suspected black hole is so dense it contains the mass of perhaps a billion stars, compacted into a small region of space not much larger than our Solar System.

Resolving features as small as seven light-years across, Hubble has shown astronomers that the hot gas disk is tilted in a different direction from the black hole's axis — like a wobbly wheel around an axle. The black hole's axis is identified by the orientation of a high-speed jet of material, glowing in X-rays and radio frequencies, blasted from the black hole at 1/100th the speed of light.

This gas disk presumably fueling the black hole may have formed so recently it is not yet aligned to the black hole's spin axis, or it may simply be influenced more by the galaxy's gravitational tug than by the black hole's.

The team of astronomers is awaiting further Hubble data to continue its study of the disk, as well as ground-based spectroscopic observations to measure the velocity of entrapped material around the black hole. This will allow the astronomers to better calculate the black hole's mass.

The current results are scheduled to appear in the June 1 issue of *Astrophysical Journal Letters*.

Health & Fitness

Continued from page 1

Marshall's picnic area.

"I would like to see a record number of participants this year," added Griner.

The Expo will feature a variety of exhibits offering information about traditional and nontraditional medical and health fitness services available in the Huntsville area. Health and fitness demonstrations, along with a one-mile walk, are also planned. The walk is set to begin at 11 a.m. Shuttle transportation will be provided for attending employees from various locations Center-wide. Door prizes will be awarded following the event.

- **What:**
Health & Fitness Expo
- **Where:**
Bldg. 4752
- **When:**
10 a.m.-1:30 p.m.

*Everyone's invited
to attend!*

Marshall employees, retirees, contractors and family members and friends are invited. For more information, call Pat Mirandy at 544-7570.

Employee Ads

Miscellaneous

- ★ Luan interior doors, 80" high, various widths, stained and clear-coated. 722-0127
- ★ Moving — washer, dryer, various furniture, women's shoes & clothing, free weights, exercise equipment. 721-1169
- ★ Removable hardtop w/sunroof for MGB, black, rear glass, side windows open, \$75. 883-5955
- ★ Set of four Halloween Longaberger baskets w/ pumpkin stand-up liners, \$350 o.b.o. 653-8377
- ★ 4 x CDROM, \$10; automotive timing light, \$10; volt I dwell meter, \$10. 351-6806
- ★ Outdoor plants, 3705 Fairview St., call before digging. 539-2951
- ★ Undercounter dishwasher, \$80; GE/Hotpoint washer, \$95; basketball goal, \$55; Whirlpool dryer, \$95. 881-6040
- ★ Pro-form Cross Walk dual-motion cross-trainer treadmill & stationary bike, \$200. 881-5577
- ★ Large Sears cargo roof top carrier, \$30. 880-2761
- ★ Camelot pool membership, \$650. 883-0244
- ★ 10-spd bicycle, \$15; mixed golf clubs, 6 irons, 4 woods and bag, \$35. 536-8951
- ★ Standard barbell weight set with 30, 40 and 50 pound solid dumbbells. \$200. 423-8566
- ★ Bradford Refrigerator, side-by-side, auto ice, defrost, \$85. 353-4552
- ★ Bissel canister-style carpet steam cleaner, includes hand tool, \$45. 859-1685

Boats

- ★ 1984 15' Challenger bass boat w/70hp Mercury, trailer, trolling motor, depth finder, boat acces., motor needs work, \$1,800. 880-3063
- ★ 1983 Bomber Scout bass boat w/40hp Mercury, trailer, depth finders, \$2,500; 55 gal. aquarium, \$30. 851-6014 after 6 p.m.
- ★ Gaspar 17' Runabout, 115hp Johnson w/power trim, walk-through windshield, depth finder, skis, \$1,200. 883-8257

Vehicles

- ★ 1987 Suzuki Quad-runner 250, 4-wheeler, \$1,700 o.b.o. 379-3606
- ★ 1970 Honda Trail 70, blue and chrome, \$475. 883-0686
- ★ 1983 Chevrolet C-20 conversion van, 300 CID, AT/PS/PB/AC, table/captains chairs; bed, \$3,200. 881-6040
- ★ 1995 Buick Park Avenue Ultra, one owner, 79K miles, \$17,500, leave message. 536-5100
- ★ 1989 Chevy-S10 Pick-up, 95K miles, AC, radio, 5 spd., trailer hitch, \$2,995. 233-4382
- ★ 1993 Oldsmobile Cutlass Ciera, \$6,200 obo; 1992 Ford Taurus, \$4,700. obo. 353-4552
- ★ 1993 Nissan 300 ZX, 2x2, 5 spd., 51K miles, T-tops, CD Bose, \$16,900. 830-4477
- ★ 1996 Chev. X71 350, auto, extended cab,

- maroon, 52K miles, CD, \$19,600. 852-6193
- ★ 1985 Nissan pickup truck, camper shell, 100K miles, \$2,500. 881-8915
- ★ 1992 Chevrolet Z28, red, 350 V8, auto., 25th anniv. pkg., 71K miles, \$8,500. 420-4211

Free

- ★ Felled trees in Athens available for firewood, call for directions. 464-5008
- ★ Miniature poodle, male, one year old; kittens, 4 weeks old, some with bobtails. 498-3680.

