



### **Quick fix**

Speedy cooperation saves important experiment on Mir as shuttle does flyaround. Story on Page 3.



### Columbia to roll

Columbia will roll to the Vehicle Assembly Bldg. Monday for STS-80. Story on Page 4.

# Space News Roundup

### Goldin welcomes new contractor

Shuttle contract consolidation begins new era of efficiency

NASA began a new era in the Space Shuttle Program this week by consolidating much of the ground processing and in-flight operations under a simplified contract signed with United Space Alliance.

The six-year, \$7 billion base contract includes two, two-year extension options that could bring the total estimated contract value to about \$12 billion over 10 years.

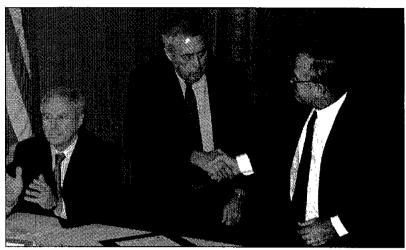
While maintaining safety, the new contract is expected to reduce the cost of flying the shuttle. The contract assigns greater responsibility to USA, reducing the government's role in day-to-day operations.

"This is a major turning point for this agency," said NASA Administrator Dan Goldin during a signing ceremony held Monday in Bldg. 9. "Because what we're saying today is NASA believes in our very strong aerospace companies that they are going to do a job that will cause the shuttle to operate safer, cause the shuttle to operate for much less money and to give them the experience base so for the next generation of systems we don't even need to have the government involved."

Following a transitional period, NASA's involvement in the work accomplished by USA will be geared

more to managing unusual and critical issues that may occur during shuttle processing. NASA will retain ultimate responsibility for safe operations and will continue to direct highlevel management of the program and flight operations. A variety of mechanisms—such as structured surveillance and audits, reviews of unusual "out-of-family" problems, safety performance grading and a detailed system of metrics-will be used to ensure that safety remains the contractor's highest priority.

"The government can do the things it does best and that's provide Please see **NEW**, Page 4



From left, NASA Administrator Dan Goldin and JSC Director George Abbey congratulate United Space Alliance Chief Executive Officer Kent Black after signing the shuttle consolidation contract.

# Clinton, Goldin welcome home STS-79 crew

**By Karen Schmidt** 

President Bill Clinton praised the "incredible skill and stamina" of Astronaut Shannon Lucid at JSC last week after her stay on the Russian Mir Space Station, and said that her achievement is an example to young women across the nation.

"Her achievement is the longest

single flight by an American in space and the longest duration for any woman in space, Clinton said on the tarmac at Ellington Field. "Our space pioneers reflect the very best of America's spirit of exploration, our never ending search for new horizons. Dr. Shannon Lucid today stands tall among them all. We are grateful for her. We welcome her home.'

Clinton joined NASA Administrator Dan Goldin, JSC Director George Abbey, more than 300 JSC workers and Lucid fans in ceremonies for the intrepid space traveler and the rest of the STS-79 crew last Friday.

Appearing healthy and happy to be home, Lucid responded that "Houston never looked so good."

Atlantis, carrying Lucid, Comnander Bill Readdy, Pilot Terry Wilcutt, Mission Specialists Jay Apt, Tom Akers and Carl Walz, touched down at 7:13 a.m. CDT last Thursday at Kennedy Space Center after spending five days transferring supplies and equipment to Mir. During

docked operations, the first American crew exchange took place as Astronaut John Blaha took his place as part of Mir 22 and began his fourmonth stay on the Russian outpost.

"It's an amazing, amazing achievement. And I know I speak for all Americans when I say I think we all feel at least we've gotten to know

Dr. Lucid, watching her grin and bear it as the mission was extended. hearing her eagerness to see her family, her vearning for what she called the wind and the the President added. "Perhaps more than she knows, she has also set a remarkable example for a new generation of young Americans. And espe-

cially young girls all across this country, who look up to her and now see new possibilities for themselves, and we thank her for that as well.

