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SPACE CENTER Roundup

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JSC Photo 98-11416 by Robert Markowitz

Shoulder to shoulder *Team NASA helps coordinate planning, execution of community events*

By Kelly Humphries

For more than 35 years, NASA and contractor employees have worked shoulder to shoulder to make momentous strides in human space flight. But when they tried to make the same kind of progress on community events, they sometimes looked like they were running

uphill in a three-legged race.

All that is changing with the advent of Team NASA.

This broad-based group of aerospace contractors, aligning itself with its government counterpart, other Clear Lake businesses and community groups, is now making great strides in organizing, planning and executing team events such

as Open House, Inspection 98, Safety and Total Health Day and even the venerable FOD Chili Cookoff.

Team NASA has been in existence for about a year. It was the brainchild of an informal gathering of top managers from JSC and several of its major contractors. Team NASA cut its teeth on Inspection 97, made additional progress with National

Engineers Week and American Heritage Week, and is poised to help make this year's JSC Open House the best yet.

Similarly, Team NASA is working closely with the Greater Houston Partnership, the Houston Convention and Visitors Bureau, Rice University, the Medical Center, the University of Houston
Please see **SHOULDER**, page 2

Space station 'moving van' arrives in U.S.

By James Hartsfield

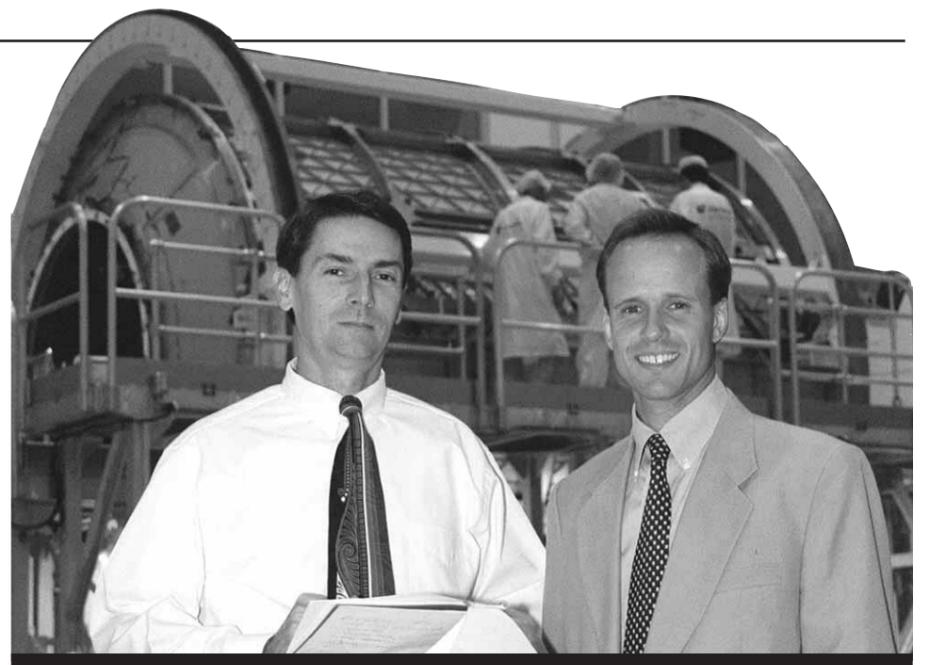
The Italian-built International Space Station "moving van," the Leonardo logistics module, arrived at Kennedy Space Center last month, blazing a trail as the first of many foreign-built station components that will arrive in Florida in the near future.

"This module is the first foreign-manufactured station component to be delivered to KSC and it also is the first station element to be officially accepted by NASA," said David Schurr, manager for Italian Space Agency elements for the International Space Station Program at JSC. The official acceptance of the

Leonardo module took place in August, a few weeks earlier than NASA will officially accept the Unity node from Boeing. Although built in Italy, it is U.S. property in exchange for Italian access to station research.

The Leonardo module arrived at KSC on a special "Beluga" air cargo plane in early August after a two-day flight from the Alenia Aerospazio factory in Turin, Italy. Scheduled to launch aboard Space Shuttle *Endeavour* on STS-100 in December 1999, Leonardo is a reusable logistics carrier that will be the primary delivery system to resupply and return station cargo in a pressurized

Please see **SPACE STATION**, page 7



NASA Photo KSC-98PC-906

JSC employees Mike Kinnan, left, ISS launch site integration manager, and Todd McIntyre, ISS Program representative for international elements, make a post-shipping inspection of Leonardo at Kennedy Space Center.



Team develops laptop program to monitor X-38.

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School visit program lets kids feel space.

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Bright idea lets dimmer lights improve safety.

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JSC team develops program that provides X-38 systems insight

By John Ira Petty

A flexible, effective monitoring and control program with wide applications for the X-38 project has been developed by the Automation, Robotics and Simulation Division of the Engineering Directorate at JSC.

The program, called Portable Diagnostic Terminal software, uses National Instrument Co.'s Labview language to enable an IBM Thinkpad to monitor systems of the prototype X-38 before and after flight and provide limited pre- and post-flight command capability.

Frank Delgado of the Engineering Directorate headed up the software

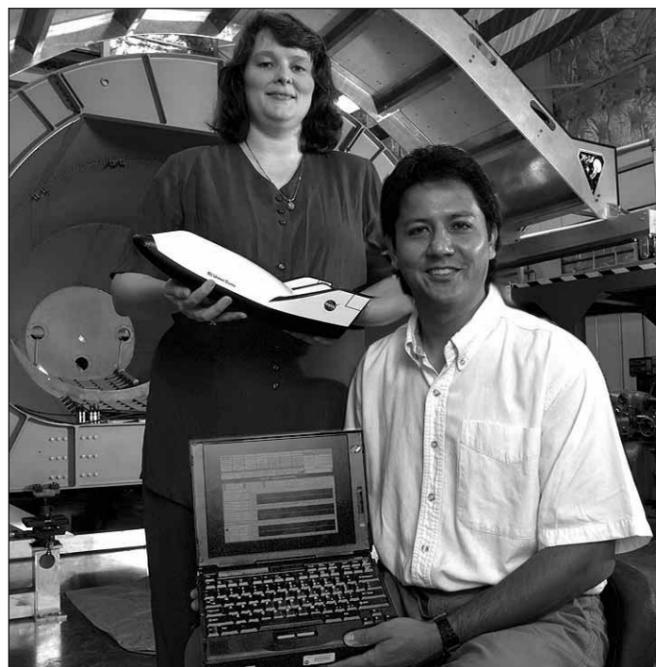
development project, which took less than a year.

"The approach we used minimized the number of engineers needed to create the software," Delgado said. "We used an object-oriented approach to develop a common set of displays that could be used to create other monitoring applications."

The software is used on the ground to monitor the X-38's health and status before flight tests. It can turn systems on and off.

During flight tests, while the X-38 is attached to the wing of a B-52, the terminal with the new software is wired to the vehicle and is used to prepare it

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Debbie Buscher, left, and Frank Delgado show the laptop computer that can provide monitoring and limited control of the X-38 crew return vehicle prototype during flight tests. In the background is an X-38 prototype, which will be flown aboard a space shuttle for on-orbit testing.

JSC Photo 98e07126 by Mark Sowa

Thirteen to work early space station assembly missions

Thirteen astronauts have been named to support upcoming shuttle missions, STS-96, -97 and -98, slated for launch next year and dedicated to continuing the on-orbit construction of the International Space Station.

Three-time shuttle astronaut Kent Rominger, a Navy commander, will lead the crew of STS-96, a logistics and resupply mission for the International Space Station targeting a mid-May 1999 launch. Rick Husband, an Air Force lieutenant colonel, will join Rominger on the flight deck of *Discovery* as pilot. Mission specialists for the planned 10-day flight are Ellen Ochoa, Ph.D., Tammy Jernigan, Ph.D.; Daniel Barry, M.D., Ph.D.; Canadian Space Agency astronaut Julie Payette; and Cosmonaut

Yuri Malenchenko, a Russian Air Force colonel.

STS-96 will follow the launch of the Zarya control module on a Russian vehicle in November 1998; the STS-88 mission in December 1998, delivering the American-built Unity module and two docking adapters; and the arrival of the Russian Service Module in April 1999. During STS-96, *Discovery* will carry a variety of logistical and resupply items to ready the station for the arrival of the first resident crew in July 1999. The shuttle will spend seven days docked to the uninhabited station, and Jernigan and Barry will conduct at least one space walk.

Brent Jett, a Navy commander, will lead the crew of *Endeavour* for STS-97 in August 1999, continuing construction of

the station. He will be joined by pilot Michael Bloomfield, an Air Force major, and Mission Specialist Marc Garneau of the Canadian Space Agency. Astronauts Joseph Tanner and Carlos Noriega, a Marine Corps major, named to the mission in June 1997, will conduct two space walks.

The fourth American mission, STS-97 will deliver the first set of U.S.-provided solar arrays and batteries as well as radiators to provide cooling. The shuttle will spend five days docked to the station, which will be staffed by the first station crew. Two space walks will complete assembly operations while the arrays are attached and unfurled. A communications system for voice and telemetry also will be installed.

In October 1999, *Discovery* will continue expansion of the station when Kenneth Cockrell commands STS-98. Cockrell will be joined by Pilot Mark Polansky, and Mission Specialist Marsha Ivins. Astronauts Mark Lee, an Air Force colonel, and Thomas Jones, Ph.D., previously named to the mission, are training for three space walks.

STS-98 will mark the arrival of the U.S. laboratory module, which will become the centerpiece of scientific research on the station. The shuttle will spend six days docked to the station while the laboratory is attached and three space walks are conducted. The laboratory will be launched with five equipment racks aboard, which will provide essential functions for station systems. ■

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Shoulder to Shoulder

and the Houston Forum Club to support a 40th anniversary tribute to NASA on November 4.

Joe Mayer, the Boeing external and community relations director, has chaired this new arm of the Clear Lake Area Economic Development Foundation's Aerospace Advisory Committee for the past year. He says Team NASA provides "a sense of shared ownership, and a sense of shared pride and responsibility for making these community activities successful."

Mayer explains that JSC contractors are in a variety of competitive and cooperative situations from week to week in their business areas, but that this is one area where they can all come together to support the community and JSC.

The Team NASA charter calls for "a seamless partnership with JSC to enhance employee, contractor and community activities by providing coordinated planning, organization, communication and a process to review events and determine the overall value to all participants," said Jim Reinhartsen, economic development foundation president, who volunteered his organization as a clearinghouse for the Team NASA activities.

The new group offers opportunities in many areas, its participants report. In addition to helping with logistical planning and coordination for events, Team NASA also encourages a community ethic, improves communication among NASA and its contractors, provides opportunities for networking inside and outside the

aerospace industry for companies large and small, and promotes an image to the outside world of a unified, cooperative force for the future.

The group works by having regular meetings to stay informed about upcoming events and activities, and to prioritize expenditure of its limited resources. Once an event is given priority, one team member is assigned as a "shepherd" for the event and works closely with their NASA contact to coordinate the community's participation. Both the contractor

community and JSC bring people and resources.

"We probably didn't do all of the things in the past we should have to make the JSC community operate as one team," says Harv Hartman, JSC's Human Resources director

and a Team NASA participant since its inception. "It's really the whole business of organizing, planning and executing as a team rather than just talking as a team. I don't think we have acted on that general feeling and mobilized our people for different events."

"This is common sense," Reinhartsen says. "The government employee's perception of something is usually a little bit different than the contract employee's. The aerospace employee's perception of something is usually a little bit different than the banker or the fellow who sells cars. But by having this Team NASA concept, you use different perceptions and different inputs to become a much broader community. You blend the approaches and you end up with a better product."

"Prior to this, your typical contractor participation events would have been limited to the on-site contractors because they're the only ones that would have seen the flyers, seen the postings and had access to some aspects of the JSC home page," said Sandy Johnson, president of Barrios Technology Inc. and another Team NASA founder. "Now you're opening up and broadening that to off-site contractors as well. In the long run, that will be one of the major benefits.

"We don't have the resources necessarily to participate extensively. Where previously we may have chosen one or another, now we can participate in all the activities JSC has," she says.

Another such event, said Estella Gillette, JSC's Equal Opportunity Programs director, was American Heritage Week, a celebration of the center's cultural diversity."

"The greatest pleasure for me was to see not only the cultural diversity of the attendees, but also the representation of companies, organizations and disciplines, that make us come together for a common goal."

Jim Adamson, chief operating officer for United Space Alliance, cautions that Team NASA can't solve all of the community's problems. However, he said, it is an effective way of breaking down communication barriers by providing a single forum for prioritizing activities that have the greatest impact on the community and enhancing the value of the contractor and NASA efforts in supporting those activities. ■

Pictured on Page 1, from left, are: Frank Fort, Brown & Root; Pete Canga, Hamilton Standard; Jackson Routt, Brown & Root; Janet Gouveia, Intermetrics; Jayant Ramakrishnan, Dynacs; Mark Gittleman, Oceaneering; Michael Zarcaro, GeoControl; Tim Kropp, MRI; Darla Racz, Barrios; Mike Hernandez, Hernandez; Kathy Reeves, Wyle Labs; Harv Hartman, JSC; Dee Williams, Barrios; Kimberly Campbell, SPACEHAB; Pat Patton, Born Wild Innovations; Joe Mayer, Boeing; Dorothy Lorence, Lockheed; Robbie McAfoos, Honeywell; Wendy Starr, Boeing; John Bailey, GB Tech; and Piper Landgrebe, Lockheed.

List of Team NASA Companies

AeroSys Consulting
Barrios Technology
Born Wild Innovations Promotions
Brown & Root
Cimarron
Dynacs Engineering Co.
GB Tech
GeoControl Systems, Inc.
GHG Corporation
Hamilton Standard
Hernandez Engineering
Honeywell
Intermetrics, Inc.
Johnson Engineering
Johnson Space Center
Lockheed Martin
MRI Computer Services
Northrup Grumman Technical Services
Oceaneering Space Systems
Raytheon Systems Co.
SPACEHAB, Inc.
Spar Operations and Engineering
The Boeing Company
Thiel Manufacturing & Supply
United Space Alliance
Wyle Laboratories Life Sciences

C O M M U N I T Y N E W S

School visit program hits home with students, teachers

During the 1998-99 school year, JSC and Space Center Houston will host thousands of students and teachers as they continue the School Visit Program, a joint collaboration that had more than 82,000 educational field trip participants last year.

Many of the students and teachers will have an opportunity to closely interact with JSC scientists, engineers, pilots, astronauts and other professionals during a series of "special weeks" conducted during the year. Each of these weeks will focus on a unique space topic or technology area. JSC organizations will work with JSC's official visitor center to enhance the special week activities through exhibits, demonstrations, hands-on displays, and guest speakers.

"Allowing students to interact with the experts who are currently working in the space program is invaluable," said Laurie Murphy, educational programs specialist at Space Center Houston.

Information about these special weeks and opportunities to volunteer through the

The special weeks for the 1998-99 school year are:

- November 2-6 – Meet an Astronaut Week
- November 30 – Dec. 4 – Robots in Space Week
- January 18-22 – Training for Space Week – Sonny Carter Training Facility
- February 8-13 – Careers in Space Week
- March 28-April 2 – Surviving in Space Week – Physiological Effects
- April 12-16 – We Have Liftoff Week – Propulsion/Physics in Space
- May 3-7 – Spacecraft of the Future Week

School Visit Program may be obtained from Laurie Murphy, SCH Education Department, at 244-2147 or lmurphy@spacecenter.org.

Murphy expressed appreciation to everyone who worked hard during the 97-98 school year to ensure the success of the School Visit Program, especially Norman Chaffee of the Public Affairs Office who coordinated JSC support for each of the special weeks listed below.

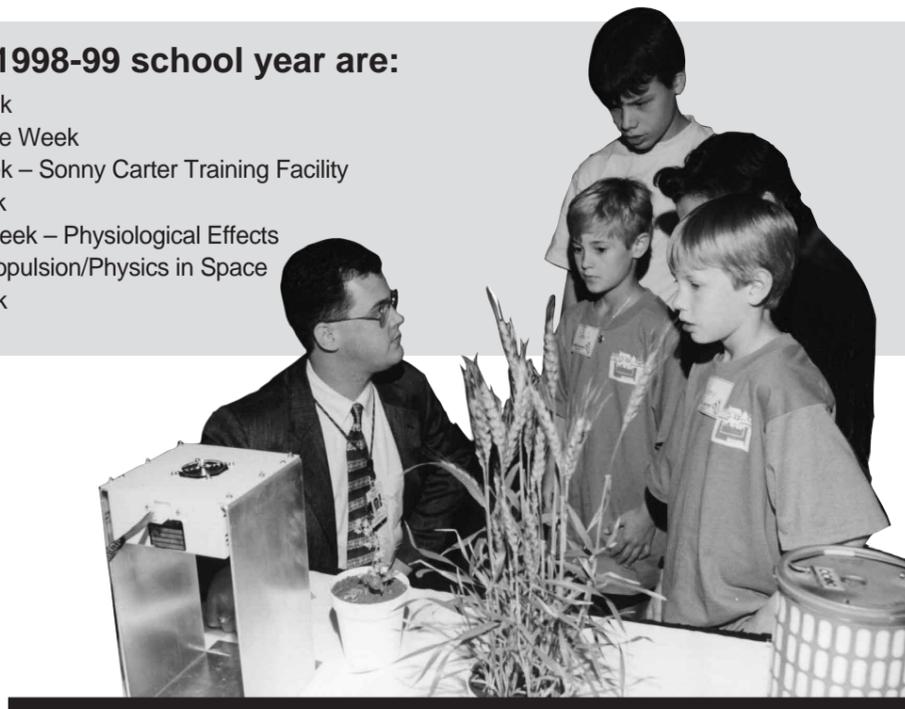
The support from the following individuals was appreciated:

Mission to Mars Week – Doug Cooke, Albert Rodriguez, Alex DeGracia, Marilyn Lindstrom, Anita Dodson, John Gruener, Michelle Munk and Don Henninger.

Meet an Astronaut Week – Sandra Magnus, Stephen Frick, Pam Melroy and Gerhard Thiele.

Careers in Space Week – Mike Sterling, Russ Fortson, Kim Willis, Sheri Armstrong and Bill Daley.

Training in Microgravity Week – Gary Ash, Bob Williams, Judy Rickard,



Students interact with Dave Prentice, a Lockheed Martin engineer, as part of the School Visit Program at Space Center Houston.

Sharon Daley and Jeanette Anderson.

Robots in Space Week – Charles Price, Keith Grimm, Larry Li, Chris Lovchick, Pete Bonasso and Norman Chaffee.

We Have Liftoff Week – Warren Brasher, Nancy Munoz, Mike McNeely, John Griffin, Bill Boyd, John Albright, Vicki Cantrell, Laurie Buchanan and Sean Collins.

Living in Space Week – Dan Barta, Keith Henderson, Karen Pickering, Karen Meyers, Warren Ruemmele, Gina Kirby, David Prentice, Jan Connolly and Lisa Ristow.

Tools in Space Week – Phil West, Charles Boehl, Mark Turner, Steve Candler, Milt Heflin and Greg Harbaugh. ■

How does your work fit in the plan?

How does your work fit into the NASA Strategic Plan?

When a small team of engineers from Kennedy Space Center considered how to answer that question, they revolutionized NASA's performance management system by creating the Goal Performance Evaluation System.

The automated tool used for planning, managing and evaluating employees' contributions towards center and agency strategic objectives is on its way toward full implementation at JSC by October.

GPES offers many advantages over the current system. First and foremost, it will make it much easier for all employees to understand the linkage between their jobs

and the agency's strategic goals. The system lets each employee's performance elements trace directly to agency goals through the center's implementation plan and enterprise strategic plan.

Second, it uses current technology to streamline the performance appraisal process. Supervisors will click on items from "drop down" menus.

Third, the system is easy to change at any time, so plans remain current.

Finally, employees will be able to note accomplishments against their objectives throughout the year, forming the basis of performance discussions.

Employees will learn more about the system over the next couple of months. ■

Registration booming for Inspection 98

Almost 1,500 people had registered to attend Inspection 98 by late August, two months before the event, said Kathy Jurica, event chair.

Inspection 98, the annual showcase of technologies developed at JSC and other centers, will be held Oct. 14-16. More than 200 exhibits and presentations focusing on a range of technologies, most related to human space flight, will be offered in 20 JSC facilities.

The idea is to attract leaders of activities not directly related to the aerospace industry, to show them technology that might be useful in their endeavors. Those representatives of business and industry as well as educators

and civic leaders might also see NASA challenges at I98 to which they could offer solutions.

Jurica said a variety of materials has been mailed out to potential attendees during the past few months. "We've had a good response," she said. In addition to the 1,500 individuals who have registered to attend, many more have asked for additional information.

Technical exhibits have been defined, and organizers are finishing up the process of determining where each exhibit will be situated. A number of other NASA centers are participating.

For more information, call the I98 office at x37912. ■

GILRUTH CENTER NEWS

Hours: The Gilruth Center is open from 6:30 a.m.-10 p.m. Monday-Thursday, 6:30 a.m.-9 p.m. Friday, and 9 a.m.-2 p.m. Saturday.

Gilruth badges: Required for use of the Gilruth Center. Employees, spouses, eligible dependents, NASA retirees and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 9 a.m.-2 p.m. Saturdays. Cost is \$10. Dependents must be between 16 and 23 years old.

Nutrition intervention program: Six-week program includes lectures, a private consultation with the dietitian and blood analysis to chart your progress. For additional information call Tammie Shaw at x32980.

Defensive driving: One-day course is offered once a month at the Gilruth Center. Pre-registration required. Cost is \$25. Call for next available class.

Stamp club: Meets every second and fourth Monday at 7 p.m. in Rm. 216.

Weight safety: Required course for employees wishing to use the Gilruth weight room. The next classes are scheduled for 8 p.m. Sept. 10 and Sept. 24. Pre-registration is required. Cost is \$5. Annual weight room use fee is \$90. Additional family members are \$50.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$24 for eight weeks.

Step/bench aerobics: Low impact cardiovascular workout. Classes meet from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks. Call Kristen Taragzewski, instructor, at x36891.

Yoga: Stretching class of low-impact exercises expertly designed for people of all ages and abilities in a Westernized format. Meets Thursdays 5-6 p.m. Cost is \$32 for eight weeks.

Ballroom dancing: Classes meet from 7-8:15 p.m. Thursdays for beginner advanced classes and from 8:15-9:30 p.m. for beginner-intermediate and intermediate students. Cost is \$60 per couple.

Country and western dancing: Beginner class meets 7-8:30 p.m. Monday. Advanced class (must know basic steps to all dances) meets 8:30-10 p.m. Monday. Cost is \$20 per couple.

Fitness program: Health Related Fitness Program includes a medical screening examination and a 12-week individually prescribed exercise program. For more information call Larry Wier at x30301.

Gilruth Home Page: Check out all activities at the Gilruth online at: <http://www4.jsc.nasa.gov/ah/exceaa/Gilruth/Gilruth.htm>

TICKET WINDOW

Bldg. 3 Exchange Store hours are 7 a.m.-4 p.m. Monday-Friday.

Bldg. 11 Exchange Store hours are 9 a.m.-3 p.m. Monday-Friday.

For more information, please call x35350.

The following discount tickets are available at the Exchange Stores:

General Cinema Theaters \$ 5.50

Sony Loew's Theaters \$ 5.00

AMC Theaters \$ 4.75

Astroworld Summer Saver (sell until Sept. 27 / valid until Nov. 1) \$24.25 (valid at all Texas Six Flags Theme Parks)

Moody Gardens (2 of 6 events) \$ 9.75

Sea World adult \$27.25 . . . child (3-11) \$18.25

Schiltebahn Water Park . . . adult \$20.75 . . . child (3-11) \$17.50

Space Center Houston . . . adult \$10.25 . . . child (4-11) \$ 7.00 (JSC civil service employees free.)

Splashtown Water Park . . . adult \$14.50 child (under 48") \$11.50

Metro Tokens and value cards available.

Renaissance Festival Tickets

on sale starting Sept. 8 . . . adult \$14.00 . . . child \$6.00

All tickets are non-refundable.

Photo Processing: 3-inch single prints, \$2.99; 3-inch double or 4-inch single prints, \$3.99; 4-inch double prints, \$5.99.

Safety and Total Health Day

to launch innovative partnership

This year's Safety and Total Health Day will be the launching pad for the Voluntary Protection Program safety and health initiative at JSC.

Although many employees may be aware of the "JSC and VPP" campaign, it will be each organization's responsibility to be sure that everyone is informed and knows what to expect in the days that follow.

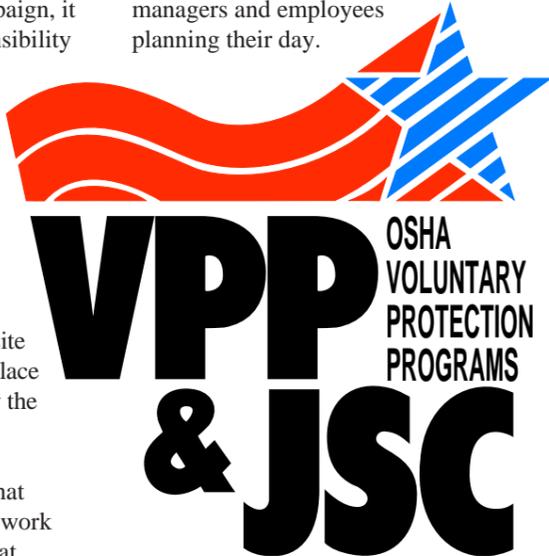
VPP is an innovative partnership in which employers and employees join forces to develop and implement a comprehensive safety and health program. VPP emphasis on continuous improvement of work site safety and health programs can replace regular required site inspections by the Occupational Safety and Health Administration.

VPP systems ensure not only that OSHA standards are met and that work sites are in full compliance, but that flexibility and creativity help provide the best feasible protection for workers at each site.

A booth also will be available on Safety and Total Health Day to supplement the information employees receive in their organizational activities.

VPP is just one of three prime topics that will be addressed at the third annual Safety and Total Health Day scheduled for September 23.

Chairman Larry Neu has advice for managers and employees planning their day.



"In keeping with Mr. Abbey's direction, there are three prime topics that every manager must have in their Safety and Total Health Day program: close calls, review of reported incidents, and introducing the Voluntary Protection Program."

Every employee should be made aware of the Close Call system – why close calls are reported and the methods used to report them, Neu said. All buildings should have a Close Call poster with a dispenser for forms that can be filled out and submitted to the designated recipient. Close call forms also are available on the Internet at <http://www4.jsc.nasa.gov/safety/closecal/cc1257.doc>.

With regard to the review of reported incidents, JSC's goal is zero accidents. Even so, as many as 60 people are likely to be injured this year, Neu said. Mishaps must be reviewed and studied for causes, trends, and any information useful to prevention.

"The importance of creating a safe and healthful workplace can never be underestimated – it is the cornerstone of our success," said JSC Director George Abbey in a recent memo to JSC supervisors.

"To help everyone make the most of the event, the T-2 Month Planners meetings were held in July," Neu said. "We had six meetings over a period of three days and were able to disperse a lot of information to over 1,200 on-site and off-site employees."

"The importance of creating a safe and healthful workplace can never be underestimated – it is the cornerstone of our success."

—JSC Director George Abbey

To get advice on what kinds of activities organizations can offer, visit the Safety and Total Health Day web page at <http://wwwsrqa.jsc.nasa.gov/sthday/PlanIdeas.htm>.

The web site is as visually appealing as it is informative. For those who've ever wondered how and what to do about Safety and Total Health Day, employees may scroll down and probably see a bit of themselves in the little animated guy scratching his head and wondering, "How do I plan for it?"

Click on "Planning & Information," for ideas that can make learning positively fun. From "homegrown" ideas to ideas for Safety and Total Health-related activities, it's a wellspring of information that will make the day memorable.

"It's shaping up to be a great day. We hope everyone will make the most of it and will come away better for having participated," Neu said. ■

Next Blood Drive is on Safety and Total Health Day

Special arrangements are being made so that JSC employees and contractors may donate blood as part of their Safety and Total Health Day activities on Sept. 23, or on the following day.

This yearly event has become the most popular, as well as the most productive, of all JSC's on-site blood drives. In each of the last two years, JSC employees donated 508 units of blood. The donations have been used throughout the community in treating patients with a variety of medical conditions and include some JSC employees and their family members.

Experienced blood donors generally know they can, if they desire, designate a person for whom their blood is donated. First-time donors may be interested in the story of 3-year-old Brooke Hawes, neighbor of Information Systems Contract employee, Pat Doerr.

Brooke is a victim of cancer. She had major surgery to remove a large cancerous tumor in her abdomen and is undergoing chemotherapy. Brooke spends about half her time in the hospital receiving chemotherapy and the additional treatments for infections that result from a decrease in her white blood cell count after each treatment. According to Texas Children's Hospital, Brooke has used blood products (platelets and packed cells) with a replacement value of 356 units of blood. JSC donations have replaced about 130 units of blood used by Brooke.

"Our blood drives have been of great assistance and donations are still needed. Our help has provided her mother with one less thing to be concerned about during this stressful time" said Lola Kramer, ISC blood drive coordinator.

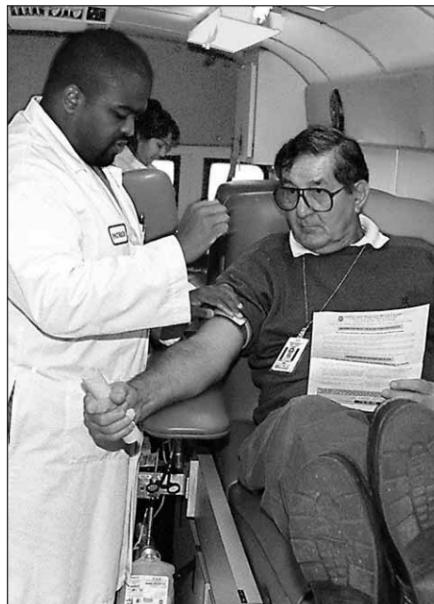
St. Luke's and the JSC Blood Drive Committee started planning early this year in the hope of achieving the biggest turnout yet. Blood donors normally can give blood every eight weeks. Donors may go to the Teague Auditorium lobby without an appointment from 7:30 a.m.-4 p.m., including lunch time, on September 23 or 24.

Anyone participating in the Fun Run on September 23 is encouraged to give blood on September 24.

The procedure for drawing whole blood generally takes about 45 minutes, with plasma and platelet donations taking longer. Plasma and platelets, which require special processing, will be drawn only on the second day of the drive this year. Call Donna Stuart at x33032 to make an appointment.

Prospective donors who have questions about how a medical condition may affect their ability to give blood may call St. Luke's Blood Donor Center at 713-791-4483.

Blood donors once again will receive a free gift. Details about the JSC Blood Drive are available at <http://www4.jsc.nasa.gov/ah/ExcEAA/blooddrv/blooddrv.htm>, or call Dan Mangieri at x33003. ■



JSC Photo 97-15558

A JSC employee takes advantage of the opportunity to give blood during last year's Safety and Total Health Day.



JSC Photo 97-15561

Runners get a good start for last year's Safety and Total Health Day Fun Run.

Fun run emphasizes personal health

Of all the options available for better health and longer life, the greatest benefit is achieved by improving physical fitness.

Physical exercise, such as walking and jogging, produces a long list of health benefits, both mental and physical, and just plain makes you feel good. To recognize the importance of physical fitness in JSC employees' health and well-being, Safety and Total Health Day again will feature a fun run/walk on September 23.

JSC Deputy Director Jim Wetherbee will lead the pack at the start of the fun run. Two routes have been mapped out, a two-kilometer course for the walkers and a five-kilometer course for runners. The event begins at 4 p.m. at the Gilruth Recreation Center. Refreshments will include fresh fruit, bagels, and cold drinks.

Early registration continues through September 11. On race day you can register at the Gilruth Center from 8 a.m. to

2:30 p.m. Those who register and pay the \$6 entry fee will receive a T-shirt. If you don't want the T-shirt you don't have to pay the \$6, but you still must register to participate.

Participation in the fun run/walk is considered an after-work activity. Supervisors have been advised to be liberal in allowing leave for employees who want to participate in the fun run/walk. With supervisory approval, employees may make up the time the following day when everything gets back to normal.

The walk or run you complete might be the start of a daily exercise program that could benefit your health and well-being for the rest of your life.

For further information call Larry Wier, x30301, Greta Ayers x30302, or Lesa Lester x41628. ■



JSC Photo 97E04317

David Anderson, left, and Brent Goswick demonstrate how electricity will travel through a baseball cap at last year's Texas/New Mexico Power Co. Arc Demonstration.

Booths, seminars to provide wide array of information

You know the old saying about an ounce of prevention. At Safety and Total Health Day, information will be available to enable visitors to practice prevention by the pound, in the workplace, at home, and in between.

"This year is no exception to the number of booths and seminars available to supplement an organization's activities on Safety and Total Health Day," said Booth Committee Co-chairman, Jonathan Manning. "They will all be presented or staffed by experts in their fields."

Total Health booths

Red Cross, St. John's Sports Medicine Center, United Cerebral Palsy, High School/High Tech, Bay Area Turning Point, City of Houston Health Dept. & Environmental, Harris County Health Dept., Center of Reproductive Medicine,

Life Gift, Ergonomics Solutions, Crisis Pregnancy Center, Harris County Pollution Control, St. Luke's Blood Donor Booth, MD Anderson Cancer Center, Asbestos Info - Occupational Health Office and EHS, JSC Dental, JSC Clinic - Questionnaire/ Spin Booth, JSC Clinic Lab Booth - Kelsey-Seybold, JSC Clinic - Patient Information & Russian Travel, JSC Clinic - Doc in the Box, Manned Test Support, Nutrition, Employee Assistance Program.

Safety booths

Bay Area Local Emergency Planning Commission, Hurricane Preparedness, Greater Harris County 911, Houston Police Department, Texas/New Mexico Power Co. Arc Demonstration, Spill Response, Texas Society to Prevent Blindness, Emergency Operations Center, Sharp Object Damage Program, Pasadena Police Department, Life Flight, Coast Guard, Communications Working Group, VPP Information Booth, Seabrook Police - Gun Safety, American Society of Safety Engineers, Pasadena Police Department - the Convincer and narcotics displays, Texas Hearing and Service Dogs, Houston Fire Department, JSC Spill Response Team, JSC Environmental Office, JSC Close Call.



JSC Photo 97E04321

At last year's Sharp Object Damage Booth, Paula Beckstrom, left, and Jim Thornton display space gloves damaged during the STS-72 shuttle mission.

Seminars/speakers

Tony Brigmon, 9-10 a.m., Teague Auditorium; Women's Self Defense, 11 a.m.-noon, Teague Auditorium and 3-4 p.m., Bldg. 30; CPR Training, 12:30-3:30 p.m., Gilruth; and Aerobics, 4-5 p.m., Gilruth Center. For more information call Jonathan Manning at x46264. ■

Putting the action in safety

By Mary Peterson

When somebody speaks to you about safety, does the thought cross your mind, "Everything I needed to know about safety, I learned in kindergarten?" Well, join the crowd. Probably 99 percent of us feel that way.

If that's true, then why do we have so many accidents—major, minor and all those in-between knee-skinners? The answer is simple. We know the rules, mostly, but safety hasn't become a way of life.

"That is something we're hoping to change at JSC," said John Fields of the Safety, Reliability and Quality Assurance Office.

JSC already has a progressive safety program in place, Fields said, but one thing was missing, and that was employee ownership—specifically, a say so, a right to be heard, a measure of control in what must be done to keep JSC employees safe and healthy.

The latest addition to the center's safety awareness toolbox is designed to provide just that. The new JSC Safety Action Team established by JSC Director George Abbey is chaired by JSC Deputy Director Jim Wetherbee and comprised of rank-and-file employees.

"Not too long ago, a junior member of a fairly new contractor team noticed that a certain forklift operation was careless and unwieldy, with clear potential for injury. He said as much, but his warning was dismissed," Fields said. "The inevitable happened, and an employee was seriously hurt. Could this have been avoided? Obviously, and it should have been. Moreover, instead of being ignored, the reporting employee should have been commended for his attention to safety."

With about 20 members, the new JSC Safety Action Team will include representatives from each directorate. The committee will have access to the center director equal to that of the existing Executive Safety Committee and the Contractor Safety Forum.

"What makes this different," according to Fields, "is that the JSAT will be completely employee-driven (contractor, civil servant, and union-based), including, eventually, the chair position currently held by Capt. Wetherbee, whose primary purpose for now is to help get things organized and in motion." Fields also pointed out that participation is voluntary and open to all employees.

Close Call Reports appropriate to JSAT will come to the committee for resolution, and the committee may spin off tiger teams to solve particular problems. In addition, the committee

will develop and implement solutions to safety issues, coordinate with management, facility managers and others, investigate reports, perform inspections, and determine new ways to protect workers.

"The JSAT will be a self-contained entity with few restraints and will be listened to. Management will give its full support," said Fields, "and we think the JSAT will go a long way toward making safety a way of life at JSC."

Safety a way of life? Because the majority of JSC employees work in an office environment, many feel protected against hazards, but as Fields pointed out, "Office and office-like areas account for 24 percent of all lost workday cases and 21 percent of all medical treatments."

Recalling his recent visits to other large industries, Fields said, "Without exception, those companies who have instituted safety and health measures at the request and direction of their employee groups have seen an impressive drop in days lost due to mishaps or illness. These are disciplines that people take home with them, too, and that is when the level of safety consciousness becomes near ideal. You don't practice safety only at the workplace because your supervisor insists and then leave it at the door at day's end."

Instances of employees taking the reins already have been noted. Recounting one such episode, Earl Thompson, manager of engineering and operations for the Space Management Office, said several people who were responsible for developing data and packaging in payload operations support where he was then division chief, brought to management's attention that severe back strain and other stress were being suffered in their work.

"After discussions with safety specialists," Thompson said, "they formulated their own solution, which included supplying fatigue mats, adjusting table heights, using smaller package containers, and having a contract courier service shoulder the heavier, more difficult loads. These changes were simple, easy, and cost effective," Thompson said. Problem recognized, problem solved—by the employees themselves.

"We expect to see more and more of this kind of interest and participation," Fields said, "and we want all on-site JSC employees, contractor and civil service alike, to know that JSAT is their committee, their forum, and their place of action. If it isn't safe, say so, and something will be done without fear of reprisal or being singled out in any way." ■

Astronaut band to serenade Safety and Total Health participants

It will be lunch "to the max" during Safety and Total Health Day.

After an enlightening morning focused on safety and health issues, JSC employees will be able to enjoy the spacey mid-day music of the "Max Q" astronaut band.

The orbital ensemble will perform stellar selections from 11:30 a.m.-12:30 p.m. outside the Bldg. 3 cafeteria. Carry-out lunches will be available from the cafeteria to take out to the lawn, where connoisseurs of fine food and fine music will be able to relax — perhaps even in the shade of a tree — and indulge both passions.

Extra trash bins will be set up so that JSC can be kept clean. Take advantage of this chance to hear the band perform their far-out tunes. ■

Ripped from the ROUNDUP

Ripped straight from the pages of old Space News Roundups, here's what happened at JSC on this date:

1 9 6 3

Vehicle testing for the Apollo program was successfully initiated last Wednesday morning at 9 a.m. (MST) when the first Little Joe II was launched at the White Sands Missile Range in New Mexico.

The flight, first of a series of tests planned at the New Mexico range, was a qualified success, with five of six stated mission objectives accomplished.

1 9 6 8

The crewmen from the Manned Spacecraft Center's Flight Crew Support Division completed a five-day vacuum chamber test September 9, in a spacecraft similar to the command and service modules to be flown on the second manned Apollo mission and on flights to the moon.

1 9 7 3

Being at the right place at the right time paid off for the Skylab 3 crew September 6 when from their vantage point in Earth orbit 270 miles above the distorting effects of the atmosphere they observed a major flare burst out from the surface of the Sun.

"It's a big daddy," said Skylab 3 commander Alan Bean as he manned the Apollo Telescope Mount (ATM) console to record the flare's growth and movement on film in several spectral wavelengths.

1 9 8 3

From the beginning, the center was designed to withstand a direct hit by a hurricane, and Alicia provided the first test of that design since construction began some 20 years ago.

No major structural damage was inflicted on any building on site, but six buildings – 9, 9A, 31, 36, 44 and 49 – did have roof damage and some water inside. The Center lost around 150 trees, a number of light poles and signs, and all told the damage cost is expected to exceed \$250,000.



JSC Photo S98-11014 by Steve Candler

JSC's Employee Assistance Program is staffed by, from left, Lisa Tice, administrative assistant, Peggy Halyard, counselor, and Jackie Reese, director.

JSC revitalizes Employee Assistance Program

The JSC Employee Assistance Program, under director Jackie Reese, is up for ISO recertification. The program, redeveloped and revitalized over the past year, was the first of its kind in the nation to receive ISO certification.

Reese spoke last month at the Occupational Health Conference in Orlando, Fla., about the ISO process, to help employee assistance programs from other centers prepare for certification.

The JSC program helps employees who have personal problems they or their supervisors feel are affecting job performance.

Reese also provides assessment, treatment and case management.

She earned her bachelor's degree in psychology from Michigan State University and her master's in clinical psychology from the University of Houston-Clear Lake. She is a licensed professional counselor. She has 17 years of experience in crisis intervention, and has maintained a private

practice as a psychotherapist in the Clear Lake area since 1990.

Other staff members are counselor Peggy Halyard and administrative assistant Lisa Tice.

Halyard began her career at JSC as a budget analyst in the business office. After a career change, she now serves as a counselor and case manager. Halyard earned a bachelor's in business administration and master's in clinical psychology from the University of Houston-Clear Lake. She, too, is a licensed professional counselor.

Tice provides information on services, schedules appointments, coordinates workshops, maintains the resource base for the program, and helps clients with insurance benefits. She attended college at Southwest Texas State University, and has 10 years of experience in providing support staff services to mental health practitioners.

The EAP, located in Bldg. 32, is part of the NASA Occupational Health

Program. Its purpose is to help provide a workforce that functions at the highest level of health, well-being and productivity. It helps employees deal with problems ranging from depression, anxiety, job stress, family/marital discord, and other emotional issues to alcohol abuse or other chemical dependencies.

The EAP offers free confidential evaluations, counseling, education, and referral services to civil servants and on-site contractors and their families.

EAP staff assesses employee problems and provides counseling and/or referral if necessary. If extensive treatment is needed, the staff helps develop a treatment plan and coordinate care.

Employees can contact the EAP directly at x36130, or through referral by the Occupational Health Clinic, a supervisor, or their Human Resources representative. EAP clinicians are available for emergency crisis intervention and critical incident debriefing. ■

Promotion announcements now all on-line

As part of a continuing effort to improve customer service, the Human Resources Office has started implementing ways to simplify and speed up the Competitive Placement Plan process.

Beginning October 1, the Human Resources Office will begin publicizing CPP announcements exclusively on the HRO home page at <http://hro.jsc.nasa.gov/jobs/jobs.htm> and on the Employee Services bulletin board in Bldg. 45.

Vanessa Bowen, the staffing team leader, said talks with center customers have shown that the majority of CPP applicants are now viewing announcements on the Human Resources Office home page. Many have said they like having one place where they know they can find a current listing of all announcements. In addition, both managers and employees seem to like the idea of eliminating the delays caused by having announcements printed and sent through distribution.

Bowen said she believes this change will result in "a faster and more reliable way of making information on CPP vacancies available to all JSC civil service employees."

Since hard copies of the job announcements will no longer be distributed to individual organizations, current civil service employees who wish

to apply for promotions and other job opportunities should check the home page several times a week to ensure that they don't miss a deadline.

The Human Resources Office also has simplified the application process. In the past, employees were required to fill out an application form, address the evaluation factors (Knowledges, Skills and Abilities, or KSAs), and attach a recent performance appraisal to their application packages.

The new process requires only that applicants use plain paper to address the KSAs. At the top of the write-ups, applicants should include their names, work telephone numbers, organization codes, and the vacancy announcement numbers.

Since applicants don't have to use an application form or attach their performance appraisals to their KSA write-ups, they will be able to submit their applications electronically, if they choose. The Human Resources Office now has two e-mail addresses for receiving CPP applications: CPP Applications and cpp-applications@jsc.nasa.gov.

According to Bowen, "we can expect more improvements in the near future that will help better meet the changing needs of our customers." ■

NASA extends fitness challenge deadline

The deadline for completing the requirements for the 1998 NASA Fitness Challenge at JSC is being extended to December 31. The NASA Occupational Health Office made the decision to extend the deadline, which previously had been August 31, said Larry Wier, director of JSC's Health Related Fitness Program.

The NASA Fitness Challenge is an annual agencywide competition promoting health through exercise. Participants exercise in one or a combination of different activities and verify their activities in a log sheet. The NASA center with the highest percentage of civil servants and retirees qualifying will be the winner. Special awards also will be given for total civil service, contractor and family participation as well as participation in individual sports categories.

Log sheets should be sent to the fitness staff at Mail Code AW9. A free multicolored T-shirt will still be awarded to all JSC qualifiers. The T-shirts now will be distributed after December 31. Call x30301 for additional information. ■



P E R S O N A L I T Y P R O F I L E

Add-on day running light circuit could boost safety

By John Ira Petty

Dan Harrison would like to help shed a little more light on a safety concern. He's come up with a device that lets almost any car display day running lights.

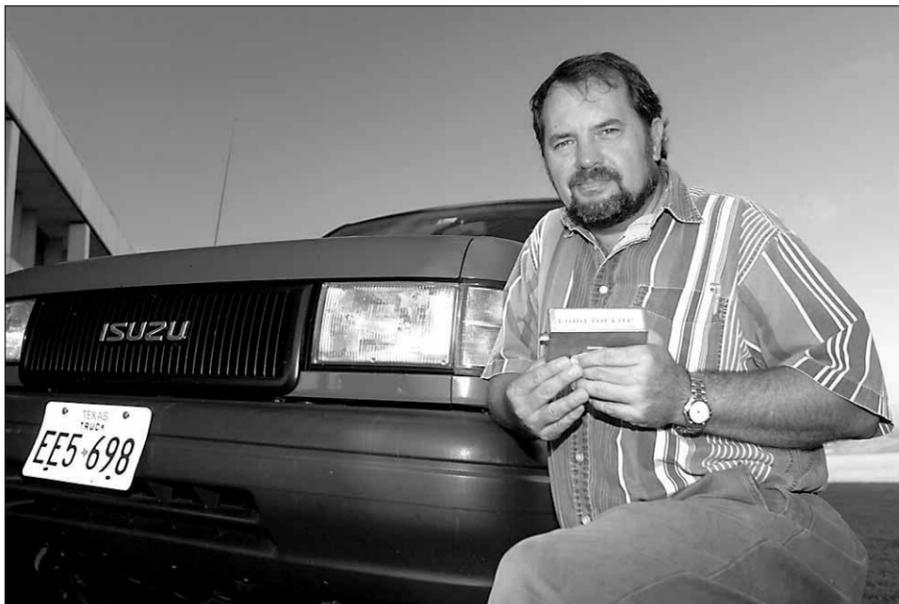
Harrison, chief of the Electronic Design and Development Branch, has tested the device on his own vehicle, an Isuzu Trooper, for about six months. It has proven to be reliable and effective. It also is inexpensive and simple to install.

General Motors offers day running lights as standard equipment on some of its models. Owners of cars without day running lights have to use standard headlights if they want to increase daytime visibility. That eats into the 1,000-hour average life of most bulbs.

Harrison's system operates the headlights at 80 percent power. Average life at that power is about 20,000 hours, so the day running lights don't substantially decrease bulb life.

Getting to JSC at 7 a.m. helped give him the idea. In the morning twilight, he could see fine, but pedestrians sometimes seemed unaware of his car.

Installing the circuit basically involves hooking up two wires. The circuit



JSC Photo 98E07123 by Robert Markowitz

Dan Harrison, chief of Engineering's Electronic Design and Development Branch, shows how his simple wiring change can boost highway safety and extend headlight life.

automatically turns on the lights at 80 percent power as soon as it senses the alternator charging the battery. That has the advantage of not turning on the lights until after the car starts – which is helpful if the battery is low. It also might make the difference between making it home and not making it home if the alternator stops charging during the day.

"I've put some things like that into it to try to make it a little more user-friendly," Harrison said.

Full-power lights are switched on for night driving in the conventional way.

Harrison, 47, was born in California but grew up in Muskogee, Okla. He got a bachelor's degree in physics and mathematics from Northeastern Oklahoma University.

Right out of college he came to Houston, worked for Texas Electronics Instruments for three years, then spent 10 years with Lockheed. He came to JSC in 1988.

He worked first on the Payload and General Support Computer, a laptop for the shuttle crew, then moved to lead on the Portable Data Acquisition Package flown on STS-37. Subsequently he was section head for data management system

hardware on the Freedom Project.

After a stint as project manager for the recently flown Orbiter Interface Unit, he became avionics manager for the Early Communications System. He has held his current position as EV2 branch chief since last winter.

Harrison's hobbies are bow-hunting, a pastime he has pursued much of his life, electronics and cars. His hunting includes trips to Colorado to hunt elk and hunts on a Texas lease.

Another combination of hobbies involved building some electronic deer feeder timers.

He and wife Malee have two sons, Danny, 23, and Josh, 20, and a daughter, Sophia, 19.

Harrison didn't invent the circuit to make money.

"I don't know if it's patentable – it might be," he said. But he has no plans to try. He sees it as "just something people can use as an added safety measure."

He has written an article on the device to be published soon in "Electronics Now" magazine. It explains just how to make and install the circuit. Parts cost about \$10. It will be available in kit form for about \$20. "So, it's basically just out there in the public domain," he said.

He's had one other article published in "Electronics Now," a January cover story about an accelerometer-based instrument that tells a driver (via an LCD on the windshield) how long it took to reach 60 m.p.h.

Harrison would like to see more private autos with day running lights. He also plans to offer his day running lights circuit to JSC for possible use on center vehicles. ■

Three secretaries earn high praise

Three JSC secretaries have received the center's highest honor for clerical support, the Marilyn J. Bockting Award for Secretarial Excellence.

**Hasson**

Bryant of the Technology Transfer and Commercialization Office received her award in May.

In addition to outstanding performance, Hasson was cited for important contributions to the high level of her organization's morale and leadership initiative in the organization's administrative services process improvement team. She is secretary to the deputy directors of SR&QA and

**Pollard**

SR&QA for Russian Programs.

Pollard, who is assigned to the Information Technology Office, was recognized for her unerring support to 20 employees and the directorate's chief scientist, in particular for coordinating multiple tours and workshops.

**Bryant**

community outreach activities and coordinating a recent move to consolidate space within the organization. ■

Continued from Page 2

X-38 systems

for free flight. With it, the launch panel operator can declare the X-38 "ready for flight," the last step before the pilot's decision to release the craft.

The fully functional software was delivered to the X-38 program in 1997. It has been used in six captive carry tests, with the X-38 remaining attached to the B-52, and one free-flight test. The application will be used for the remaining

flight tests of the current X-38 prototype. It also will be used in flight testing of a subsequent X-38 prototype, which will begin this fall.

"The application lets us look into the vehicle," said Debbie Buscher, software lead for the X-38 program. "It's our one way of communicating with the vehicle and determining what's going on before release." ■

Continued from Page 1

Space Station

environment. It is the first of three Multi-Purpose Logistics Modules that Italy will provide to the U.S.

"These are the moving vans for the International Space Station. They will take up supplies, food and experiments and bring back scientific samples, old experiments, broken hardware and trash. Eventually, they will even carry refrigerators to transport food and experiment samples," Schurr said. "These modules will carry everything except people."

Construction of Leonardo began in April 1996. The cylindrical module is approximately 21 feet long and 15 feet in diameter, weighing almost 4.5 tons. It can carry up to 10 tons of cargo packed into 16 standard space station equipment racks. Construction of the second module already has begun. Named Raffaello, it is scheduled to arrive at KSC in 1999. The third module, named Donatello, is scheduled for delivery in 2000. In addition to the logistics modules, Italy also is manufacturing two additional station connecting modules, or nodes, to provide to the U.S. The nodes will be similar to the Unity node now at KSC but slightly larger.

The arrival of Leonardo in Florida has been challenging as a trail blazer for future components, Schurr said.

"We've been able to confirm the use of our ground support equipment at KSC for processing international hardware," Schurr explained. "This has been very much a pathfinder. It will help make certain that we don't have any problems when the Japanese and European laboratories show up. We've also paved the way for future components as the first station module to go through a full-blown acceptance."

Central to the success of the effort has been Jim Graves, the MPLM element manager for the station program since the program's inception in 1993, Schurr said. Graves is a JSC employee in residence at Marshall Space Flight Center. Marshall provides technical and engineering oversight and support for the MPLM development. Another key contributor at JSC in overseeing the development and delivery has been Matt Leonard, the station launch package manager for STS-100. On that flight, the Leonardo module will carry racks and supplies to outfit the U.S. laboratory and set the stage for the start of a new era of orbital research.

Also instrumental in ensuring smooth coordination with Italy have been Amy Ronalds, the station program's international partners office liaison with Italy at JSC, and Mark Dillard, a JSC employee working in Italy as a station liaison. In addition to an international effort, building Leonardo is a complex multi-center effort for NASA, with major contributions and functions at KSC, MSFC and JSC, Schurr said.

Leonardo is being prepared for launch at KSC with engineering support from the Italian Space Agency, Alenia Aerospazio and Boeing.

The construction and delivery of Leonardo has christened what will be an extensive assembly line from Italy to the U.S. for coming modules, Schurr said. "The success we have had with this first MPLM has greatly increased the amount of confidence I have that we will be able to get the other modules and nodes delivered on schedule," he explained. "We have come out learning a lot about how to do business and with a great working relationship." ■

PEOPLE *on the* MOVE

Human Resources reports the following personnel changes as of August 7, 1998

Key Management Assignments

Stan Donahoe was selected as manager, Station Engineering Office, Engineering Directorate.

Bill Gerstenmaier was named manager, Space Shuttle Program Integration, Space Shuttle Program Office.

Mike Kincaid was selected as chief, Human Resources Development Branch, Human Resources Office.

Reassignments Between Directorates

Kathy Dauess moves from the Phase I Program Office to the Engineering Directorate.

Phyllis Grounds moves from the Space and Life Sciences Directorate to the Space Shuttle Program Office.

Brian Kelly moves from the Flight Crew Operations Directorate to the Safety, Reliability, & Quality Assurance Office.

Liz Kalla moves from the Engineering Directorate to the International Space Station Program Office.

Kathy Leary moves from the Phase I Program Office to the International Space Station Program Office.

Charlie Lundquist moves from the International Space Station Program Office to the Space and Life Sciences Directorate.

Reassignments Between Centers

Brian Boland of the Mission Operations Directorate moves to Langley Research Center.

Russell Carpenter of the Engineering Directorate moves to Goddard Space Flight Center.

Irene Taylor of the International Space Station Program moves to Marshall Space Flight Center.

Resignations

Diane Rivera of the Business Management Directorate.

Charlie Mallini of the Engineering Directorate.

Racquel Jackson of the Information Systems Directorate.

Karen Adams of the Office of the Chief Financial Officer.

Dick Richards of the Space Shuttle Program Office.

Helen Dutton of the International Space Station Program Office.

NASA BRIEFS

NASA HISTORY OFFICE CREATES 40TH WEB SITE

On October 1, 1998, the National Aeronautics and Space Administration will celebrate its 40th anniversary.

The NASA History Office has created a 40th anniversary web site so that reporters and the public may easily find information on NASA's history and accomplishments over those four decades.

The website is full of essays, pictures and historical documents and the History Office will add new items periodically.

<http://www.hq.nasa.gov/office/pao/History/history.htm>

CONTROLLERS CONTACT DORMANT SOLAR SATELLITE

The dormant Solar and Heliospheric Observatory spacecraft has sent temperature and electrical data to ground controllers, information that could help in the satellite's recovery. The SOHO Recovery Team is working to recharge the spacecraft's batteries, which in turn will allow the team to assess the spacecraft's overall health and condition of the scientific instruments.

The SOHO data was received August 8, six days after the spacecraft's first signal since the end of June, at Goddard Space Flight Center. "This is the best news I've heard since we lost contact with SOHO," said Roger Bonnet, director of Science for the European Space Agency, NASA's partner in the mission.

Because of the spacecraft's orientation, some temperatures are colder than normal, and some are hotter than normal, as expected. The instruments' condition will not be known with certainty until attempts are made to activate them at the end of the recovery sequence. SOHO completed its nominal two year mission in April 1998.

HUBBLE TAKES FAMILY PORTRAIT OF YOUNG STARS

NASA's Hubble Space Telescope has taken a "family portrait" of young, ultra-bright stars nested in their embryonic cloud of glowing gases. The celestial maternity ward, called N81, is located 200,000 light-years away in the Small Magellanic Cloud, a small irregular satellite galaxy of our Milky Way.

These are probably the youngest massive stars ever seen in the nearby galaxy. The nebula offers a unique opportunity for a close-up glimpse of the "firestorm" accompanying the birth of extremely massive stars, each blazing with the brilliance of 300,000 of our Suns. The observations show that massive stars may form in groups.

DATES & DATA

September 8

Aero club meets: The Bay Area Aero Club will meet at 7 p.m. Sept. 8 at the Houston Gulf Airport clubhouse at 2750 FM 1266 in League City. For more information call Larry Hendrickson at x32050.

NPMA meets: The National Property Management Association will meet at 5 p.m. Sept. 8 at Robinette and Doyle Caterers, 216 Kirby in Seabrook. Dinner costs \$14. For more information call Sina Hawsey at x36582.

September 9

PSI meets: The Clear Lake/NASA Chapter of Professional Secretaries International will meet at 5:30 p.m. Sept. 9 at Bay Oaks Country Club. Cost is \$16. For more information, call Elaine Kemp at x30556.

Astronomy seminar: The JSC Astronomy Seminar will meet at noon Sept. 9, 16, 23 and 30 in Bldg. 31, Rm. 129. For more information, call Al Jackson at x35037.

Spaceland Toastmasters meet: The Spaceland Toastmasters will meet at 7 a.m. Sept. 9, 16, 23 and 30 at the House of Prayer Lutheran Church. For more information call George Salazar at X30162.

Communicators meet: The Clear Lake Communicators, a Toastmasters club, will meet at 11:30 a.m. Sept. 9, 16, 23 and 30 at Lockheed Martin, 555 Fordge River Rd. For more information, call Allen Prescott at 282-3281 or Mark Caronna at 282-4306.

Spaceteam Toastmasters meet: The Spaceteam Toastmasters will meet at 11:30 a.m. Sept. 9, 16, 23 and 30 at United Space Alliance, 600 Gemini. For more information, call Patricia Blackwell at 281-282-4302 or Brian Collins at x35190.

September 10

SSQ meets: The Society for Software Quality will meet at 6:45 p.m. Sept. 10 at the Holiday Inn. For more information, call Earl Lee at 335-2322 or Herb Babineaux at x34263.

TSU alumni meet: The Texas Southern University, Clear Lake/Galveston Alumni Chapter will meet at 6:30 p.m. Sept. 10 on the TSU campus in Hannah Hall, Rm. 217. For more information call 281-481-0950 or Janell Ellison at 713-731-0949.

September 11

Space Society meets: The Clear Lake Area chapter of the National Space Society will meet at 6:30 p.m. Sept. 11 at the Radisson Hotel, 9100 Gulf Freeway in the Deer Park room. For more information, call Murray Clark at 367-2227.

Astronomers meet: The JSC Astronomical Society will meet at 7:30 p.m. Sept. 11 at the Center for Advanced Space Studies, 3600 Bay Area Blvd. For more information, call Chuck Shaw at x35416.

September 16

Scuba club meets: The Lunarfans will meet at 7:30 p.m. Sept. 16 at Pot Pie Pizzeria at Watergate Marina. For details, call Mike Manering at x32618.

MAES meets: The Society of Mexican-American Engineers and Scientists will meet at 11:30 a.m. Sept. 16 in Bldg. 16, Rm. 111. For more information, call George Salazar at x30162.

September 17

Directors meet: The Space Family Education board of directors will meet at 11:30 a.m. Sept. 17 in Bldg. 45, Rm. 712D. For more information on this open meeting, call Gretchen Thomas at x37664.

September 22

History club meets: The Spaceflight History Club will meet at 11.30 a.m. Sept. 22, 1998, in Bldg. 45, Rm. 351. For details, contact Michael Ciancone at x38848.

September 23

Safety day: All JSC employees will stand down from their regular duties as part of Safety and Total Health Day on Sept. 23. For details, contact Larry Neu at x32865.

September 24

Radio Club meets: The JSC Amateur Radio Club will meet at 6:30 p.m. Sept. 24 at the Piccadilly, 2465 Bay Area Blvd. For details, call Larry Dietrich at x39198.

October 1

Warning System Test: The site-wide Employee Warning System will perform its monthly audio test at noon Oct. 1. For details, call Bob Gaffney at x34249.

Airplane club meets: The MSC Radio Control Airplane Club meets at 7 p.m. Oct. 1 at the Clear Lake Park building. For details call Bill Langdoc at x35970.

NCMA meets: The National Contract Management Association will meet at 11:30 a.m. Oct. 1 at the Gilruth Center. Members should register through their key contacts. Non-member registration should be made through Julie Sarafolean, 212-6005.



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