Center Announcements

- ☛ **NASA Alumni League MSFC Chapter** — The NASA Alumni League MSFC Chapter will sponsor a dinner June 11 at the Valley Hill Country Club. A social will begin at 6:30 p.m., with a buffet dinner at 7:30 p.m. Tickets are \$16 per person and payable to Ed Buckbee, 811 Esslinger Road, S.E., Huntsville, AL 35802. Reservation deadline is June 5.
- ☛ **MOO** — The Management Operations Office (MOO) retirees will meet for breakfast/lunch May 28 (4th Thursday of each month) at the Cracker Barrel in Madison at 10 a.m. Retirees and all present or former MOO employees are welcome. Call 539-0042 with any questions.
- ☛ **MMA** — The Marshall Management Association (MMA) will sponsor a luncheon May 28 at 11:30 a.m. at the Beville Center. Dr. Thomas Sever of Marshall's Global Hydrology Research Office will be the guest speaker. The luncheon cost is \$12 and payable at the door. Call Jerry Williams for reservations at 544-0295 or via e-mail. Reservation deadline is May 25. Marshall employees, retirees and contractors are invited.
- ☛ **MESA** — The Marshall Engineers & Scientists Association, (MESA), IFPTE Local 27, will meet May 21, at 11:30 a.m. in the MESA Office, room C-105, in the northeast end of Bldg. 4471.
- ☛ **Bookfair** — The NASA Exchange is sponsoring a bookfair June 2-4 in Bldg. 4200, room G-13, 8 a.m.-4 p.m. An array of hardback books, including best sellers, cookbooks, gardening, biographies, sports and children's selections will be offered at substantial discounts.
- ☛ **Mandatory OSHA Hearing Conservation Training for Designated Personnel** — Mandatory OSHA Hearing Conservation Training is scheduled for May 21 and 27 in Bldg. 4200, Morris Auditorium. Two sessions will be offered each of the two days — 8 a.m. and 9:30 a.m. If you have any questions, call Marshall's Environmental Health Office at 544-2390.
- ☛ **MARS Ballroom Dance Club** — The MARS Ballroom Dance Club offers intermediate Mambo and Merengue lessons, 7-8 p.m. and beginners' Foxtrot and Triple Swing lessons, 8-9 p.m. May

25. Class will be held in the Parish Hall of St. Stephen's Episcopal Church at 8020 Whitesburg Drive. These lessons are available to club members and their partners/guest at \$8 per person. For details, call Pat Sage at 544-5427.

- ☛ **Toastmasters' International** — The NASA Lunar Nooners Toastmasters Club will meet on Tuesday May 26 at 11:30 a.m. in Bldg. 4610, cafeteria conference room. MSFC employees, contractors and friends are invited to attend. For more information, call Debbie Hagar at 539-4499, or Lee Johns at 544-5142.
- ☛ **Shuttle Buddies** — The Shuttle Buddies will meet for breakfast May 25 (each 4th Monday) at 9:15 a.m. at Shoney's, University Drive West. For questions call Deemer Self at 881-7757.
- ☛ **North Alabama Chapter of the Association of Government Accountants** — The North Alabama Chapter of the Association of Government Accountants will hold its monthly meeting on May 21 at the Marriott at the Space & Rocket Center. The meeting is scheduled to begin with a social at 5:30 p.m. and dinner at 6 p.m. This meeting will feature the Chapter's annual awards presentation. Cost is \$12. Contact Sandra Julian at 876-2300 for reservations.
- ☛ **Tennis Club** — The Marshall Tennis Club will host the Henry Rupp Hi-Lo Tournament May 23. A warm-up period is scheduled to begin at 8 a.m., with the tournament planned to begin at 8:30 a.m. Contact Bill Baker, EA02, at 544-6686 to register or for further information.
- ☛ **"Progress in Advanced Space Transportation Research" Topic of Talk** — "Progress in Advanced Space Transportation Research," presented by John Cole, Marshall's Space Transportation Research Office manager, will be the topic of a talk set for 7-8:30 p.m. May 27. The event will be held in the Huntsville-Madison County Public Library auditorium. This event is free, open to the public and sponsored by the Huntsville L5 Society Chapter of the National Space Society. For details, call Ronnie Lajoie at 971-3055 or Wade Dorland at 534-2566.
- ☛ **NARFE** — The National Association of Retired Federal Employees (NARFE), Chapter 736 will meet at 11 a.m. May 27 at Morrison's Cafeteria in Decatur. Morgan County Sheriff Steve Crabbe will discuss Morgan County issues and Megan's Law. All retired federal employees are invited. For more information, call 355-2874 or 773-4826.

Job Opportunities

CPP 98-53-DC, Office Automation Assistant, GS-326-7, S&E, Astrionics Laboratory. Closes May 26.

MARSHALL STAR

Marshall Space Flight Center, Alabama 35812

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