Clinton saluted Readdy and his crew, and the accomplishments of the entire NASA team in pulling together the fourth successful docking with the Russian station.

What seems to me remarkable about their launch and return is that they make it now seem easy, and we know it's not. But we know that their bravery and their professionalism make possible for all of us regular space travel with all of the scientific, military and commercial benefits

Please see STS-79, Page 4



From left, President Bill Clinton and NASA Administrator Dan Goldin welcome home Astronaut Shannon Lucid and her STS-79 crew mates, Commander Bill Readdy, Pilot Terry Wilcutt, Mission Specialists Jay Apt, Tom Akers and Carl Walz after Lucid's record-breaking stay on the Russian Mir Space Station.

## Blaha continues American presence

up where his colleague left off, continuing a permanent American presence in space on the Russian Mir of scientific experiments

Now in his second week, Blaha is continuing many of the investigations that comprise the NASA-Mir science program. Blaha said he is honored to be playing a part in the ioint program, designed to conduct

Astronaut John Blaha has picked research related to long-duration space travel using both countries' resources and personnel.

"I think this is a fantastic program Space Station and working on a host that we're doing with the Russians," Blaha said in a recent interview. "This kind of cooperation in space is something the Russians do very well, and we in America do very well. It's something we've both done well in the past so it's a good meeting ground and I think it's a good

start to an International Space Station and for space exploration in

Blaha settled in quickly on the Mir, beginning work on some of his experiments shortly after Atlantis undocked from Mir on Aug. 23.

"I'm amazed at how quickly I've adapted to the Mir," Blaha said in an in-flight interview. "I've never been on the real Mir before; it looks very

Please see **BLAHA**, Page 4

# JSC to bestow highest honors to employees next week

Ninety JSC employees will receive JSC's highest honorary award Wednesday when JSC Director George Abbey, Deputy Director Jim Wetherbee and program managers present this year's Certificates of Commendation.

The Honor Awards Ceremony will be held at 3:30 p.m. Wednesday in the Gilruth Center Ballroom. Recipients are encouraged to invite family members, friends and fellow employees to attend the ceremony with them. A reception for award recipients and their guests will follow the ceremony.

JSC civil service and contractor employees are invited to attend as workloads permit. For further information regarding the ceremony, contact Helen Harris at x 38413, or directorate administrative officers.

The recipients of the 1996 Certificate of

Commendation are:

Human Resources Office: Candace Hunt and Scott Wood.

Public Affairs Office: Stella Luna.

Business and Information Services Directorate: Peggy Halyard, George Huff, Ronald Lentz, Stacy McDaniel, Michelle Miller, Lisa Rea Phillips, Kellye Welch and Peggy Wooten.

Flight Crew Operations Directorate: Gary Ash, Jeane Smith and Tamara West.

Mission Operations Directorate: Gilbert Bonse, LeRoy Cain, Patricia Collier, Denis Dahms, John Fields, Steven Gonzalez, Anthony Griffith, Yolanda Guillen-Burris, Sean Kelly, Randall McDaniel, Jane McKinnie, Melanie Miller, Debbie Pawkett, Don Pearson, Michael Rodriggs and Gail Schneider.

Engineering Directorate: Francisco Alanis. John Albright, John Bacon, Floyd Booker, Marybeth Edeen, Jay Estes, Sharon Goza, John Griffin, Jack Humphreys, Kaylene Kindt, Joseph Kosmo, Nicholas Lance, James LeBlanc, Robert Ling, Carolyn Lisenbee, Clarence Modlin, Moises Montez, Michael Montz, Leslie Quiocho, Carlos Roithmayr, Roger Schwarz, Victor Studer, Albert Wetterstroem, Patrick Wilson and Raul Zepeda.

Center Operations Directorate: Betsy Hodges, Jay Hoover, Robert Kehoe, Ronny Wade, Gary Wessels and Henry Wyndon.

