



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

## Zvezda service module 'ready' to launch in July

Following a General Designer's Review meeting in Moscow June 26, NASA and the Russian Aviation and Space Agency announced that plans remain on track for the launch of the Zvezda service module on July 12 from the Baikonur Cosmodrome in Kazakhstan.

The addition of this module sets the stage for the launch of other Space Station components undergoing final testing at the Kennedy Space Center in Florida.

The Zvezda launch will follow the launch of a second modified Russian Proton rocket on July 5 carrying a Russian military communications satellite to orbit.

A definitive liftoff time will be known

*See Space Station on page 6*



Photo by Terry Leibold, NASA/Marshall Space Flight Center

### **'Take Our Children to Work Day'**

Dale Watring, right, chief technologist in Marshall's Science Directorate, and his daughter, Claudia, were among the more than 700 registered children and 469 parents participating in the June 22 "Take Our Children to Work Day" at Marshall. See additional photos on page 5.

## Marshall marks 40th anniversary

# 'Rocket City' expands to support space program

*This is the second in a series of historical articles the Marshall Star will publish this summer on the history of the Marshall Center.*

*by Mike Wright*

In 1958, Huntsville celebrated the launch of Explorer 1, the United States' first orbiting satellite, with fireworks in the streets. National attention focused on the city, once devoted almost entirely to growing cotton. Huntsville got a place on the map and became known as the "Rocket City." Dr. Wernher von Braun's picture appeared on the cover of Time magazine.

The celebration in Huntsville in 1958 marked the eighth year since the rocket team had moved to Huntsville. Much had changed even before the launch of Explorer 1. Cotton traders

and mule-drawn wagons that had been so much in evidence in the first half of the century were gone. When the German team arrived in 1950, Huntsville's population was 16,000. By 1956, it had grown to 48,000, expanding with rocket engineers and scientists from across the United States.

There were other changes, too. The Germans heightened the community's cultural climate by promoting and participating in musical and artistic endeavors. Von Braun led the drive to build an astronomical observatory and telescope on nearby Monte Sano Mountain.

By the mid-1950s, the word "rocket" was plastered on everything from cafés to upholstery shops. The character of the population changed as well. Engineers from across the South and the nation moved to Huntsville.

Residents searched for ways to accommodate the city's rapid growth. Hannes Luehrsen, who had been trained in architecture

**"Prevent Accidents, Promote Safety"**

*— Safety slogan submitted by  
Connie Wells, AD23*

*See Rocket City on page 3*

# STS-99 crew presents Silver Snoopy Awards

Shuttle Commander Kevin R. Kregel, Pilot Dominic L. Gorie and Mission Specialists Janet Lynn Kavandi and Mamoru Mohri, crew members from Shuttle mission STS-99 — visited Marshall June 21. The crew met with employees and presented Silver Snoopy Awards. The award is for professionalism, dedication and outstanding support of the space program. The crew also presented highlights of their mission to map the Earth. See Silver Snoopy Awards on pages 3 and 4.



Photo by Emmett Given, NASA/Marshall Space Flight Center

The Shuttle Radar Topography Mission team received the Space Flight Awareness Team Award for its support of STS-99.



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Dawn Cross, right, of Marshall's Engineering Directorate, receives her Silver Snoopy Award from astronauts Mohri, left, and Kregel.



Photo by Dennis Olive, NASA/Marshall Space Flight Center

Farley Davis, left, of Marshall's Environmental Engineering Department, and John Salisbury of Cortez III, right, receive Snoopy Awards from astronaut Kavandi.



Photo by Doug Stoffer, NASA/Marshall Space Flight Center

Dianne G. Miller, left, and Michael Galuska, right, of Marshall's Safety and Mission Assurance Office, receive Snoopy Awards from Kregel.



Photo by Dennis Olive, NASA/Marshall Space Flight Center

Kavandi presents awards to Justin W. Jackson, left, and Robert E. Butler Jr., right, of the Center Operations Directorate's Information Services Department.

## Silver Snoopy Awards

Continued from page 2



Photo by Doug Stoffer, NASA/Marshall Space Flight Center

STS-99 crew, from left, Mohri, Kregel, Kavandi and Gorie, present Center Deputy Director Carolyn Griner with a photo from their mission.



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Mohri, left, and Gorie, right, present Silver Snoopy Awards to Teddy Edge, second from left; Jennifer Demirjian, Charles Horne and Ronald Newby of Marshall's Avionics Department.



