



Fortieth Anniversary
Pioneering the Future

KSC improves space technology

by Susan Hubscher

As Discovery returned to Earth last year concluding mission STS-95, it launched the KSC-developed Integrated Vehicle Health Management (IVHM) experiment and the Fiber Optic Flight Experiment (FOFE) one step closer to the future in space technology.

The IVHM experiment used 30 sensors throughout the orbiter's system that collected health readings electronically. By using software to gather information on instrumentation, there will be less need for hands-on tests and manual labor.

FOFE also expanded the possibilities of data collection by using fiber optics instead of hard wires. The efficiency of the fiber optics system was 99.997 percent compared to the 84.337 percent efficiency of hardware collection.

The success of the IVHM and FOFE experiments that flew aboard Discovery brought accolades to KSC's development effort, wrote Center Director Roy Bridges in a letter to KSC employees.

A memo from The Boeing Company, Downey, Calif., added its endorsements: "The program is moving in the right direction and shows how NASA-sponsored technology can be applied not only to the Shuttle program, but provide benefits to future exploration."

Helped by the successful results of this mission, Boeing is currently working with the University of Florida to further IVHM technology

(See IVHM, Page 6)

Spaceport News

America's gateway to the universe. Leading the world in preparing and launching missions to Earth and beyond.

John F. Kennedy Space Center

Exercising emergency readiness

Kennedy Space Center managers recently imitated the improbable during a simulated astronaut rescue mission, part of standard training procedures at KSC. The staged scene held March 17 near the Shuttle Landing Facility (SLF) rehearsed rescue procedures and communications in the unlikely scenario of a Space Shuttle crash landing.

After 92 successful Shuttle landings, no one has ever seen a

landing contingency.

"When you don't have real mishaps occurring day in and day out, you have to find ways to keep the response team trained and ready," explained Ken Tenbusch, KSC landing recovery director and simulation planner. "We wanted to design a scenario that would be as real as possible, so that it tested the team and the organizational interaction that must take place for a successful rescue effort. Our

rescue forces were not told what to expect in advance."

As part of the staged scenario, orbiter Discovery landed short of SLF runway 15 during a simulated 9 a.m. landing attempt with a seven-member crew following an 11-day mission.

Five astronaut candidates, one representative from the Vehicle Integration Test office, and one fire/rescue worker occupied an orbiter mock-up placed in a wooded area adjacent to the runway.

Though a recovery team was positioned at the SLF, just like a real landing day, the remote location of the mock-up prevented a completely land-based crew rescue. This Mode 7 contingency required support from the air.

A NASA UH-1 helicopter or "Huey," called Search One, had to be deployed from the SLF to gain a firsthand, aerial perspective of the fake crash site. The situation was assessed and exact coordinates radioed back to four Air Force HH-60 "Jolly" helicopters waiting at

(See Mode 7, Page 2)



During a simulated rescue mission in the woods near the Shuttle Landing Facility, the KSC response team practices disembarking from a rescue helicopter.

The grass is greener at KARS Park I

Are you looking for a weekend getaway that doesn't take a day to get there?

How about a peaceful fishing hole where the kids are guaranteed to catch something or where you can picnic with the family and still have money left over?

For only \$5 a year, KSC employees can have access to these activities and so much more at Kennedy Athletic Recreation and Social (KARS) parks, located only a few miles from Kennedy Space Center.