Office of the Chief Financial Officer: Robert Beyer, Patricia Bright, Kevin Candee and Leslie Keener.

Space Shuttle Program Office: Harold Battaglia, Kenneth Brown, William Jordan, Don McCutchen, C. Rick Miller and Anne Sweet.

Safety, Reliability and Quality Assurance Directorate: Roy Glanville, M. Scott Johnson, Alice Lee and David Thelen.

Space Station Program Office: Beth Cerrato, Thomas Cremins, Thomas Galloway, Yvette Garner, Lois Lennox, Kenneth Mitchell, Tri Nguyen, Patrick Pilola, James Waddell and Lucy Yates.

White Sands Test Facility: Michael Kirsch and Alton Luper.

Space And Life Sciences Directorate: Carmen Hollins, Cory Logan, Kamlesh Lulla, James Maida, Andrew Potter, Charles Sawin,

Thomas Sullivan and Rachel Windham. Phase One Program Office: Lindy Fortenberry and Janice Read.

### **Ficket Window**

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

Halloween dinner/dance: Oct. 26. Tickets cost \$15.

Texas Renaissance Festival: Weekends beginning Oct. 5. Tickets cost \$11.50 for adults and \$5.25 for children 5-12.

EAA Belize Resort Trip: Available through Dec. 15. Cost is \$472 per person double occupancy. \$100 deposit required with final payment due 30 days before departure.

EAA Caribbean Getaway Cruise to Puerto Rico: Jan. 3-13, \$1,198 double occupancy

with airfare, \$999 cruise only. Final payment due Nov. 4.

Sam Houston Race Park Track Pack: \$10 value pack for \$5.25, includes Club Leve seating, program, tip sheet, admission, preferred parking and gift shop discount.

Astroworld: One day pass cost \$22.75, two day pass cost \$34.25

Fiesta Texas: One day pass cost \$22.75, two day pass cost \$34.25.

Six Flags at Arlington: One day pass cost \$22.75, two day pass cost \$34.25. Sea World: Adult tickets cost \$24.50, children (3-11) cost \$17.25.

Space Center Houston: Discount tickets, adult, \$8.75; children (4-11), \$6.25, annual membership, \$22.95, family membership, \$59.95.

Movie discounts: General Cinema, \$4.75; AMC Theater, \$4.50; Sony Loew's Theater,

Franklin Planner refills: now taking orders for 1997 calendars.

Sweetwater Pecans: \$5.65 per pound.

Stamps: Book of 20, \$6.40.

Entertainment '97 books: Cost is \$25.

Metro tickets: Passes, books and single tickets available.

### **Filruth Center News**

Sign up policy: All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a NASA badge or yellow EAA dependent 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 more information, call x30304.

EAA badges: Dependents and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 8 a.m.-4 p.m. Saturdays. Cost is \$5. Dependents must be between 16 and 23 years old.

Nutrition intervention program: A six-week program to learn more about the role diet and nutrition plays in health, including lectures, private consultations with a dietitian and blood analysis. Program is open to all employees, contractors and spouses. For more information call Tammie Shaw at x32980.

Defensive driving: One-day course is offered once a month. Cost is \$25.

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

Weight safety: Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. Oct. 8. Pre-registration is required. Cost is \$5.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Aikido: Martial arts class meets from 6:15-7:15 p.m. Tuesday and Wednesday. Cost is

\$35 per month. New classes begin the first of each month.

Aerobics: Classes meet every Monday, Tuesday, Thursday and Friday.

Ballroom dancing: Cost is \$60 per couple. For additional information call the Gilruth

Country and Western dancing: Beginner class meets 7-8:30 p.m. Monday. Advance

class meets 8:30-10 p.m. Monday. Cost is \$20 per couple. Fitness program: Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information call Larry Wier at x30301.

JSC

### **Dates & Data**

### Today

Cafeteria menu: Special: fried chicken. Total Health: vegetable lasagna. Entrees: pollock hollandaise, beef stroganoff, vegetable lasagna. Vegetables: steamed broccoli, carrots vichy, Italian zucchini, breaded okra.

Saturday

Race for the cure: The Susan G. Komen Breast Cancer Foundation is holding the sixth annual "Race for the Cure" at 7 a.m. Oct. 5 at the Galleria. Registration for the 5K event is \$15 before Sept. 25, \$20 after and \$25 on race day. For more information call 850-9877.

Sunday

Walktoberfest: The American Diabetes Association is sponsoring its annual Walktoberfest on Oct. 6. This year's walk will be in tribute to the late Stephen Gauvain. For more information contact Jennifer Potter at 977-7706.

### Monday

ISO manager seminar: A management overview seminar will be offered to managers from 12:30-4:30 p.m. Oct. 7 in the Bldg. 30 auditorium to provide a better understanding of ISO 9000 quality standards and the implementation effort. For more information call Glen Van Zandt at x33069 or Brent Fontenot at x36456.

ISO employee seminars: Two awareness seminars will be offered to employees at 8:30-9:30 a.m. and 10-11 a.m. Oct. 7 in the Bldg. 2 auditorium to provide an abbreviated overview of the ISO 9000 process. For more information call Glen Van Zandt at x33069.

Cafeteria menu: Special: meat sauce and spaghetti. Total Health: potato baked chicken breast. Entrees: wieners and beans, sweet

and sour pork chop, potato baked chicken, steamed fish, French dip sandwich. Soup: cream of broccoli. Vegetables: French cut green beans, seasoned rice, California vegetables, buttered beans.

### Tuesday

BAAC meets: The Bay Area Aero Club will meet at 7 p.m. Oct. 8 at the Houston Gulf Airport in League City. For more information call Jerry Adair at x38058.

Cafeteria menu: Special: smothered steak with dressing. Total Health: baked potato. Entrees: beef stew, liver and onions, shrimp Creole, baked chicken, fried cod fish, French dip sandwich. Soup: navy bean. Vegetables: steamed rice, seasoned cabbage, corn O'Brien, peas.

### Wednesday

Toastmasters meet: The Spaceland Toastmasters will meet at 7 a.m. Oct. 9 at the House of Prayer Lutheran Church. For more information call Jeannette Kirinich x45752.

ISO employee seminars: Two awareness seminars will be offered to all employees at 8:30-9:30 a.m. and 10-11 a.m. Oct. 9 in the Bldg. 2 auditorium to provide an abbreviated overview of the ISO 9000 process. For more information call Glen Van Zandt at x33069.

MAES meets: The Society of Mexican American Engineers and Scientists will meet at 11:30 a.m. Oct. 9 in the Bldg. 3 Cafeteria executive dining room. For more information call Michael Ruiz at x38169.

Astronomy seminar: The JSC Astronomy Seminar will meet at noon Oct. 9 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For more information call Al Jackson at x35037.

Cafeteria menu: Special: salmon

croquette. Total Health: baked potato. Entrees: roast pork, stir frybaked perch, steamed fish, vegetable lasagna, Reuben sandwich. Soup: seafood gumbo. Vegetables: mustard greens, okra and tomatoes, vegetable sticks, lima beans.

### Thursday

Crew debriefing: The STS-79 crew will share flight memories with employees at 9 a.m. Oct. 10 in Teague Auditorium.

ISO manager seminar: A management overview seminar will be offered to managers from 12:30-4:30 p.m. Oct. 10 in the Bldg. 30 auditorium to provide a better understanding of ISO 9000 quality standards and the implementation effort. For more information call Glen Van Zandt at x33069 or Brent Fontenot at x36456.

Quality discussion: J.M. Juran will discuss "Quality: Yesterday, Today and Tomorrow," at noon Oct. 10 in Teague Auditorium. The discussion also will be broadcast on the JSC Television Distribution System on channel 23. For more information call Gloria Stiner at x41607.