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Gorie, left, and Mohri, right, presented Silver Snoopy Awards to Donald Bryan, left center, and Patrick Rogers of Marshall's Structures, Mechanics and Thermal Department in the Engineering Directorate.

## Countdown to Safety Bowl

*Have you joined a team?*

Marshall's Safety Bowl begins Aug. 30 and culminates with the championship on Safety Day, Oct. 18. Teams from each directorate will compete. For more information, call Irene Taylor at 544-2051.

### Sample questions:

1. How many electrical power strips can be piggy-backed without violating MSFC regulations?
2. What does the abbreviation MSDS stand for?
3. If you find yourself or your clothing on fire, what three things should you do before seeking help?
4. If riding a bicycle, you should ride:
  - a) Against the flow of traffic.
  - b) In the middle of the street.
  - c) With the direction of traffic.
5. What should you do if you're in your car and see a tornado approaching?

For more Safety Bowl questions, see "Inside Marshall," the "Daily Planet" and ETV.

*See Answers on page 5*

## Rocket City

Continued from page 1

and city planning in Germany, drew plans for a major detour around the city's original business district. With the school population growing by 1,200 students a year, the spouses of scientists and engineers at Redstone Arsenal helped fill the need for teachers, and in January 1950, the University of Alabama opened a branch in Huntsville. Later, von Braun lobbied for a research institute and a permanent full undergraduate program.

By 1967, Huntsville's population was more than 100,000 and still growing. Legend has it that von Braun sent government photographers outside the gates of the Marshall Center to take pictures of dilapidated houses. He then presented the pictures to city leaders to demonstrate how the city looked when visitors came to town. At the end of World War II, Huntsville had about 12 industries and 3,500 homes. By 1964, the city had more than 40 industries and 30,000 homes.

As work on the Saturn rockets progressed in the 1960s, von Braun sought ways to preserve public enthusiasm for space exploration. By the mid-1960s, he and others had joined forces in establishing a permanent site to publicly display hundreds of space and missile-related exhibits provided by the Marshall Center and the U.S. Army. That facility opened in 1970 and is known today as the U.S. Space & Rocket Center.

*The writer is the Marshall Center historian.*

# Joint Propulsion Conference, Exhibit July 16-19 at VBC

The 36<sup>th</sup> Joint Propulsion Conference & Exhibit will be July 16-19 at the Von Braun Center in Huntsville.

The American Institute of Aeronautics and Astronautics organized the conference with support by the American Society of Mechanical Engineers, American Society for Engineering Education and the Society of Automotive Engineers. It is the world's largest conference devoted to all types of propulsion technologies.

Marshall Center Director Art Stephenson is one of four executive co-chairs for the event. Other executive co-chairs are Maj. Gen. Al Sullivan, commanding general of the U.S. Army Aviation and Missile Command at Redstone Arsenal; Jess Granone of the

U.S. Army Space and Missile Defense Command in Huntsville; and Col. Michael Heil of the U.S. Air Force Arnold Engineering Development Center in Tullahoma, Tenn.

NASA-badged employees may attend all technical and plenary sessions cost-free under a block registration, but must purchase tickets for the awards luncheon, \$25, and the Monday Exhibits box lunch, \$13.

In addition, each employee and his or her spouse may attend the welcome reception from 7-9 p.m. July 16 at the Von Braun Center South Hall. The exhibit's reception will be from 6-7:30 p.m. July 17 at Exhibit Halls 1 and 2.

Employees also may purchase \$5 tickets for the Tuesday night special event at the U.S. Space & Rocket Center for themselves

and a guest, which is open only to conference attendees. The event includes dinner and live entertainment. Free transportation will be provided from the Von Braun Center.

Employees interested in attending should submit a Conference Form 1265 to CD20/Stephanie J. Elliott. For more information, call Elliott at 544-7553.

Others wishing to attend the conference who plan to pay by credit card may use the online registration form at: <http://www.aiaa.org/calendar/joint00reg.html>

The conference program can be viewed at: <http://www.aiaa.org/calendar/joint00prog.html>

## Silver Snoopy Awards

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Photo by Doug Stoffer, NASA/Marshall Space Flight Center

**Kregel, center, presents Silver Snoopy Awards to Everett Runkle, left, and David Wilson of Marshall's Space Shuttle Main Engine Project Office.**



Photo by Doug Stoffer, NASA/Marshall Space Flight Center

**Kregel, right, presents a Silver Snoopy Award to Robert McKemie of Marshall's Systems Management Office.**



Photo by Dennis Olive, NASA/Marshall Space Flight Center

**Kavandi, left, presents a Silver Snoopy Award to Allen Long of Hernandez Engineering Inc.**



Photo by Doug Stoffer, NASA/Marshall Space Flight Center

**Kregel, right, presents a Silver Snoopy Award to Glynda Thomas in the Office of the Deputy Director.**

# Marshall employees 'Take Our Children to Work'

On June 22, Marshall celebrated "Take Our Children to Work Day." More than 460 parents registered 700 children for the event. Children visited parents at their work sites, toured the Space Station mock-up in Bldg. 4625 and enjoyed a pizza and soda lunch. Center Deputy Director Carolyn Griner greeted the group. A table held "giveaway items" including posters and pins for the children. "With so many children participating, we stressed safety first," said Billie Swinford, Marshall's Federal Women's Program manager in the Equal Opportunity Office, and coordinator of the event. "We wanted everyone to have a safe and enjoyable day."



Photos by Terry Leibold, NASA/Marshall Space Flight Center

Willie Love of Marshall's Equal Opportunity Office, wearing the astronaut costume, entertained parents and children alike.



Chrissa Hall of Marshall's Employee and Organizational Development Department serves pizza to "Take Our Children to Work Day" participants.



Tim Brown with Wang Government Services helps deliver pizza.

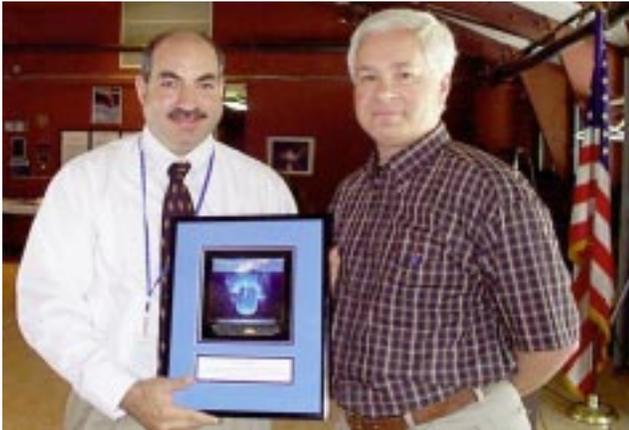
## Answers

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- |                               |  |
|-------------------------------|--|
| 1. a) Zero                    | 4. c) With the direction of traffic  |
| 2. Material Safety Data Sheet | 5. Get out of the car and lie flat in a ditch or low-lying area away from the vehicle. |
| 3. Stop, drop and roll        |  |

## Job Opportunities

**CPP 00-90-RE, AST, Risk Management Operations, GS-861-15,** Space Transportation Directorate. Closes July 7.  
**CPP 00-80-GF, Procurement Analyst, GS-1102-14,** Procurement Office, Policy & Information Management Department, Closes July 12.  
**Reassignment Bulletin 00-29-RE, AST, Aerospace Flight Systems, GS-861-13,** Space Shuttle Projects Office, Solid Rocket Booster Project. Closes July 14.



**Jacobson, left, and Bernie Seery, project manager for the Next Generation Space Telescope at Goddard.**

**D**ave Jacobson, of Marshall's Science Directorate, received the annual Next Generation Space Telescope Engineering Excellence Award for his efforts to enable the groundbreaking technology partnership between NASA and the Department of Defense on ultra lightweight mirror technology for the Next Generation Space Telescope.



**Holmes-Cooper**

**C**ari Holmes-Cooper, an office automation clerk in the Operations and Maintenance Group of Marshall's Center Operations Directorate, recently received three awards for performance while participating in the Cooperative Education Program. Holmes-Cooper, a co-op student at Marshall from June 30, 1997, to May 10, 2000, was named Wallace State College Co-op of the Year, was the Cooperative Education Association Inc. two-year college -1<sup>st</sup> runner up for Co-op of the Year; and received the Alabama Association of Colleges & Employers Co-op of the Year Award.

## Space Station

*Continued from page 1*

closer to the launch date following detailed trajectory analysis by Russian experts.

This analysis will be based on optimum lighting conditions for docking to the Space Station while the two spacecraft are over Russian ground communications stations.

Following joint meetings in Moscow, including a General Designer's Review and a Joint Program Review, it was agreed that Zvezda (Russian word for Star) — the early living quarters for crews aboard the station — is ready to begin final preparations for launch on a Proton rocket fitted with modified second- and third-stage engines, which have been in redesign and testing for the last five years.

The 42,000-pound Zvezda is 43 feet long (13 meters) and has a solar array wingspan of 97.5 feet (30 meters). It provides the early living quarters for astronauts and cosmonauts and contains the life support system; electrical power distribution; data processing system; flight control system; and propulsion. The module contains three pressurized compartments and four docking ports. While many of these systems will be supplemented or replaced by later U.S. station components, Zvezda always will remain the structural and functional center of the Russian segment of the International Space Station.

Following Zvezda's launch and 14 days of free flight, the Space Station will rendezvous and dock with its newest module using an automatic docking system, propellant and thrusters in the Zarya control module.

The next several components of the Space Station are on track to meet their launch dates and include a small truss segment that will serve as the support structure for other station hardware; the first set of solar arrays; the United States Destiny laboratory; the Canadian built space station robot arm and several truss segments that will serve as the station's backbone for external hardware, experiments and solar arrays.



Photo by Dennis Olive, NASA/Marshall Space Flight Center

**Monsi Roman of Marshall's Flight Projects Directorate displays a low noise level fan which is scheduled to be flown on an upcoming Shuttle mission to the International Space Station.**

## Getting Ready for Space Station

Marshall's Payload Operations Center on June 22 completed the first simulation involving payload operations managers and information management systems in preparation for coordinating science mission operations and payload planning aboard the International Space Station. It was the first in a series of joint cadre and payload developer simulations. The Payload Operations Center will coordinate science activities from numerous remote sites throughout the world with astronauts aboard the International Space Station. The center is the focal point for incorporating research and experiment requirements from all international partners into integrated Space Station science payload operations. The crucial duties of the center will continue on a 24-hour basis starting next year.



Photos by Terry Leibold, NASA/Marshall Space Flight Center



Above, beginning in foreground: Rick Skinner, Hank Creel, Rick Oelkers and Jim Huett of New Technology Inc., provide support for the Payload Operations Center simulation held June 22.

Carmen Price, left, and Lybrease Woodard of Marshall's Flight Projects Directorate led the simulation, a dry run of remote science experiment operations.



Marshall's Payload Operations Center will be the hub for science activity onboard the Space Station.

**Employee Ads**

*Miscellaneous*

- ★ Changing table. \$20; Diaper Genie. \$12; Luvs Diapers. \$10; Monitor. \$5; Crib. \$100. More. 461-1680
- ★ 12" weed eater with 200 ft. line. \$5; battery operated tie holder. \$3. 881-8648
- ★ Wooden baby crib, 37", best offer; two Mac 180 Series laptops; Mac Plus; Imagewriter printer. 895-9348
- ★ Spring Air full-size mattress, \$50; Craftsman lawn mower, 4HP, 20", rear bagger, \$100. 971-1437
- ★ Brass instruments, perfect for students, alto sax, trombone, flute. 895-8385
- ★ Weider weight bench w/attachments, \$25; Fast-Track walking-type exerciser, \$25; System-48 brand oil additive, case of 15, \$5. 883-2653
- ★ Oak bookcases, pair, adjustable bookshelves w/ four draws on bottom, 22.5"x79"h, \$100 for pair. 772-1831
- ★ Sofa, loveseat and big chair, mauve w/light blue stripe, \$250. 859-1016
- ★ Sears office refrigerator, \$100; dual bike carrier, \$100; commercial aluminum display panels, four, \$400. 852-7180
- ★ Eagle alloy wheels, 15"x8", w/four Goodrich, Euro/TA 225/55R15 tires, 5-bolt holes, \$150. 837-4136
- ★ 1996 Gulfstream Innsbruck 21-ft travel trailer with extras. \$8,400. 881-5093

*Vehicles*

- ★ 1989 GMC S-15 Jimmy, 4WD, 4.3L, black/blue, 208K miles, \$3,300 obo. 837-6517
- ★ 1993 Chevrolet Lumina APV van, white w/red strip, \$3,900. 881-5809
- ★ 1964-1/2 Mustang coupe, 302, 4-speed, good paint & motor, \$6,100. 828-6070 after 5 p.m.

*Free*

- ★ Adorable gray kittens, part Russian Gray, 7 weeks old. 883-5975

*Lost*

- ★ Timex Indiglo watch w/brown watch band. Call 544-5679 if found
- ★ Pin, gold, cat design. Call 544-7040 if found

*Carpool*

- ★ One rider needed for established carpool from Guntersville, 7 a.m.-3:30 p.m.. 544-8010

*Wanted*

- ★ Roommate to share 2-bedroom apartment in Madison. 971-0048
- ★ Diving board, 8', must be in good condition. 776-2563
- ★ Refrigerator, dorm size, in good condition. 883-5168

**Center Announcements**

- ☛ **Discount Tickets** — The NASA Exchange has discount tickets for "Joseph and the Amazing Technicolor Dream Coat" being presented by the Huntsville Community Chorus Association. Showtimes are at 2 p.m. for Saturday and Sunday matinee and 7:30 p.m. July 27-30 and Aug. 3-5 at the Von Braun Center Playhouse. NASA employees, retirees and contractors can receive a 10 percent discount on the price of their tickets by showing their NASA badge at the chorus office at 3312 Long Ave. in Huntsville (behind "Sonic" on Bob Wallace). The office phone number is 256-533-6606. Office hours are Monday through Friday from 10 a.m.- 3:30 p.m. Discount ticket prices for "Joseph" are \$13.50 for adults and \$9 for students and seniors. "Joseph" is based on the Biblical story of Jacob's favorite son, Joseph, his coat of many colors and his amazing adventures in Egypt in the court of the Pharaoh.
- ☛ **Photo Lab Retirees Meet** — Due to the July 4 holiday, the Photo Lab retirees will meet at 9:30 a.m. July 11 at Shoney's at the corner of University Drive and Memorial Parkway. Meetings normally are held the first Tuesday of each month. For more information, call Carl Dow at 461-8181.
- ☛ **Six Flags over Georgia Discount Tickets** — Tickets — at \$19.50 each — are available at the NASA Exchange Space Shop. The tickets are good for the entire 2000 season. For more information, call Candy Bailey at 544-2185.
- ☛ **'MoonDreams'** — "MoonDreams," an original Broadway-style musical written by Rhett Parrish in conjunction with the Von Braun Celebration of the Arts & Sciences, will be July 20-22 at the Von Braun Center Concert Hall. Performances are 7:30 p.m. nightly with a 2:30 p.m. matinee on July 22. Tickets are on sale at the Von Braun Center Box Office at 533-1953.

☛ **Toastmasters** — Redstone Toastmasters meets weekly at 6 p.m. on Tuesday at Piccadilly Cafeteria in Madison Square Mall. For more information, call Sylvia Battle at 890-0547. The NASA Lunar Nooners Toastmasters Club meets Tuesday at 11:30 a.m. in Bldg. 4610 cafeteria conference room. All Marshall employees, contractors and friends are invited to attend.

**Sports**

☛ **Exercise Instructors, Programs** — The Marshall Exchange Fitness Center is adding instructors and programs to its group exercise program.

- Monday and Wednesday from 11:15 a.m.-noon — Pure Energy with Grace
- Tuesday and Thursday from 11:15-noon and Monday and Wednesday from 5-5:50 p.m. — Stength and Flexibility with Pat
- Tuesday and Thursday from 5-5:50 p.m. — Step with Angie.
- July 11-Aug 3 on Tuesday and Thursday from 4-4:50 p.m. — Modern Dance with Tyra.

For more information, call 544-7570.

☛ **NASA Ski Week** — The 10th annual NASA Ski Week will be hosted at Snowmass, Colo., Jan. 20-27, 2001. For more information, call 1-233-0705, or send e-mail to: Thomas.S.Dollman@msfc.nasa.gov

☛ **MARS Golf** — A championship tournament will be 9 a.m. July 22-23 at Colonial. Deadline to register is July 14. The Mars Golf Club is open to all NASA employees, onsite contractor personnel and NASA retirees. For more information or to enter a tournament, call Lee Foster at 544-1589, Joey Butler at 544-3808 or Robert Rutherford at 544-8117. Entry fees are \$5. Upcoming tournaments include:

- A four-person scramble, 10 a.m., Aug. 19 at Gunter's Landing. Deadline to register is Aug. 11.
- A two-person best score tournament, 7:30 a.m., Sept. 16 at Point Mallard. Deadline to register is Sept. 8.

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