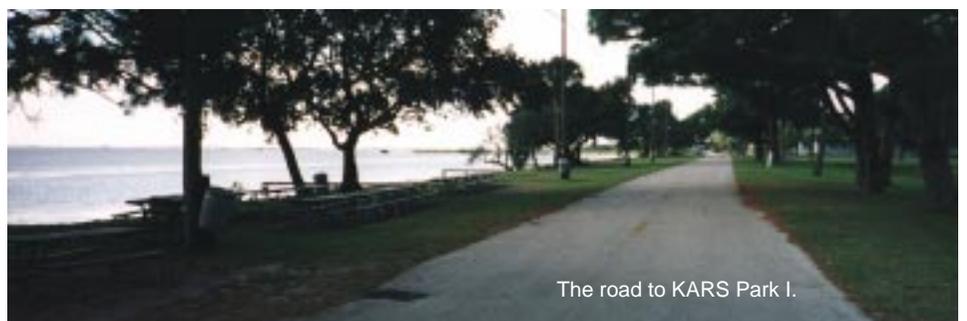
Where else can you

fish; play tennis; watch the kids rollerblade; play putt-putt golf; camp in your tent or recreational vehicle; play horseshoes and shuffleboard; enjoy nature and jogging trails; rent a canoe or bicycle; play softball or volleyball (and you don't even need your own

equipment); go boating; grill outdoors and enjoy the scenery — only a few miles from work?

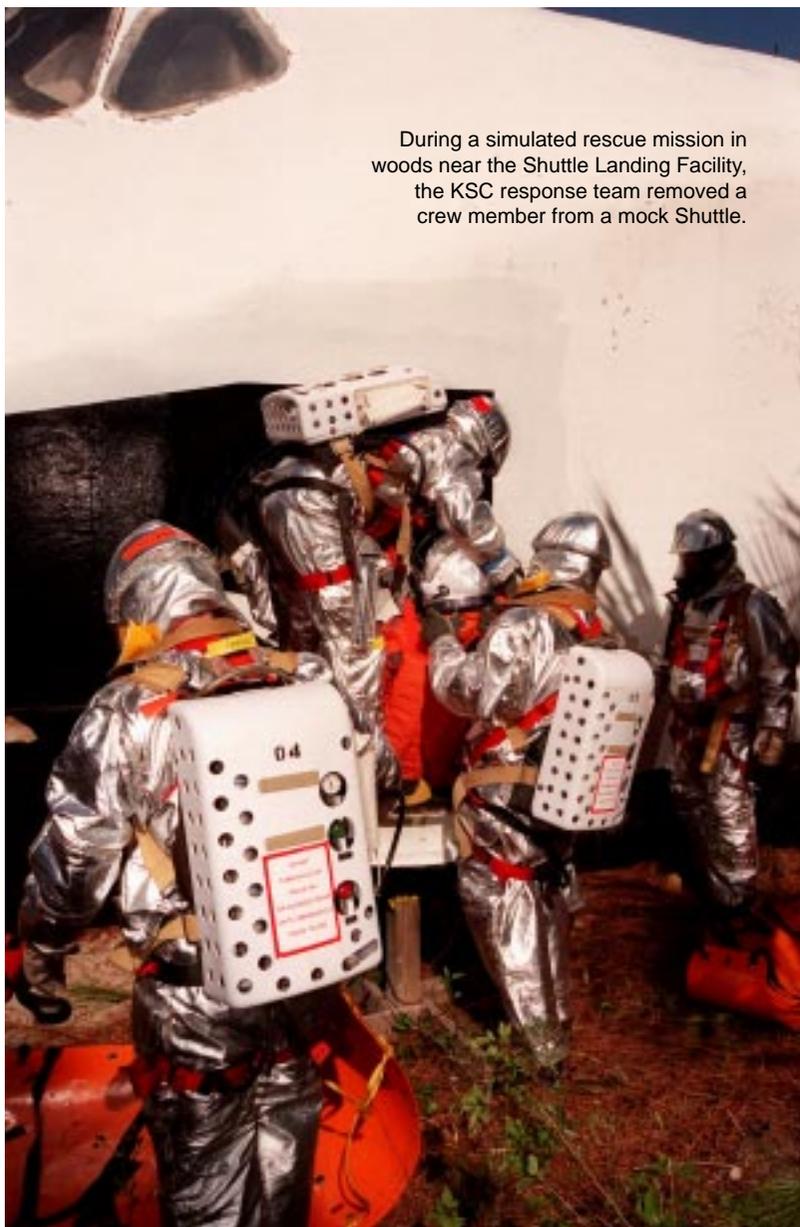
KARS Park I, where the annual KSC All-American Picnic will be held on April 10, opened in 1967.