Airplane club meets: The Radio Control Airplane Club will meet at 7:30 p.m. Oct. 10 at the Clear Lake Park Community Bldg. For details call Bill Langdoc at x35970.

Cafeteria menu: Special: stuffed cabbage rolls. Total Health: baked potato. Entrees: beef tacos, ham and lima beans, pork and beef egg rolls, steamed fish, catfish, French dip sandwich. Soup: beef and barley. Vegetables: Brussels sprouts, green beans, buttered squash, pinto

### Friday

Public briefing: The STS-79 crew will brief the public on its mission at 12:15 p.m. Oct. 11 at Space Center Houston.

Sale/Lease: Brookforest, 4-2-2, 2348 sq ft, new carpet/tile, remodeled kitchen, middle atrium open to the outside, lease purchase. Brian, 480-4351.

Sale/Trade: heavy wooded lot, 5 acre at Sam Rayburn Lake: 2 camper lots at Lake Livingston. Dave Ayoub, 280-2014. Sale: Wooded lot 90' x 135' in Taylor Lake Estates

near JSC, \$39.5 OBO, can finance, must sell ASAP. Don, x38039 or 333-1751.

Sale: Alvin, 10 aces, cleared, new barn, 5 acs fenced, CR 172, \$49.5k. x30737. Lease: Pipers Meadow, 2-2-2, split floorplan, Ig

yard, \$725 mo. 338-1506 or 527-3758. Lease: LaPorte duplex, 3-2, ~1500 sq ft, W/D

conn, \$550 mo + \$550 dep. 996-0152. Sale: Friendswood Imperial Estates II, brick 2-story, 4-3-3, 3250 sq ft, formal LR/DR, family w/FPL, game

room, .6 ac wooded lot, \$187k nego. 482-1535. Lease/Lease-Purchase: Waterview townhouse, 2-2.5-2, 45' boat slip in priv marina, assume loan/low equity, available now. 326-4915.

Sale/Lease: Pipers Meadow, 3-2-2 w/study, nice yd, lg master, \$895 mo/\$84.5k. Jon, 721-3636. Rent: Duplex, Santa Fe, Tx, 3-1.5, formal LR/DR.

appli, cent air/heat, brick, W/D conn, sm yd, adults, non-smokers, no pets, \$550 mo + sec dep. 244-0250 or 409-925-7839. Sale: Ellington area, by owner, 2-story, 3-2.5-2,

completely remodeled, Ig yd, \$87k. 488-0664. Sale: Bay Forest, energy effic, 3BDR, den. LV/DR. wet bar, island kitchen, pool, \$204.5k. 488-3468.

Lease: Heritage Park, 3-2-2, brick, Ig family room hi-ceilings, new carpet, fenced backyd, \$850 mo +

Sale: Kirkwood/Sagemont area, 4-2.5-2, 2400 sq ft, ceiling fans, new carpet/A/C, by owner, \$82k, lan. x39574 or 281-461-8372

Sale: Heritage Park, 3-2-2, brick 2-story house, by owner, below appraised value, \$88.5k. 482-8845. Lease: Time share condo week near Vail CO, 12/7

Rent: Condo in Winter Park, CO, 2-2, furn, hot tub. heated pool, sleeps 6, rent for sking, 488-4453.

Rent: Lake Travis cabin, priv boat dock, central air/ heat, furn, sleeps 8, fall, \$550 wkly/\$120 dly. 474-4922

### Cars & Trucks

'85 Audi 4000si, auto, A/C, AM/FM/cass, cloth inter, silver exter, 60k mi, ex cond, \$4.1k, 244-2449

'89 Pontiac LeMans, 2 dr hatchback, silver, 82k mi, A/C, AM/FM/cass, 5 spd, looks/runs good, \$1,750. Joe, x38851 or 488-1750.

'93 Chevy Camaro Z-28, 6 spd. ex cond. warr, 44k mi, loaded, black, \$16.5k. x34544 or 326-3759. '86 Subaru, 3 dr hatchback, food work/school car,

\$1k obo. 474-2185. '84 Honda CRX, 5 spd, radio, no A/C, runs good, \$1.6k obo. x40077 or 996-0462.

'93 Corvett, black, 6 spd, new transmission/tires 34k mi. \$26k, 471-1488.

Grand Am GT, 2 dr coupe, V6, A/C, AM/FM/CD, auto, P/W & P/L, tinted windows, ex cond, 20k mi, dk metallic green, \$11.9k, 282-3503 or

'94 Chevy Astor 7 passenger ext van, 4 capt

chairs, customized by Tiara Motorcoach conver, \$14.6k obo. x34842 or 474-7982.

'93 Dodge Stealth, hunter green, P/W & P/L,

\$13k. J. Perera, x358`14 or 992-3149. '85 Dodge Caravan, \$49k, ex cond, \$3.5k. 997-1887.

pwr, alarm, \$13.5k, x32634 or 480-2998.

cond, \$4.5k. Marybeth, x39122 or 996-8347.

'89 Hundai Excell GL, gold, 58k mi, 4 cyl, \$2k.

'86 Honda Civic, 4 dr sedan, white, 5 spd. A/C, ex cond, \$2.5k obo. Mark, x35597 or 554-5156.

\$4.9 nego. 337-9218.

'79 F150 Super cab, dependable, A/C, 460, auto,

inject, 2 dr hatchback, stereo cass. \$6.9k 486-8487. \$7350 obo. 338-6674.

new tires/brakes, white w/blue inter, \$5.8k. 488

tion or drive as is. \$4.2k, x30432 or 481-0046. '50 Chevrolet 3/4 ton truck, \$2.2k. 286-5971

'77 Tioga Class C RV, 24', new tires/brakes/carpet, extensive tune-up, drapes, \$5.5k. Karen, x38784 or

'93 Prowler 5th wheel trailer, 27-5N, fully loaded, ex cond, w/Reese hitch, \$11.3k obo. 470-8306.

### **Boats & Planes**

FM/cass, bimini top, full cover, loaded, ex cond, tandem galv trailer, \$7995. Keith, x35191 or 996-8318.

'89 20' Aquasport center console w/'90 Johnson 120Hp, galv trailer, many extras, \$6750. 335-2416 or 409-925-7765.

unleaded oas, extras avail, \$700, 480-5430. Surfboards, 8'6" Swallowtail, \$180; 8'6" travel bag. \$75 or \$300 all. 409-744-9643.

'93 Executive cruiser Pontoon boat, 24', 115 Evenrude OB, stereo, depth finder, canopy, \$6.5k. Rich, x33222 or 538-2870.

### Cycles

78 Honda Hawk, Honda-matic, very low miles, best offer. x33948 or 488-5501. '93 Yamaha YZ125, some extras, ex cond, \$2.5k.

'94 Nissan Pathfinder, SE V6, 4WD, 38k ml, all pwr. \$18.5k, x48962.

cruise, sec sys, key-less entry, car cover, ex cond,

'94 Honda Accord Lxi, 4 dr, green/tan, 53k m,

'89 Oldsmoble Delta 88 Royal, 4 dr sedan, good

cond, \$5k obo. Pat, 488-7439 or Rusty, 212-1450. '89 Chevy Cavalier Z-24, 86k mi. 5 spd. A/C. AM/FM/cass, tilt/cruise, 2 dr, blue w/gray interior, ex

'89 Chevy Beretta, red, 2.8 V6, exc maint, \$5.3k obo, x45408 or 337-1311.

Pete, 283-6813 or 482-5573.

'78 Jamboree motorhome, 21', V8, P/S & P/B, auto, A/C, sleeps 6, trade for pickup or same value,

8' bed w/tool box, \$1195. 409-925-7939. '92 Honda Civic SI, red, sunroof, 5 spd, 1.61 fuel '92 Ford Thunderbird, V6, auto, power, maroon,

'89 Plymouth Voyager LE, V6, tow pkg, loaded,

'57 Chevy Bel Air, 4 dr sedan, excellent for restora-

'85 Sea Ray Bowrider, 21', 260Hp Merc V8, AM/

Mercuriser 165 marine eng, fully rebuilt, use

Sunfish 14' sailboat w/trailer, white & green sail, \$400. Marybeth, x39122 or 966-8347.

Mark, x35597 or 554-5156.

554-5155 '86 Honda XR100R, mid sized dirt bike, new chain/sprockets/fuel tank, very reliable, \$550 obo.

### **Audio Visual & Computers**

Bel Quantum 3SE 3 band radar detector and Audiovox car phone, model SP85 mounts in car, \$25

Compaq Prosignia PC server 486/66 12Mb RAM, 240Mb HD w/kybd, \$1k. x32920 or 610-9282. B/W sheet fed scanner w/parallel interface, \$125; color hand held scanner w/PC interface card, \$75ea/

\$150 both. 409-744-9643. Mac Power PC, 6200-8/1Gig, 4XCD, modem kybd mouse, 14" color monitor, \$1.2k; 7100/80 - 8/700, 4X, kybd, mouse, \$1k; Apple 15" Multi-scan monitor, \$400. 388-4382 or 244-2444.

Compaq Contura 400C notebook, 486DX2, 40MHz, 12Mb RAM, 250Mb HD, software, ex cond,

14.4 internal fax/modem for PC, \$25; Sansui 150W integrated amplifier, \$125; Pioneer AM/FM/TV tuner, \$125; Sanyo dual cass deck, \$40. Steve, 480-

Video camera, VHS-Quazar iw/case, \$200. Cheryl, x48990 or 733-2313. IBM Selectric typewriter, \$125. 482-1535.

### Musical Instruments

Robin electric guitar '84 Medly, very nice, \$650.

Thomas electric Theater organ, ex cond. has all beats and instruments, plays organ tapes, \$8k. 326-

### **Photography**

Pentax Me Super camera, w/50mm, 28-80mm zoom and 80-200 zoom lenses, flash, bag and tripod, \$375 obo. Steve, x37152 or 992-7049.

Canon T-50 35mm camera, w/flash/strap/case and bag, \$175. Chervl, x48990 or 733-2313.

### Pets & Livestock

Rabbits, Mini-Rex, \$10 ea. 482-0874.

Siberian Husky puppy, AKC reg, black and white male, 4 mos, shots/wormed, champion sire, \$300. Lisa, x40213 or 992-7302.

### Household

Sears Kenmore upright vacuum cleaner, w7 attach, 15 xtra bags, \$40; entire coord kit set "Strawberry" motif, cookie iar, coffee cups etcs. \$25: microwave oven, over-the-stove, good magnetron but needs new "smart board", \$25; VCR, repairable or for parts, \$15 w/instructions, Ed. 481-4889.

GE washer/gas dryer, almond great cond, \$275 obo: dresser w/mirror & chest, white, \$125 obo: 2 wood end tables, \$25; sleeper sofa, \$150 obo; oak table w/chairs, \$100. Mike, x47656 or 992-3522

Mexican hand painted Talavera pottery sink, 15.5\* x19.5" oval, ex cond, \$100 obo. Steve, x37152 or 992-7049. King sz waterbed, heater/matt, mirror/shelf head-

board, \$100 obo. 996-9646.

dishwasher, \$35, 486-1888.

5 pc dining room set, modern steel and glass, ex cond, \$200; white formica kitchen table, \$40. Roland, x48540 or 992-1430.

Round oak dining room table, 6 chairs, \$170;

Twin mattress and box springs, \$80. Jan, x47029 or 282-0256. