SPACE CENTER
Roundup

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OSHA recommends JSC for VPP Star

JSC Photo S99-05551 by James Blair

Following announcement of OSHA's recommendation of JSC for VPP Star status, JSC Director George Abbey and Seemore Safety are all smiles with OSHA representatives, from left to right, Tom Staggs, safety specialist; Carlos Reynolds, industrial hygienist; William Klingbeil, team leader; Marianne McGee, industrial hygienist; Sheila Schulmeyer, safety specialist; O.J. Alvarez, backup team leader; S.R. Srinivasan, industrial hygienist.

By Mary Peterson

The mood was definitely upbeat, the air electric, as a capacity crowd of civil service and contractor safety employees filled the Bldg. 30 auditorium to overflowing on the morning of May 14 to hear William Klingbeil, OSHA Region VI Voluntary Protection Program manager, make his pronouncement. Like nervous schoolchildren awaiting the final report card, the eager audience hung on every word. They would soon learn the outcome of the two-week site inspection just completed by the OSHA-VPP team. Finally, it came.

"You probably want to know where you are in this [Demonstration, Merit, or Star site]," Klingbeil began casually. "The team got together this morning. We did find some minor deficiencies – that were addressed. We talked about the possibility of your being in the Merit program," he said, as audience tension mounted, "but, we realized you were far beyond Merit." Most other facilities, he explained, would have been assigned a few 90-day contingency items, meaning they would have had faults that would take 60 to 90 days to correct. "I was told upon my arrival here," he continued, "that, 'Whatever you find, we want to get it solved and want it done now! Our [JSC] goal is no 90-day contingency items.'" Klingbeil paused and said, "Our recommendation is to place you in the Star program."

With this, the audience jumped to its feet and exploded into a roar of approval that could have launched a thousand rockets.

This was the culmination of months of intense activity on the part of countless volunteers in the VPP to see that not only JSC was shipshape, its employees educated, and all documentation in place, but that careful plans had been laid to make the OSHA visitors' inspection tour as complete and trouble-free as possible.

All of the hard work and planning was recognized by the OSHA team which was generous with its praise for the help it had received. At least two of the team members, Carlos Reynolds and O. J. Alvarez, at the end of their remarks, applauded the JSC group themselves.

While the excitement of the moment was hard to subdue, Klingbeil reminded everyone that this was not the end, but rather, was the beginning.

Congratulations to the entire JSC Team for a job well done!

"You deserve a Star rating at this facility, and you were very well prepared for our visit," he said. "Had you deserved Merit instead, we would have told you.

"But," he warned, "yours is not a perfect program. I have seen very few that I have recommended without contingencies. I can't emphasize enough how important it is to continue with your program, and I know you didn't accomplish what you have done [the entire spectrum of safety and health] in just the past two weeks."

Klingbeil continued, "A big part of the evaluation is how serious you are in responding to deficiencies, even though they are minor. We found no major ones. And, you have clearly shown us how serious you are about getting things done." Klingbeil further reminded that safety and health are not things that are done to get into the VPP, saying, "You do it to protect your employees."

Responding to the enormous honor that had just been bestowed on the JSC safety program, Center Director George Abbey said to Klingbeil and his team, "I appreciate all of your kind words and want to give you our vote of thanks. We are taking all of your comments to heart. As Rich Dinkel (deputy director, Safety, Reliability, and Quality Assurance Directorate) said, 'This is just the beginning,' and we look forward to your coming back." Then, addressing the audience, Abbey said, "I want to thank you. This is happening because of you. You are our greatest resource, and we do have a safe environment for our people. We will continue to improve because of you, and I thank you for everything you do."

In addition to Klingbeil, Alvarez, and Reynolds other members of the OSHA-VPP team included Tom Staggs, Sheila Schulmeyer, Marianne McGee, and S. R. Srinivasan.

Following the stated recommendation for Star site status, the formal paperwork will be submitted to OSHA headquarters in Washington, D.C., via the Region VI offices in Dallas. Once final approval is granted, Klingbeil will be in touch with the safety office to make arrangements for the formal presentation of the VPP Star flag, designating, for all to see, that JSC is truly a center for excellence in occupational safety and health. ■

Contractors recognized with Low Awards.

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Tech-Trans helps Team NASA in Moscow.

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Space Hall of Fame honors cardiac device.

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NASA recognizes contractors with George M. Low Awards

Barrios Technology among winners of NASA's highest quality award

Houston's own Barrios Technology, Inc. was one of four NASA contractor companies to receive a 1999 George M. Low Award, the agency's highest honor for quality and technical performance and the nation's oldest award for organizational quality.

The awards were presented by NASA Administrator Daniel S. Goldin at the 14th annual NASA Continual Improvement and Reinvention Conference on Quality Management held in Alexandria, Va., in April.

"These companies demonstrate outstanding management and customer service that have proven profitable to NASA and the nation's industries," said Goldin.

Barrios Technology, recipient for small business product category, averaged 96 percent award fees on all its prime contracts and demonstrated outstanding schedule performance at a cost less than the maximum allowable under the contract. The company provides engineering, information systems technology and space operations training to NASA.

"Winning the NASA George M. Low Award is the highest recognition Barrios could receive for the quality and productivity achievements of all our employees," said Sandra Johnson, president of the company. "We are honored to receive the award, which recognizes not only the outstanding accomplishments of our employees but also the quality of work performed at the NASA Johnson Space Center."

Other 1999 Low Award recipients include: Kay and Associates, Edwards, CA, small-business service; Raytheon Support Services Company, Annapolis Junction, MD, large-business service category; and Thiokol Space Operations, Brigham City, UT, for large-business product.

Also at the conference…

The Continual Improvement and Reinvention Conference is also a forum to share best practices and lessons learned from quality management initiatives. Presentations are selected from center nominations and this year's program included two speakers from JSC.

Linda Bromley, avionics test and analysis branch chief, presented a case history on the development of the Early Communication System. Positioned as a fast-track, criticality 3 system, Bromley's team had only two years, half the usual time required, to develop and deliver the S-band communication system for ISS. Methods for ensuring on-time delivery of the system as well as its spin-off benefits were the basis for her presentation.

JSC Human Resources Representative Brady Pyle was a co-presenter with Chris Carlson from KSC on Goal Performance Evaluation System. GPES is an interactive, Web-based software application developed by KSC that links employee performance plans and accomplishments to organizational strategic plans. Pyle and Carlson explained the design and development process for GPES as well as how it was deployed at both centers.

These individuals and their teams received plaques in recognition of their contributions to NASA continual improvement and reinvention efforts in 1998. ■

Sandra Johnson, president of Barrios Technology, Inc., accepts George M. Low Award from NASA Administrator Daniel Goldin.

Small Disadvantaged Business Contractor of the Year Award

Futron, Muñiz Engineering receive JSC honor

Futron Corp. and Muñiz Engineering, Inc. were recently named JSC's 1999 Small Disadvantaged Business Contractors of the Year. Randy Gish, director of the Business Management Office at JSC, presented the awards during the annual Government Procurement Connections '99 Awards and Appreciation Luncheon May 4 at the George R. Brown Convention Center.

"We are energized by this recognition," said Futron President Joseph Fuller Jr., "and we look forward to continued success from our supportive customers and dedicated employees."

Ed Muñiz, president of Muñiz Engineering, Inc., commented, "All of the credit for this award belongs to the employees. NASA recognized us because it is highly satisfied with the high quality work the people perform on a day-to-day basis. Each of them has every reason in the world to be extremely proud of their accomplishments."

Ed Muñiz, president, Muñiz Engineering, Inc.

Futron is a technology management consulting firm that offers five signature services: space market forecasting, risk management, aerospace safety and dependability, information technology, and communications and outreach. Since its inception in 1986, the firm has designed and implemented innovative solutions for its governmental and commercial customers.

Futron employs nearly 100 engineers, analysts, economists, and computer consultants. The company is headquartered in Bethesda, MD, and has offices in Washington D.C. and Houston.

Since 1992, Futron's Houston Division has met JSC's complex information technology, risk management, and communications requirements. The company has implemented software applications that assist JSC's Space and Life Sciences organization with project and resource management. Several innovative Intranet applications are now in development that will optimize how JSC accesses and manipulates complex business and technical information.

The Houston Division provides other services to JSC including space station electronic field trips, risk management for space shuttle and space station programs, and communications and education products.

Futron employees, below from left, Kelly Moses, Futron President Joe Fuller, JoElla Delheimer, Lorraine Holifield, Deborah Washington, Kevin Repa and David Yeung celebrate after the company was named JSC's Small Disadvantaged Business Contractor of the Year.

Muñiz Engineering, Inc. is an 8(a) certified small disadvantaged business currently providing technical, management and administrative services as a prime contractor to NASA and the Department of Defense and as subcontractor to several aerospace and commercial companies. The company has a unique and broad experience base in program management, engineering, system safety, information systems, training, and manned and unmanned space mission operations.

The company provides configuration management and flight experiment support to the Crew and Thermal Systems Division, and software support to the Automation, Robotics, and Simulation Division. It was recently awarded contracts to provide technical and administrative services to the Space Station Program Office and information technology support services to the Information Systems Directorate and Space Station Program Office. ■

COMMUNITY NEWS

Space walk: *students create journey through time*

By Nicole Cloutier

After nearly two years of searching, clipping, cutting and pasting, six students from League City Intermediate School are now showing off their expansive timeline of space exploration milestones.

The "Space Exploration Timeline" is a 355-foot-long list of dates and anniversaries spanning from 4,000 BC into the 21st century. It includes photos of the first recorded reference to space on the Great Wall of China in 221 BC and proceeds through birth dates of native Texas astronauts such as Rick Husband and Bernard Harris to anticipated Mars habitation beyond 2012. An immense collection, the timeline runs down both sides of hallways on two floors and includes nearly 700 visuals, photos and trivia questions.

"The project really took off," said Texas History teacher Darla Andrus. She initiated creation of the timeline after a visit to the "Electronic Classroom" at JSC, which provides teachers with ideas for space education.

"I was happy to see the students get excited about it," continued Andrus. "My fear is that children in the Bay Area aren't really aware of the developments happening right here at JSC. I want to be one of those teachers who is making sure the students understand that history is being made, right here, right now."

Some of the team members were already big fans of the space program, but their work on the timeline further inspired them.

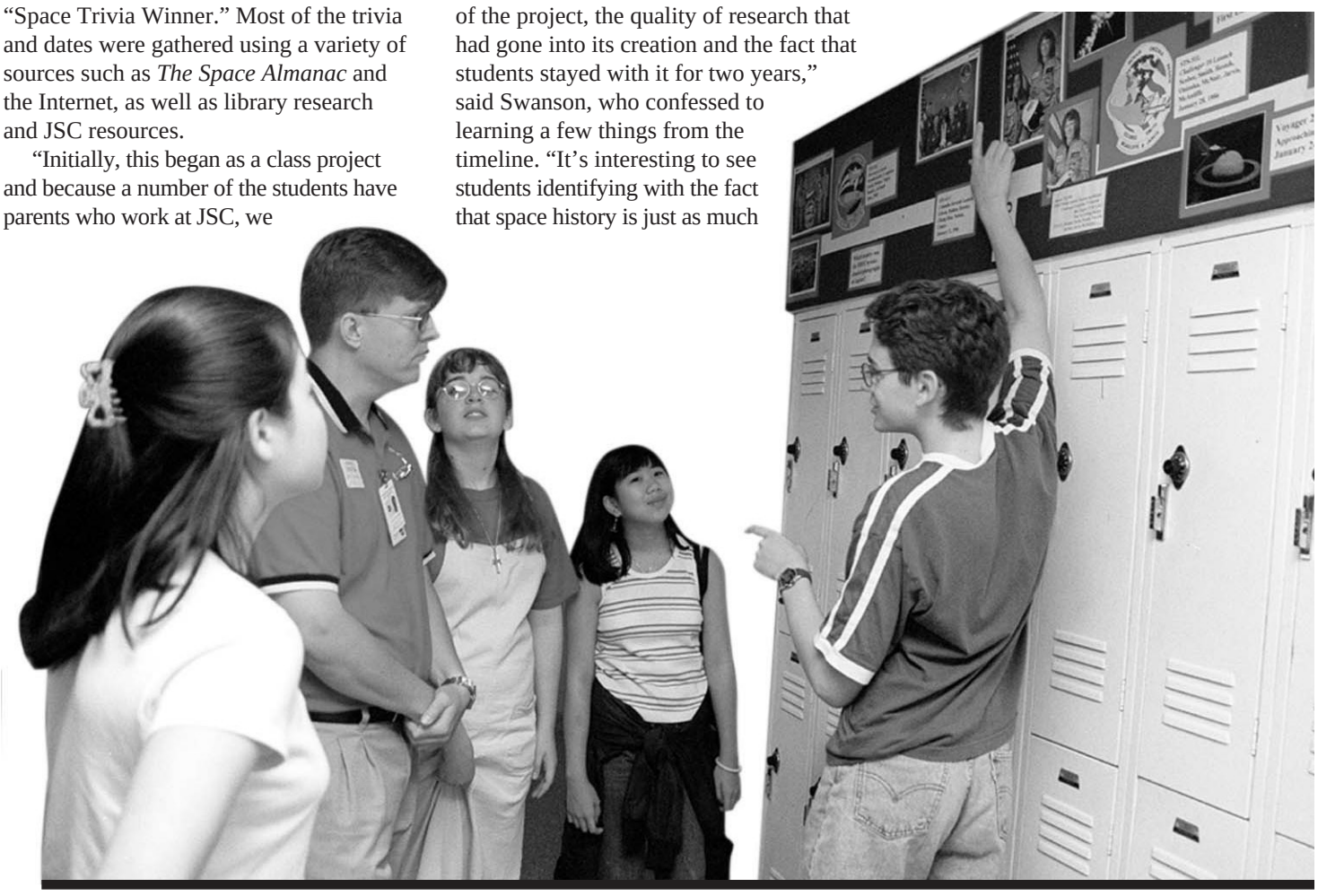
"I've always admired the people who do this work everyday," said Nikki Fox, pointing to the many faces and icons along the space timeline. Fox is an eighth grader who helped with the project and now wants to be an astronaut. "I look at the timeline every single day and I want to teach the other students what I've learned from it."

To make the timeline more educational and involve other students, the team included trivia questions throughout the timeline and planned a contest to name a "Space Trivia Winner." Most of the trivia and dates were gathered using a variety of sources such as *The Space Almanac* and the Internet, as well as library research and JSC resources.

"Initially, this began as a class project and because a number of the students have parents who work at JSC, we were able to get additional materials that way," added Andrus.

Glen Swanson, historian for JSC's Information Science Branch, received a guided tour of the timeline by the students in May.

"I was really impressed by the scope of the project, the quality of research that had gone into its creation and the fact that students stayed with it for two years," said Swanson, who confessed to learning a few things from the timeline. "It's interesting to see students identifying with the fact that space history is just as much a part of our heritage as other areas of historical study. Especially with the coming of the new millennium, they can look back, beyond this past century, and see how far we've moved forward in the exploration of space." ■



JSC Phoro S99-05527 by Chris Rupert

League City Intermediate School timeline team members guide JSC Historian Glen Swanson through their Space Exploration Timeline. Shown, from left, are: Nan Li, Swanson, Heather Perkins, Linda Diep, and Michael Perkins. Not pictured: Nikki Fox and Adrian Clements who also contributed to the timeline project.

AMERICAN HERITAGE WEEK

TEAM NASA

Facing the New Millennium–Together!

JSC civil service and contractor partners will host the 6th annual "American Heritage Week" observance June 28 - July 2, 1999. What started as a one-day celebration presented by JSC civil servant employees in 1994 is now a week-long celebration presented by Team NASA. American Heritage Week celebrates the similarities that bring individual members of Team NASA together, while simultaneously celebrating the differences through which we learn and grow together.

A host of educational and entertaining performances and exhibits is scheduled throughout the week in JSC's Bldg. 3 cafeteria. Once again, a grand finale at the Gilruth Center on July 1 will include free refreshments, art exhibits, and simultaneous cultural performances in both the ballroom and gym. During the week, and especially during the parade and grand finale, employees are encouraged to wear clothing depicting their heritage.

Again this year, we will have the children's art activity. Children ages 2 - 15 may submit entries depicting the theme, "Team NASA: Facing the New Millennium – Together!" Entries will be divided into three age categories (ages 2 - 6, 7 - 10, and 11 - 15). A panel of judges will select winners. A flyer to be used in this activity will be distributed to JSC civil service and contractor personnel soon.

Volunteers are needed for a variety of tasks on all committees. The exhibits committee needs volunteers to set up, staff, and remove exhibits throughout the week, and is also encouraging employees to bring NASA Apollo era memorabilia to be displayed. The publicity committee needs volunteers from each directorate and contractor company to help distribute information publicizing the event. The entertainment committee needs volunteers to help with the many entertainers who will perform during the week and at the grand finale. ■

For details or to volunteer to assist any committee, employees may call the following committee chairs…

Committee	Chairpersons	Extension
Parade	Estella Gillette	30600
Exhibits	Jessie Hendrick/Georgia Way	31203/30595
Publicity	Marilyn Donald	34145
Entertainment	Patricia Burke	30606
Refreshments	Lupita Armendariz	30604
Town Criers	June Larsen	36080
Children's Activity	Paula Scheffman	30600
Team NASA	Dee Williams	42413

JSC employees honored at public service recognition banquet

Three JSC employees were among those recognized May 5 during a luncheon at Brady's Landing restaurant. They were cited for their accomplishments and performance at work and in the community through volunteer and outreach activities.

JSC Photo S99-05530

Al Crews

JSC Photo S99-05529

Melody Nation

The Houston Federal Executive Board and Federal Business Association honored the employees at the annual luncheon along with workers from other local federal agencies. Bob Nicholas of KPRC Channel 2 provided an entertaining commentary as master of ceremonies.

Houston Federal Executive Board President Dr. Douglas Lipka presented the Community Partnership Award to Melody Nation of the Center Operations Directorate-Partnering for Land Use-Agriculture Science Center Laboratory. Assisting him with the awards presentation was Suzan Rush, Houston FBA chair, who presented Al Crews of the Flight Crew Operations Directorate his award as the winner in the Length of Service category for his 49 years of federal service.

Tom Erkenswick of the Mission Operations Directorate received a certificate recognizing his nomination in the Professional/Scientific category.

The FBA received 18 nominations from 10 different agencies. ■

JSC Photo S99-05528

Tom Erkenswick

Moscow assignment offers Team NASA members excitement, opportunity

Russian dolls with porcelain heads and hands are among the many attractive souvenirs available to shoppers in Moscow.

By John Ira Petty

There are some differences, cultural and professional. Moscow traffic can be frightening and Russian colleagues in the International Space Station Program may have their own ideas about how to work to achieve the common goal.

But those differences make Russia an exciting and professionally rewarding assignment for NASA and contractor personnel.

Mike Baker, JSC assistant director for Human Space Flight Programs in Russia (HSFR), is head of NASA activities in the country. His deputy, Tom Cremins, occupies Baker's old office on the ninth floor of Bldg. 1, providing an effective liaison with JSC officials and illustrating the importance of Russia to NASA leadership.

Baker has been in Russia in his present job since January 1998. "Basically," he said, "anything that has to do with Russia and JSC comes under my organization. This is like a mini-JSC … in terms of the spectrum of things we deal with."

Baker is a Navy captain and astronaut with four space flights to his credit. The most recent was STS-81 in January 1997, the fifth mission to the Russian space station Mir. During Phase I of the ISS Program, he also served as director of operations, Russia, an astronaut position at the Star City training facility outside Moscow.

Like the ISS Program and the cooperation between the U.S. and Russian space programs, the NASA organization in Russia has matured. There is better communication and cooperation among various NASA and contractor elements in Russia and better coordination in their support from the United States.

The number of NASA and contractor people in Russia varies, depending on what is going on. Recently about 130 Americans were assigned to jobs in and around Moscow. The number had grown substantially with the influx of people for the Joint Progress Review and the General Design Review in April, then declined to more normal levels.

Dave Lengyle is Baker's deputy in Moscow, as well as being head of the Moscow Technical Liaison Office, which follows Russian hardware being built for the ISS. That is one of four major offices in Moscow Baker identifies as part of HSFR.

The others are a business and logistics office under Lee Pagel, the Houston Support Group at Mission Control Center Moscow (MCCM) under an operations lead, recently Patti Moore, and the crew training organization at Star City headed by astronaut Joe Edwards, filling Baker's old job. Edwards was pilot of STS-89, the eighth shuttle Mir docking, in January 1998.

"Our NASA function here is to act as a liaison with our Russian counterparts in human space flight," Baker said.

That's the bottom line, and Baker does a lot of it himself. He has built on relationships established during his stay at Star City and MCCM. He tries to visit Russian counterparts in various Russian organizations at least once a week to further develop those ties.

It's hard to overestimate the importance of personal relationships in Russia. Ernie R. Edge Jr., a facilities engineer at MCCM who works for United Space Alliance is responsible for seeing that U.S. flight controllers at MCCM have the hardware they need to do their jobs. He recounted earlier experiences while he was on his third tour of duty in Moscow.

"When I first got here, you found out pretty quickly that the Russians didn't want to work with you professionally until they knew you on some type of personal level," he said. Tea was one tool.

After arriving at work at MCCM on that first tour, Edge and colleagues typically would spend an hour or so drinking tea with Russian counterparts just to chat, to get to know one another. What seemed then a waste of time turned out to be valuable trust-building that helped him do his job. They still get together occasionally to keep relationships current.

Language and cultural differences are challenges off the job, too. Anyone who wants to draw maximum benefit from a tour in Russia has to make an effort to learn some Russian. The food is different, although for those open to new experiences that can be a plus. Few Americans have cars, but the Moscow Metro system makes it easy and inexpensive to get around. "I wish we had something like it in Houston," Edge said.

Moore, the MCCM operations lead, was on her seventh trip to Moscow. Her longest stay was four months during Phase I. She still enjoys being here.

"You learn a lot living in a different culture – it broadens your whole life experience." Professionally, "I like working with Russians. I like doing jobs that I feel are important, and I feel that this is important. I get a lot of personal satisfaction out of helping this interface go well," Moore said.

Baker said he believes there will be opportunities for NASA and contractor personnel in Russia for a long time to come. "That's one reason we called it HSFR. Hopefully, it reflects other human space flight programs we and Russia can do together – eventually, perhaps, the moon and Mars." ■

Tech-Trans helps Team NASA people function, feel at home in Moscow

NASA and contractor employees in Russia have a lot of dealings with Tech-Trans International. It provides housing, transportation and translation services.

Its people also provide individual aid and comfort that go beyond the letter of TTI's NASA contract – things like local knowledge and advice, and even lending a bewildered new arrival a few rubles for the required passport registration fee at the Volga hotel/apartments.

Over the past 18 months or so, the NASA/contractor presence in Moscow has grown from a dozen leased apartments at the Volga to 40. Eight vans in Moscow and half a dozen in Star City move people around.

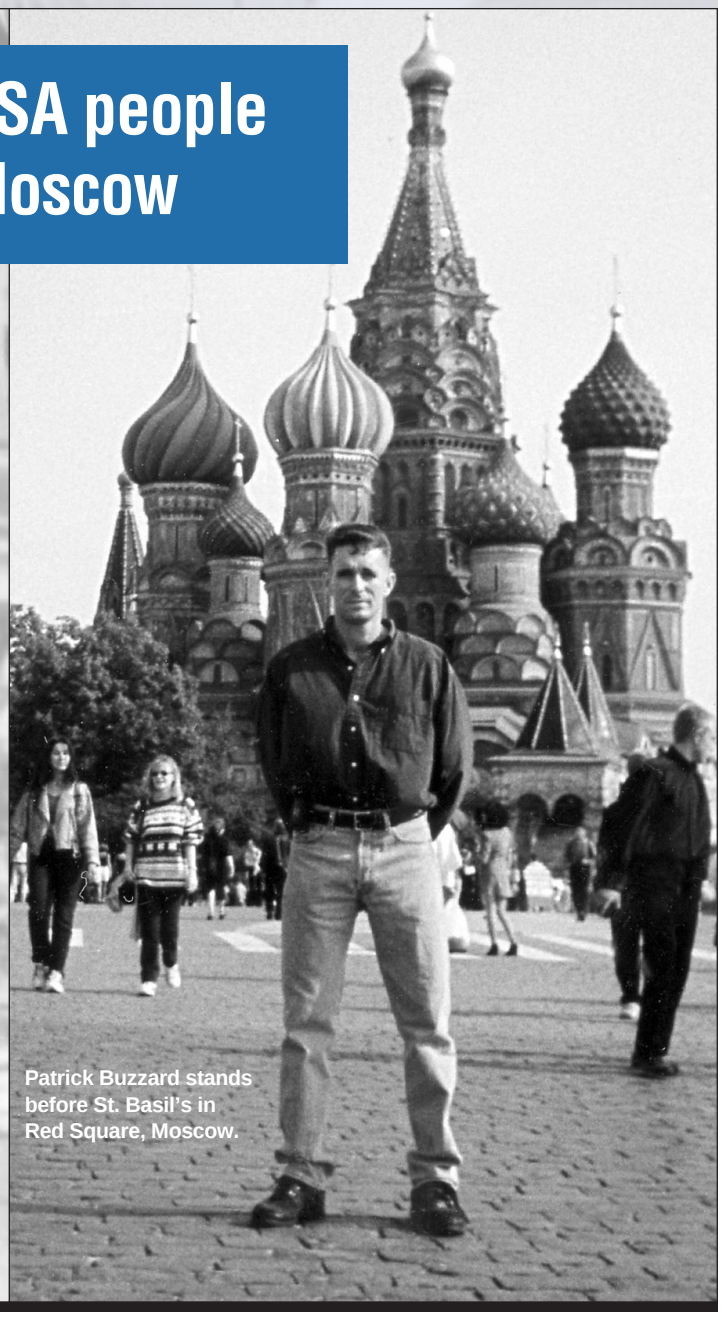
Patrick Buzzard is a TTI supervisor and one of two Americans from that company with the NASA operation in Russia. The other U.S. TTI supervisor in Moscow is Jane D. Williams. Natasha Doroshenko manages TTI operations in Star City, about 40 miles from Moscow.

Alex Krukhov is TTI vice president of operations for Russia. His responsibilities include the more than 40 Russian TTI employees, and a pool of contractor employees.

Buzzard believes further growth in the U.S. presence in Russia is likely as the International Space Station Program gains momentum.

"Being in Moscow," said Buzzard, who spent four years at the University of Houston, four years in the Marine Corps and then earned an MBA at Texas A&M before joining TTI last year, "is something I never dreamed I'd be doing a few years ago. It's good to see a peace dividend, to see us working together."

Buzzard came to Moscow last summer and continues Russian language studies begun in Houston. ■



Patrick Buzzard stands before St. Basil's in Red Square, Moscow.

Cardiac device inducted into Space Hall of Fame

Money invested in space research continues to result in technological spin-offs that benefit people here on Earth. Air bag sensors, dental x-rays, heart pumps, and a portable heart-shocking device are among the latest technologies originally developed for space that are now used in everyday life.

The tiny heart pump, developed by NASA, was inducted into the Space Technology Hall of Fame by the United States Space Foundation during a special awards reception held recently in Colorado Springs, Colo. Receiving Hall of Fame medals for their role in the pump development were Dr. Michael DeBakey, chancellor emeritus of the Baylor College of Medicine and director of the DeBakey Heart Center at Baylor and the Methodist Hospital; Bernard Rosenbaum of JSC's Engineering Directorate; retired JSC employees James Akkerman, Richard Bozeman Jr., and Paul Svejkovsky; former JSC employee Gregory Aber; Dr. Cetin Kiris and Dr. Dochan Kwak of Ames Research Center; James Bacak of Lockheed Engineering and Sciences Co.; Dr. George Noon and Dr. H. David Short of the Baylor College of Medicine; and George Damm and Robert Benkowski, formerly with Baylor College of Medicine.

The U. S. Space Foundation also awarded an individual Space Technology Hall of Fame medal to Dallas Anderson, president of MicroMed Technology, for his contribution to commercializing the pump.

"The blood pump project is a good example of NASA's Technology Transfer and Commercialization Program," said Robert Dotts, assistant director of JSC's Technology Transfer and Commercialization Office. "Technology developed by NASA for the space program is used in a cooperative activity between NASA and a university medical center with NASA patents on the resulting technology. NASA's marketing activity culminates in a license to a local startup company that is successful in developing the device and its market, thus enabling improvement in the quality of and the saving of many lives."

JSC Director George Abbey submitted the nomination for the award in recognition of using NASA-developed technology for commercial applications. The ingenuity of the NASA-contractor design team and such tools as the Computational Fluid Dynamic (CFD) software developed to help avoid cavitation in the shuttle's turbopumps were used to help solve cavitation and flow stagnation problems that damage sensitive blood cells and allow clot formations in competing devices.

The pump, called the DeBakey VAD™ (ventricular assist device), is no bigger than two AA batteries, one-tenth the size of portable heart-assist devices now on the market.

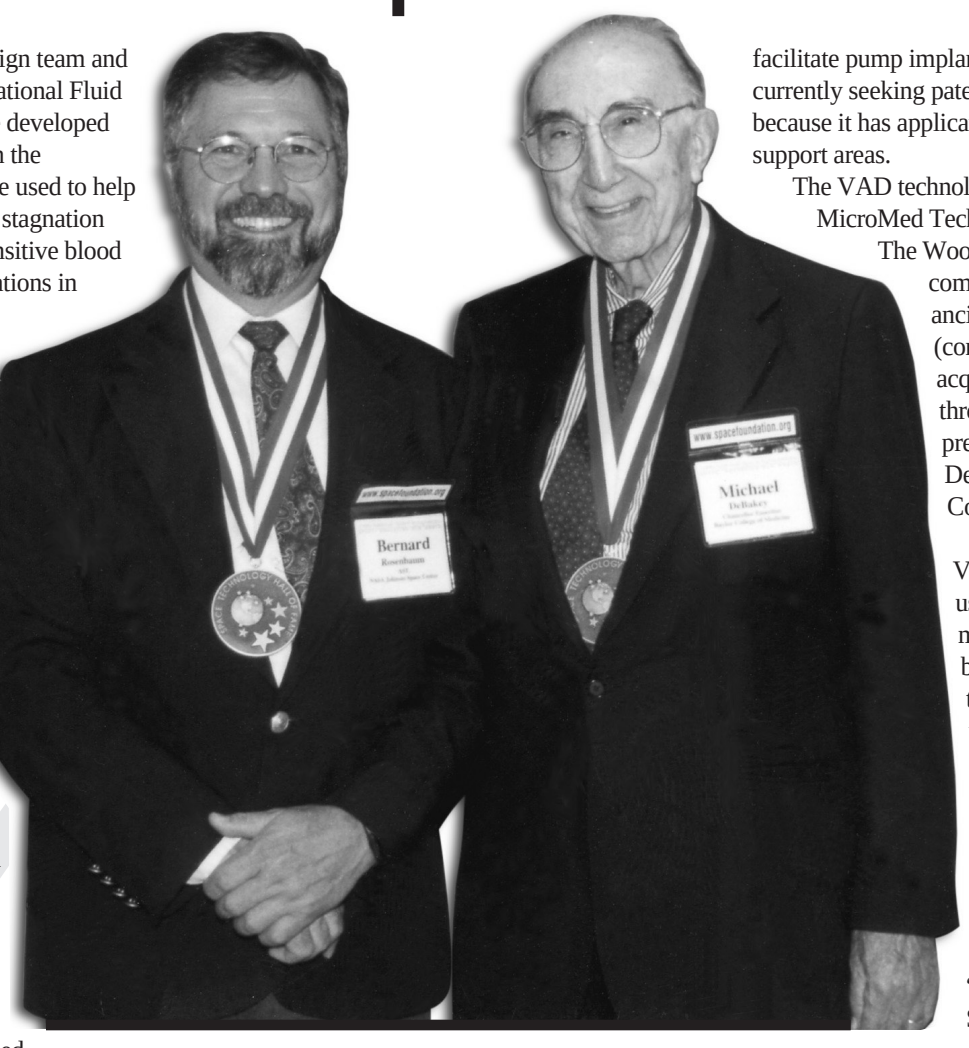
The task of developing the pump proved rather challenging, requiring a broad range of skills from both the NASA team and DeBakey and his medical staff at the Baylor College of Medicine, culminating in the successful implementations of the VAD. NASA engineers developed designs for both the electrical and the hydrodynamics aspects of the pump, motor, and the control electronics. Of notable importance, the integrated assembly has only the single moving part (rotor) and has no shaft seals to cause leakage or wear-out problems. Additionally, the pump's small size is well suited for implantation, including into children.

The fluid pumping aspect of the VAD proved to be only the first part of the challenge; the next was solving the two-part problem that had long plagued the medical community, that of damage to delicate blood cells during pumping (hemolysis) and the formation of blood clots (thrombus) in mechanical parts. This is where the CFD modeling software initially developed for the shuttle's turbopumps became a very useful design tool.

Iterative CFD runs could quickly model blood flow patterns in specific areas of the pump. This was particularly true of the small nooks and crannies of the bearing cavities where slight stagnant flow could lead to thrombus formation. CFD also helped identify areas of high shear and unstable flow that could contribute to cell damage and to evaluate if proposed design solutions had more favorable flow patterns. NASA design skills also were used to develop the attachment technique that permitted the pump outflow cannula to be a leak-free yet separable connection to facilitate pump implantation. NASA is currently seeking patent status on this design because it has applications in other medical support areas.

The VAD technology was licensed to MicroMed Technology, Inc. based in The Woodlands, Texas. The company developed the ancillary support systems (controller and data acquisition systems) through a series of preclinical trials with DeBakey at Baylor College of Medicine.

The assistance the VAD provides will be used in three distinct modes. Initially it will be used as a "bridge to transplant" – as a temporary device to help the patient survive while waiting for a suitable transplant organ to become available. A second beneficial application is as a "bridge to recovery." Surgeons have discovered that with some hearts, the assistance supplied by the pump is sufficient to allow the natural heart to repair itself; in which case, the pump can later be removed. The third anticipated application is as a permanent implant. ■



Hall of Fame medal recipients Bernard Rosenbaum, left, and Dr. Michael DeBakey.

VAD UPDATE — Following approval by the Freiburg (Germany) ethics commission to begin clinical trials, the VAD was, for the first time, on Nov. 13, 1998, successfully implanted in the chest of a 56-year-old patient at the German Heart Institute in Berlin by heart surgeons monitored by Dr. Michael DeBakey. Ten patients have been implanted to date; five of them have already gone to heart transplant.

Flores is NASA's medical front line in Moscow

It's a little like being a country doctor, but there are some pretty significant differences. Dr. Jose F. Flores, NASA support physician – Russia, has to be not only a physician but also a medical diplomat and medical counselor, among other things.

Flores is trained in internal medicine, endocrinology and aerospace medicine. He is the medical front line – his job is to provide medical care for the NASA and contractor people assigned to Russia and their dependents.

He also works 30 hours a week (three 10-hour shifts) at the International Medical Clinic in Moscow, a modern facility where many westerners seek treatment. In addition to western physicians, it has a Russian medical staff, and also treats Russians.

Mike Baker, JSC assistant director for Human Space Flight Programs in Russia, heads NASA activities in that country. He said Flores' work at the IMC is essentially a tradeoff. Flores works at the IMC in return for the facilities being made available to NASA and contractor personnel at a reduced price. NASA people must pay for its services, but can claim insurance reimbursement.

One advantage of his work at the IMC is simply being wired in to the local medical community. "You learn how to get tests done here, how to get X-rays - where things can be sent. That way, when we do have a more significant problem with a NASA person, I've already made my connections."

Dr. Jose F. Flores

Flores, who works for NASA under a Kelsey-Seybold Clinic contract, sees a lot of NASA/contractor patients at the Volga, an apartment/hotel north of downtown Moscow where the agency leases 40 units. His hours there are irregular.

The colds and flu can be dealt with at the apartment. "If things are a little more serious, I ask them to come to the IMC."

Those more complex medical problems, problems that might be handled reasonably easily in the United States, can be more challenging in Moscow.

"Say you have a patient come in with a head injury on a Saturday night," Flores said. "Here you might have to figure out how you can get a CAT scan done – so it's not as simple. You have to learn to deal with the Russian medical system." Diplomacy is required.

So too is greater wariness. "I think you tend to be a little more cautious here. It's a much bigger problem if you need a hospital." That could involve an admission to a Russian hospital, observation at the IMC or a medical evacuation out of Russia, he said.

In a Russian hospital, control of the patient technically belongs to the staff physicians. That could be a difficult situation for a patient accustomed to western doctors, medicines and medical equipment.

"When I came to Russia, I didn't expect to see the range of medical problems I've encountered. Most are common, some are funny and some are complex and life-threatening," he said.

Like the country doctor, "You feel like you're it - the one who has to deal with a particular medical problem."

In Moscow it is more difficult than in the west to refer a patient to a medical specialist. "I often call back to Houston to talk to Kelsey-Seybold specialists or to JSC Flight Medicine to discuss more complex problems," Flores said. "Sometimes I call my old medical school and residency buddies."

Flores has been in Moscow about six months. His contract is for a year, but it is likely that he will stay longer. "It's a fascinating place," he said, "and a fascinating place to practice medicine." ■

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 8 4

The five science instruments to fly aboard the Edwin P. Hubble Space Telescope have completed acceptance testing at NASA's Goddard Space Flight Center in Greenbelt, MD.

The acceptance represents completion of the most critical of the final checkout steps for the instruments before they are assembled aboard the observatory.

1 9 8 9

Voyager 2, a 12-year veteran of three planets and 39 moons, has parted the curtains for its final hurrah 2.7 billion miles from Earth.

On Monday, the spacecraft began the 125-day observatory phase of its encounter with Neptune, at present the most distant planet from the sun. Voyager 2 is now regularly snapping about 50 photographs of Neptune a day as it steadily looms larger. The probe has assumed center stage among spacecraft being tracked by NASA's Deep Space Network, at the top of that network's priority list. Its final bow will come on August 24 when it dips to within 3,000 miles of Neptune's clouds and then passes 24,000 miles from Triton, Neptune's major moon.

1 9 9 4

Preparations of *Columbia* for an early July launch on STS-65 have gone so smoothly the oldest shuttle was rolled over to KSC's Vehicle Assembly Bldg. slightly ahead of schedule Wednesday.

Columbia will be hoisted vertical and attached to the solid rockets and fuel tank, then moved to Launch Pad 39A Wednesday after a week of work in the VAB.

On June 21, the STS-65 crew – Commander Bob Cabana; Pilot Jim Halsell; Payload Commander Rick Hieb; Mission Specialists Leroy Chiao, Don Thomas and Carl Walz; and Japanese Payload Specialist Chiaki Mukai – will travel to KSC to take part in a dress rehearsal launch countdown aboard *Columbia.*

KSC Photo KSC-98PC-630

KSC Railroad Engine #2, a GM EMD MP15, hauls a set of 10 Gaseous Helium Transport Cars east of Launch Pad 39A on May 19, 1998, where the Space Shuttle *Discovery* awaits liftoff for its STS-91 mission.

Gulf Coast Railroad Museum acquires unique piece of space history

Visitors to the Gulf Coast Railroad Museum in Houston will get a chance to see a unique piece of American railroad and aerospace history: a Gaseous Helium Transport Car (GHTC) that was once used at the Kennedy Space Center.

The vision of preserving the GHTC, one of about 130 tank cars used until April of last year at KSC, was that of astronaut and rail fan Mario Runco, who worked with officials of the Bureau of Land Management who owned the cars, KSC, the museum, and two railroads, Union Pacific and Burlington Northern Santa Fe, to secure it and have it transported to the museum. Almost a year to the day later from the start of this project, the GHTC arrived in Houston and is now on display.

KSC operates a railway system that stages materials on site at KSC for use on the space shuttle. The primary items transported by the KSC Railroad are the solid rocket booster segments which are shipped by rail from Utah. The booster segment cars are delivered to a rail yard just north of KSC. From there, the KSC Railroad picks up the cars and delivers them to the Rotation Processing and Storage Facility for initial processing before they are ultimately delivered to the Vehicle Assembly Bldg. for booster stacking.

For many years, the KSC Railroad would also pick up the helium cars that were delivered to the same rail yard. The tank cars were used to transport helium in gaseous form at 3,800 psi from the site of the nation's major helium production facility owned and operated by the BLM in Amarillo, Texas, to Florida. Helium is used on the shuttle's main engines for safing purges and valve actuation and on the shuttle's Orbital Maneuvering System engines for propellant tank pressurization.

The KSC Railroad would stage the tank cars at the Helium Compression Facility located near Launch Pads 39A and B where the gas was offloaded and compressed to the required 6,000 psi.

From there, the gas is sent via pipeline to the launch pads. As the cars were emptied, they were sent back to Amarillo to be refilled; however, in the government's effort to privatize helium operations, the BLM would find itself out of the helium business and would no longer have need of its fleet of GHTCs.

With the closing of the BLM helium operation and as a cost-saving measure, a decision was made to have helium delivered to KSC in liquid form. The Helium Compression Facility at KSC was subsequently modified to accommodate liquid helium and is now known as the Helium Conversion and Compression Facility. Since April of last year, liquid helium has been delivered there by tanker truck instead of in the gaseous state by rail. One liquid tanker truck, about 11,000 gallons, is equivalent to about four GHTCs or six over-the-road gaseous trailers, about 1 million standard cubic feet.

KSC has retained about 40 GHTCs for space shuttle use and to transport gaseous helium from the HCCF to Cape Canaveral Air Force Station's Titan launch complex for similar use on Titan rockets. The rest of the cars were sent back to Amarillo where they were destined to be sold for scrap and cut up.

"I thought that having one of these helium transport cars donated to a museum would help preserve a unique piece of American railroad history especially in light of the cars' service within the nation's space program," said Runco.

With the help of KSC Director Roy Bridges, KSC Logistics and High Pressure Propellants Engineer Tom Elam, KSC Railroad Supervisor Harold Tucker, Gulf Coast Railroad Museum Director David Taveirne, BLM Helium Operations Managers Tim Spisak and Bob Jackson, BNSF Amarillo Trainmaster Ross Hayward and Union Pacific's Administration Manager Elaine Myers, Southern Region Vice President Steve Barkley, Train Operations Manager Bill Forsythe and Customer Service Manager Larry Lake, Runco was able to have one of the cars transported to Houston and placed on permanent loan to the museum.

The Gulf Coast Railroad Museum is located at 7390 Mesa Drive off the northeast corner of the I-610 Loop. From the I-610 Loop, take U.S. 90 (McCarty) east about 1 mile to Mesa Drive. Turning left onto Mesa Drive and going about 1 mile will get you to the museum which is located on the right side of the street just past the Railwood sign. The museum is open weekends throughout the summer from 11 a.m. to 4 p.m. on Saturdays and from 1 p.m. to 4 p.m. on Sundays. ■

JSC Photo S99-05261 by James Blair

Astronaut Mario Runco Jr. and Gulf Coast Railroad Museum Director David Taveirne climb aboard the recently acquired Gaseous Helium Transport Car (MHAX 1237) at the Gulf Coast Railroad Museum.

> *'We at the museum are thrilled to help preserve this unique historical car. It adds a piece to our quest to educate the public on railroad history and preservation.'*
>
> – David Taveirne

Secretaries earn high honors

JSC Photo S99-05538 by Mark Sowa

Desiree Patterson

JSC Photo S99e05258 by Robert Markowitz

Supricia Franklin

Supricia Franklin of the International Space Station Program Office and Desiree Patterson of the Safety, Reliability, and Quality Assurance Directorate recently received the Marilyn J. Bockting Secretarial Excellence Award in recognition of their superior efforts.

Franklin was recognized in March for her outstanding skills and can-do attitude. The secretary for the chief of staff, manager, Management Operations, and assistant secretary for the manager, International Space Station Program, she has supported the entire program staff single-handedly for more than a month and handled the daily pressures of a dynamic office with a sense of order and professionalism. She provides great leadership, is instrumental in all areas of the program, and has a great rapport with all secretaries throughout the program, center, and agency.

The secretary for the new Space Station Division, Patterson was recognized in April for her exceptional dedication and loyalty. She has assumed the lead secretarial responsibilities for setting up this new division with the greatest of skill and organizational excellence. She has developed an extraordinary working relationship with management and engineering personnel as well as with her own peer group.

Patterson is particularly competent in the conduct of daily business, which includes a high volume of correspondence. Her proofreading and checking of details are the best. Her excellent secretarial skills and initiative have made her an asset to the division staff, and she has contributed a great deal to the successful management operations within the division.

The Bockting Secretarial Excellence Award was established to recognize and honor secretaries who have made exceptional contributions to the effective operation of JSC through professional competence and personal dedication. ■

'Bring Your Children to Work' date set

On June 11, JSC's Equal Opportunity Programs Office and Team NASA will host "Bring Your Children to Work" Day for approximately 1,400 JSC civil service, on-site, and off-site contractor employees and their children, ages 9 - 15, at the Gilruth Center in both the ballroom and the old gym.

According to Estella Hernandez Gillette, director of Equal Opportunity Programs, "'Bring Your Children to Work' Day is an opportunity for students to learn about NASA and the variety of careers available to students interested in space." Planned activities include demonstrations on TransHab and biotechnology.

The EOPO requests that each parent/sponsor bring a maximum of two students. The students do not have to be badged individually, but need to be escorted at all times by either a parent or sponsor. Identical morning and afternoon sessions will be offered. Morning session check-in is at 8:30 a.m., with the program beginning at 9 a.m. and ending at 10:40 a.m. Afternoon session check-in is at 12:30 p.m., with the program beginning at 1 p.m. and ending at 2:40 p.m.

Parents/sponsors must remain with their students during the program. When not attending the program, students should remain in their parent's/sponsor's primary work area to observe and share in their normal business activities.

As part of the observance, both JSC cafeterias (Bldgs. 3 and 11) will offer a $1.99 lunch special (drinks are extra).

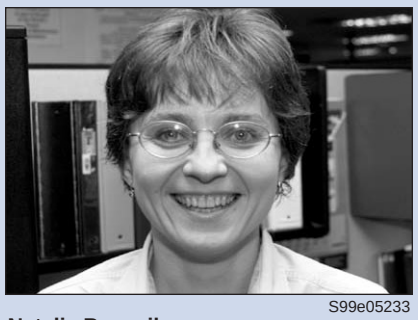
Parents should focus their activities on the official observance at the Gilruth and within their own primary work area. Parents/sponsors should be mindful of both security and safety policies while the students are visiting JSC.

Civil service parents/sponsors should register their students by submitting a registration form to the EOPO, Code AJ. Registration forms are available on the back of the JSC announcement for "Bring Your Children to Work" Day. Contractor parents/sponsors should contact their companies' point-of-contact for "Bring Your Children to Work" Day. ■

For details, call Jessie Hendrick at (281) 483-1203.

Faces in the crowd

How are we doing with the International Space Station?



S99e05233

Natalia Banasik
USA Technical Specialist

"I think we are doing excellent. I'm from Russia and sometimes I still can't believe it's happening. The United States of America and Russia went so fast from being adversaries on opposite sides of the Iron Curtain to being partners in the space program. And it is very exciting to work together and to appreciate our joint efforts in space exploration."

S99e05263

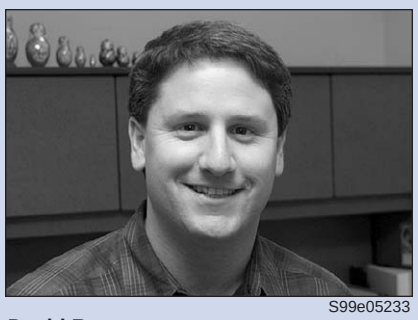
Joe Nixon
NASA Equipment Management Representative

"I think we are doing well. I am a disabled veteran with a prosthetic limb made from a steel material developed from work performed on NASA space projects, so I'm particularly excited about future technology developments station will bring."

S99e05237

Shayla Taylor
NASA Computer Systems Engineer

"I'm really glad to have the space station up in orbit. It's something we've all worked for. I remember working on it back in the 1980s, so it's really exciting to finally see it flying."



S99e05233

David Rose
United Space Alliance
Project Leader – Space Station Training

"I'm a firm believer that all of the future programs are big and complex and beyond the capabilities of a single country. So bringing the space program into an era of doing business on a regular basis in a multinational environment is a critical goal for NASA in building and operating ISS."

JSC Photos by Chris Rupert

TICKET WINDOW

Exchange Store hours
Monday-Friday
Bldg. 3 7 a.m.-4 p.m.
Bldg. 11 9 a.m.-3 p.m.

All tickets are non-refundable.

Metro tokens and value cards are available.

For more information, please call x35350.

Houston Comets tickets are now available for June 12, July 1, Aug. 6 and 18.
Quantities are limited.

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
Fiesta Texas	adult	$18.25	(child under 48")	$15.50
Astroworld One-day Admission				$21.00
Astroworld Season Pass (valid at all Texas Six Flags Theme Parks and Water World)				$54.75
Water World				$10.75
Moody Gardens (2 of 6 events)				$10.75
Sea World	adult	$27.25	child (age 3-11)	$18.25
Schlitterbahn Water Park	adult	$20.75	child (age 3-11)	$17.50
Space Center Houston (JSC civil service employees free.)	adult	$10.25	child (age 4-11)	$6.50
Space Center Houston Annual Pass				$18.75
Splash Town Water Park	adult	$14.50	(child 48" and under)	$11.50

PEOPLE on the MOVE

Key Management Assignments

Pete Beauregard was named chief, Space Flight Training Division, Mission Operations Directorate.

Promotions

Kim Dees was selected as lead, inventory management specialist, in the Property and Equipment Branch, Support Operations Division, Center Operations Directorate.

Reassignments Between Directorates

Claranita Haefner moves from the Space Shuttle Program Office to the Office of the Chief Financial Officer.

Amy Kennedy-Reynolds moves from the Public Affairs Office to the Human Resources Office.

Reassignments Between Centers

Bill Ramage moves to Marshall Space Flight Center.

Irene Bibyk moves to Goddard Space Flight Center.

Retirements

Carroll Dawson of the Office of the Chief Information Officer.

Frank Hughes of the Mission Operations Directorate.

Resignations

Anita Ramos of the Mission Operations Directorate.

Kelly Cannon of the Space Shuttle Program Office.

Kelli Graham of the Space Shuttle Program Office.

DATES & DATA

June 7

NSBE meets: The National Society of Black Engineers will meet at 6:30 p.m. June 7 at Texas Southern University, School of Technology, Rm. 316. For more information, call Kimberly Topps at (281) 280-2917.

June 8

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

June 9

IAAP meets: The Clear Lake/NASA Chapter of the International Association of Administrative Professionals (formerly Professional Secretaries International) will meet at 5:30 p.m. June 9 at Bay Oaks Country Club. Cost is $16. For details and reservations, call Tami Barbour at (281) 488-0055, x238.

Astronomy seminar: The JSC Astronomy Seminar Club will meet at noon June 9 and 16 in Bldg. 31, Rm. 248A. For more information, call Al Jackson at x35037.

Spaceland Toastmasters meet: The Spaceland Toastmasters will meet at 7 a.m. June 9 and 16 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. June 9 and 16 at Lockheed Martin, 555 Forge River Rd. For details, call Allen Prescott at (281) 282-3281 or Mark Caronna at (281) 282-4306.

Spaceteam Toastmasters meet: The Spaceteam Toastmasters will meet at 11:30 a.m. June 9 and 16 at United Space Alliance, 600 Gemini. For details, call Patricia Blackwell at (281) 282-4302.

June 10

MAES meets: The Society of Mexican-American Engineers and Scientists will meet at 11:30 a.m. June 10 in Bldg. 16, Rm. 111. For details, call George Salazar at x30162.

Airplane club meets: The Radio Control Airplane Club will meet at 7 p.m. June 10 at the Clear Lake Park building. For more information, call Bill Langdoc at x35970.

June 11

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

June 16

Scuba club meets: The Lunarfins will meet at 7:30 p.m. June 16. For details, call Mike Manering at x32618.

June 17

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

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. Contact the Gilruth Center at (281) 483-3345.

Sign up policy: All classes and athletic activities are on a first-come, first-served basis. Sign up in person at the Gilruth Center and show a yellow Gilruth or weight room badge. Classes tend to fill up two weeks in advance. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For additional information, call x33345.

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. Program is open to all employees, contractors and spouses. For details 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. Pre-registration is required. Cost is $5. Annual weight room use fee is $90. The cost for additional family members is $50.

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

Fitness program: Health-related fitness program includes a medical screening examination and a 12-week individually prescribed exercise program. For details call Larry Wier at x30301.

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 for more information.

Yoga: Stretching class of low-impact exercises designed for people of all ages and abilities in a Westernized format. Meets Thursdays 5-6 p.m. Cost is $32 for eight weeks. Call Darrell Matula, instructor, at x38520 for more information.

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.

http://www4.jsc.nasa.gov/ah/exceaa/Gilruth/Gilruth.htm

NASA BRIEFS

NASA, USDA WILL BRING SPACE TECHNOLOGY DOWN TO EARTH

A new partnership between NASA and the U.S. Department of Agriculture (USDA) could result in updated maps of Yellowstone National Park, a better understanding of wildfires and improved management of California vineyards.

Under the partnership, NASA has selected 13 research proposals that will apply remote-sensing data – images of the Earth taken by satellites – to issues on the ground: forest mapping, soil studies, wildfires, range management, flood-plain drainage and crop monitoring.

"This new partnership between NASA and USDA demonstrates the diverse and wide-ranging applications of NASA's Earth Science research and its relevance to the American people," said Dr. Ghassem Asrar, associate administrator of Earth Sciences, NASA Headquarters. "The Office of Earth Sciences is eager to form new partnerships with other government agencies, industry and public groups to expand America's use of our Earth Science research."

SYNTHETIC VISION COULD HELP PILOTS STEER CLEAR OF FATALITIES

NASA and industry are developing revolutionary cockpit displays to give airplane crews clear views of their surroundings in bad weather and darkness, which could help prevent deadly aviation accidents.

Limited visibility is the greatest factor in most fatal aircraft accidents, said Michael Lewis, director of the Aviation Safety Program at Langley Research Center. NASA has selected six industry teams to create Synthetic Vision, a virtual-reality display system for cockpits, offering pilots an electronic picture of what's outside their windows, no matter the weather or time of day.

"With Global Positioning Satellite signals, pilots now can know exactly where they are," said Lewis. "Add super-accurate terrain databases and graphical displays and we can draw three-dimensional moving scenes that will show pilots exactly what's outside. The type of accidents that happen in poor visibility just don't happen when pilots can see the terrain hazards ahead."

CLOUDSAT TO REVOLUTIONIZE STUDY OF CLOUDS AND CLIMATE

NASA will take a revolutionary, global look at clouds with a new spaceborne radar capable of peering deep into their interior to study their structure, composition and effects on climate.

Cloudsat, which will fly in 2003, will use an advanced radar to "slice" through clouds to see their vertical structure, providing a completely new observational capability from space – current weather satellites can only image the uppermost layers of clouds. Cloudsat will be the first satellite to study clouds on a global basis.

"A trio of satellites will provide unprecedented information on how clouds help transfer solar energy to and from our planet's atmosphere," said Dr. Ghassem Asrar, associate administrator for Earth Sciences, NASA Headquarters. "The data from Cloudsat will help us understand changes in the Earth's climate on global, regional and local scales."

SPACE CENTER Roundup

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Editor . . . . . .William Jeffs . . . . . .william.p.jeffs@jsc.nasa.gov

Assistant Editor . . . . . .Nicole Cloutier . . . . . .ncloutier@ems.jsc.nasa.gov