(See KARS, Page 3)



The road to KARS Park I.

During a simulated rescue mission in woods near the Shuttle Landing Facility, the KSC response team removed a crew member from a mock Shuttle.



Mode 7 ...

(Continued from Page 1)

the SLF.

The first Jolly that was deployed delivered needed emergency equipment and personnel at the site. Two of the three remaining helicopters were staffed with KSC/ Cape Canaveral Air Station fire/ rescue personnel whose primary mission was to pull the stranded astronaut stand-ins out of the mock-up and prepare them for preliminary triage.

In the event that a helicopter landing site cannot be identified, fire/rescue workers are required to “fast rope” from their hovering helicopters, while the other helicopters stand by for additional medical evacuation support. Patrick Air Force Base provides two paratrooper rescue specialists and one medical doctor in each of the

four Jollies.

After fire/rescue successfully removed each crew member from the side hatch, Air Force medical staff performed preliminary stabilization and decontamination activities at the established casualty collection point about 200 feet from the mock-up.

‘Patients’ that did not require immediate treatment or airlift to area hospitals were moved to a mobile, intermediate medical care site about 1,250 feet from the mock-up for further assessment.

The exercise concluded when the airlifted ‘patients’ arrived safely in the emergency rooms of participating area hospitals.

On March 19, simulation managers and exercise participants gathered for a lessons learned session to review and evaluate the Mode 7 exercise.

“The simulation was a success since we accomplished all of our

training objectives,” Tenbusch noted. “We look for ways to refine our procedures and improve on our timelines for rescue. Since it’s an annual exercise that takes a lot of cooperation to perform effectively, we take advantage of the opportunity to learn all we can.”

The Mode 7 astronaut rescue simulation exercised all aspects of

command and control, search and rescue and medical procedures of KSC’s fire rescue personnel, the U.S. Department of Defense, the KSC biomedical directorate and KSC firing room personnel. The many organizations that support Shuttle recovery efforts apply the insight gained from this exercise and others throughout the year.



The rescue team practiced stabilizing a ‘crew member’ for transport (above) and also carried him to a rescue helicopter (below). This Mode 7 simulation of an astronaut rescue exercises all aspects of command and control, search and rescue, and medical procedures required for a successful rescue. The remote location of the mock-up prevented a totally land-based crew rescue and called upon a NASA UH-1 helicopter and four Air Force HH-60 helicopters to locate, reach and then remove the ‘crew.’ This exercise was part of KSC’s standard training procedures.



KARS ...

(Continued from Page 1)

The 258-acre facility then was host to the Kennedy Shooting Club (now the Spaceport Gun Club) and a KSC women's softball league, the KSC Missile Maids.

Today, KARS Park passholders have more choices for a variety of club activities.

KARS Park I is the site of KSC American Legion Post #332.

The gun club also meets at the north end of the park in a club house near the skeet trap ranges.

Range officers are on duty Wednesday afternoons from 4 p.m. til dark, Saturdays from 1 to 4 p.m. and Sundays from 10 a.m. to 5 p.m. A Ceramics Arts and Crafts Club meets at KARS Park I the first Thursday of each month (except July and August) in the KARS Ceramic Club Building, and a Social Dance Club uses the park for gatherings as well.

"Visitors to the park really are able to camp and relax in a secluded, secure environment without being in each other's way," said KARS Park I Manager Bob Giesey.



KARS Park I offers a secluded, yet secure, getaway for KSC and CCAS employees.

Giesey, who lives on-site at KARS Park I with his wife, Karen, started managing the park in 1994, and they have been busy ever since.

A list of park improvements a mile long includes everything from a new seawall, pavilions and marina to a new laundry room for campers and new playground equipment for kids.

Guests to the park can enjoy three lighted ball fields, four lighted tennis courts, lighted rollerblade courts, six lighted basketball courts, four volleyball courts, six horseshoe pits, four golf practice nets, and nature and jogging trails.

The park has 108 RV camping sites with water and electricity.

Bicycles and canoes can be rented each for only \$1 per hour or \$5 per day.

KARS Park I also has items available for use by park passholders, such as picnic tables, bicycles, tennis racquets and balls, shuffleboard equipment, life preservers, horseshoes, basketballs, and frisbees, among other equipment — all available free of charge.

Visitors to the park need to bring their own rollerblades and fishing poles, however.

Ongoing improvements such as construction



The marina at KARS Park is a relaxed gateway to the Banana River.

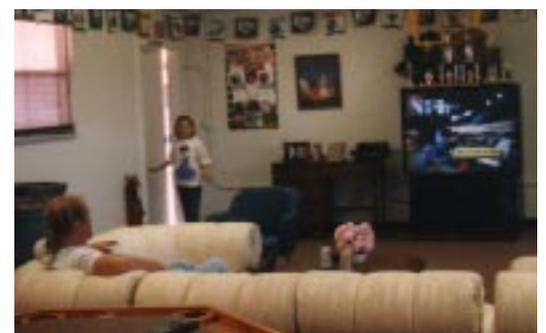


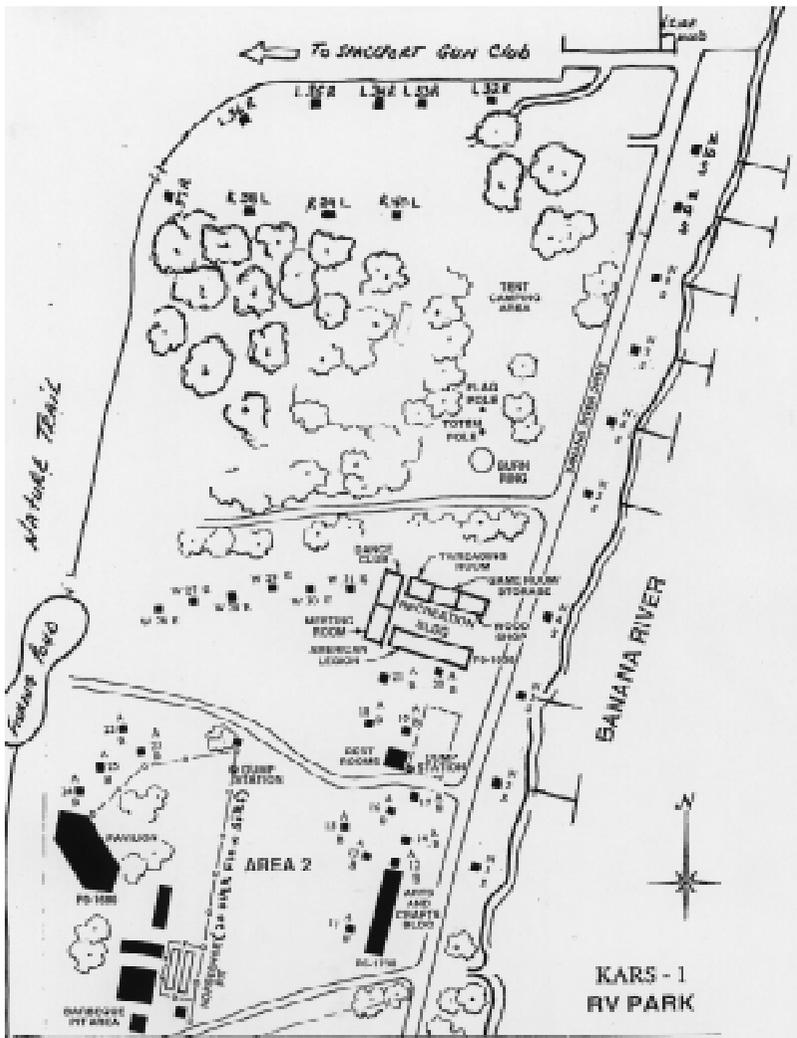
Dart games are a favorite activity among friends at KARS Park I, and the recreation room (far right) gathers campers together who prefer spectator sports.

of 10 new boat slips and a boat ramp and changes to the field are in progress.

A recreation room with 52-inch television with cable and dartboards is available for folks who want to take a break indoors for a spell. KARS I facilities are provided for KSC and Cape Canaveral Air Station (CCAS) employees and families by the NASA Exchange Council.

Monies raised through the Exchange activities





KARS Club Contacts

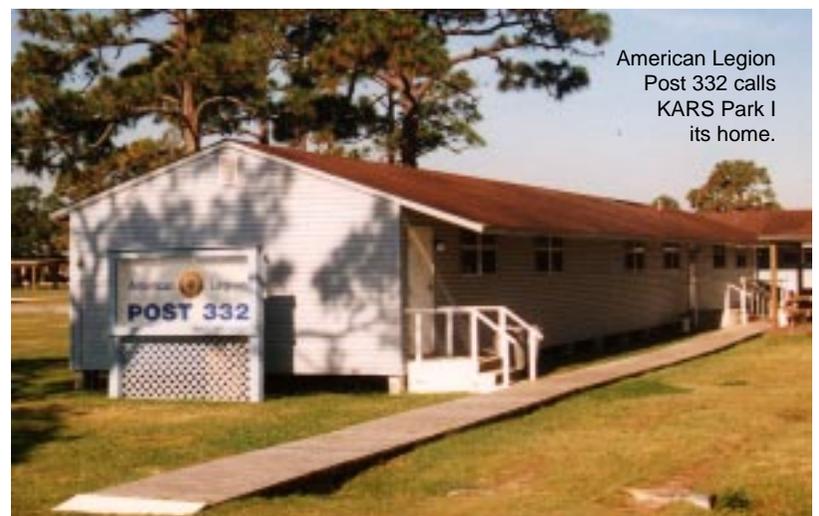
KARS' facilities are for the use of all NASA civil service and KSC-associated contractor personnel and their families. For information and scheduling use of KARS Park I or KARS II (on State Road 3), call Cheri Wynn at 867-7010. To reserve the conference room at KARS Park I, call Bob Giesey at 867-3891. For a full listing of KARS club contacts, see page C-38 in the blue pages of the KSC telephone directory.

American Legion	Manny Virata	867-2468
KARS Ceramics, Arts & Crafts Club	Geri Bloomquist	783-0403
KARS Flyers (Radio-Control Models)	Raul Reyes	267-8572
KSC Barracuda Skin & Scuba Diving Club	William Little	639-2789
KSC Social Dance Club	Mae McCreary	452-3151
Spaceport Gun Club	Bobby Goforth	452-7687
	Guy Snyder	453-3882
Spaceport Travel Club	Ray Lockwood	867-7325

at KSC support ongoing improvements at the park. KARS members and their invited guests may enjoy the park's amenities.

Annual passes may be purchased by KSC employees at the NASA Exchange sundry stores or at KARS Park I for \$5 each. This allows employees and families access to the park for use of facilities and camping.

Gates are open from 6 a.m. to 10 p.m. daily, and the office is open from 8 a.m. to 5 p.m. seven days a week, and it is open until 7 p.m. on summer weekends. A conference room also is available for use by KSC and CCAS organizations. You can schedule the conference room or inquire about park facilities and services by calling the park manager at 867-3891.



American Legion Post 332 calls KARS Park I its home.



KARS Park I is located three miles off State Road 3 south of KSC on East Hall Road. Gates to the park open at 6 a.m. and close at 10 p.m.

Mark your calendars for...

Environmental and Energy Awareness Week — April 19-23

Environmental and Energy Awareness Week, April 19-23, will be celebrated this year at KSC with a wide range of environmental vendors and agencies. NASA and Air Force personnel also will display environmental and energy-related exhibits at KSC's Visitor Complex on Monday, April 19, from 9 a.m. to 3 p.m.

On Tuesday, April 20, the displays will be located in Hangar F at Cape Canaveral Air Station (CCAS) and on Wednesday, April 21, at Patrick Air Force Base.

Selected exhibits will also be displayed in the lobbies of KSC's Headquarters Building, Space Station Processing Facility and Operations Support Building as well as at CCAS on Thursday, April 22.

Employees who are interested in seeing the displays on April 19 at the Visitor Complex may be transported by bus from the KSC Headquarters Building every half hour.

Everyone is invited and encouraged to participate in this awareness celebration.

Take Our Daughters to Work Day — April 22

On April 22, millions of girls ages 9 to 15 across the country will team up with parents, relatives, neighbors and friends to get a first-hand look at what their futures might hold as part of the seventh annual Take Our Daughters to Work Day.

Take Our Daughters to Work Day is a day dedicated to girls' ideas, spirit and dreams. It's a day when we can all help girls remain on the road to a bright future. This is a day for parents, grandparents, aunts, uncles, sisters and brothers who work at KSC and Cape Canaveral Air Station (CCAS) to bring a young girl to work with them to share information about careers, school and the future.

Kennedy Space Center will again open its doors this year to girls between the ages of 9 and 15. There will be a morning program at KSC's Visitor Complex for daughters of NASA employees. Contractor organizations should check with their Public Affairs or Human Resources office to see if they will be participating. Girls cannot be taken into any area of KSC or CCAS that requires a controlled access badge. More information on badging requirements, the day's activities and programs will be provided in the April 16 issue of *Spaceport News*.



Space Congress — April 27-30

The 36th annual Space Congress to be held April 27-30 will focus on the dawn of a new age for space technology in the coming millennium.

The forum, sponsored annually by the Canaveral Council of Technical Societies (CCTS), encourages public and professional education in space technology. CCTS is comprised of 33 professional and technical societies and advisory groups.

For the first time, all Space Congress exhibits, paper sessions, panel presentations and special events will be held in one place — the Radisson Resort at Port Canaveral.

Integrating a science fair in the regular exhibit hall will be an added attraction to

this year's event.

Panel and paper sessions for this year's Space Congress will include "The push to Mars and beyond," "International cooperation in space flight," "Commercial access to space," "The military's changing role in space," "Education of the workforce beyond 2000" and "Education's contribution to international space efforts."

For more information about attending or exhibiting in the 36th Space Congress, write to Thirty-Sixth Annual Space Congress, P.O. Box 321333, Cocoa, FL 23932 or call (407) 868-1623. You may send e-mail to CCTS@spacecoast.net or access the Space Congress website at <http://www.Spacecoast.net/SpaceCongress/>

1999 Super Safety and Health Day



On June 17, Kennedy Space Center will dedicate an entire day to safety and health. Like last year's Super Safety Day, all normal work activities, with the exception of mandatory services — such as fire, security, cafeterias and buses — will be suspended to allow all possible personnel to attend the day's activities.

Pictured below are the winners and runners-up who submitted theme suggestions for KSC's 1999 Super Safety and Health Day.

From left to right are runner-up Dan Drummond, winners Blaise LaMontagne and Dean Schaaf and runner-up Charles Griffin.

There were more than 150 entrees in the contest to select a theme for Super Safety and Health Day.

The theme and logo, shown above and held below by Blaise and Dean, symbolize the world held in place by the joint efforts of safety and health working together providing support — reminding everyone that each of us can make a difference by being proactive in safety and health activities on and off the job.

Like last year, Safety and Health Day will involve a stand-down day of operations at KSC as well as Cape Canaveral Air Station and Patrick Air Force Base.

In addition, there will be a special Safety and Health Technical Paper Session on Friday, June 18.



Come to KSC's All-American Picnic!

The 1999 KSC All American Picnic is only one week away! On Saturday, April 10, KSC employees, their families and friends will gather at KARS Park I for the annual picnic that will be held from 10 a.m. to 4 p.m. Tickets are now on sale in all KSC NASA Exchange Retail Stores, as well as from selected individuals in most major buildings around KSC and several Capeside locations.

Tickets are \$4 for adults (ages 13 and up) and \$3 for children (ages 3 to 12). Children under 3 years old are not required to have a ticket. Tickets will cost an additional \$1 if purchased the day of the picnic. Price of the ticket includes admission, a meal, drinks, rides, games, contests, entertainment and a lot of fun!

Many exciting events are

planned for the day. A Wildlife Encounter, featuring Thunderhawk Big Cat Rescue, a native-American group dedicated to the preservation of the great cats, will have shows at 11 a.m., 1 p.m. and 2:30 p.m.

Also at the Wildlife Encounter will be Coon's Run Wildlife Sanctuary; Brevard County Sheriff's Petting Zoo; National Park Service; Merritt Island Wildlife Refuge; Greyhound Pets of America; Space Cats Club and North Brevard Animal Shelter.

To celebrate the diversity of our KSC community, an All-American Cultural Cuisine Cook-Off will be held, featuring dishes from various cultures and geographic areas.

For automobile and gas engine enthusiasts, the Car Show will include antique, stock, street rods, custom cars, and antique gas

engines. And don't forget the musical entertainment. This year, the picnic will include El Trapiche, an authentic Puerto Rican Latin band; Dan Keenan, KSC's own acoustic folk/pop artist; Chemistry, one of Florida's best jazz bands; Bravo Hotel, KSC's award winning rock and blues performers; Community Band of Brevard, a 60-piece orchestra; native American drums and dance from the northwest; and Praise Fellowship Mass Choir's African American gospel. There will also be a martial arts karate performance.

Don't miss the Barbershop Quartet strolling throughout the park; the chance to meet several NASA astronauts; or a possible surprise appearance by Max Q—the Astronaut Rock Band!

The adult meal, catered by



Sonny's Real Pit Bar-B-Q, will consist of a BBQ pork sandwich, baked beans and cole slaw; the children's menu will include a hamburger or hot dog, bag of potato chips and a cookie.

There's something for everybody at the KSC All American Picnic!

Purchase your tickets now and get ready for a day of fun.

More information on all the day's events can be found on the Picnic Web Site at <http://www.ksc.nasa.gov/events/1999/picnic/>

TERRIERS launch slated for April 12

The second mission in the Student Explorers Demonstration Initiative (SEDI) — TERRIERS — is slated for launch April 12 from Vandenberg Air Force Base in California.

The first SEDI launch was the Student Nitric Oxide Explorer (SNOE), which lifted off successfully Feb. 25, 1998, from Vandenberg.

TERRIERS, or Tomographic Experiment using Radiative Recombinative Ionospheric Extreme Ultraviolet and Radio Sources, will conduct a global upper-atmospheric study.

Using a combination of ground-based and space instruments, the satellite will survey the upper atmosphere using a technique called tomography, measuring ultraviolet light emissions, to construct an image of Earth's ionosphere. Although the ionosphere has been studied in great detail with various ground- and space-based instruments, at present there is no means to obtain these types of global images.

Such measurements are crucial to the advancement of our understanding of many upper atmosphere phenomena.



STS-96 CEIT held at KSC March 24-26

In Orbiter Processing Facility bay 1, STS-96 Mission Specialists Julie Payette, with the Canadian Space Agency, and Tamara Jernigan, Ph.D. (right), look over the foot restraint used during space walks. The STS-96 crew came to KSC to take part in a Crew Equipment Interface Test. The primary payload of STS-96, targeted for launch on May 24, is the SPACEHAB Double Module.

IVHM ...

(Continued from Page 1)

to an operational status.

"Results from the STS-95 fiber optic experiment clearly illustrate the reliability and durability of fiber optic technology in Space Shuttle applications, as well as future space vehicles," said Bridges.

The STS-95 Discovery mission

will be remembered in space history for many other reasons. But for the teams of the IVHM and FOFE projects, the flight moves KSC one step closer to the future of space travel.

In closing his letter, Bridges stated that industry recognition like the Boeing letter of congratulations is evidence that KSC is an outstanding development partner for the future.



John F. Kennedy Space Center

Spaceport News

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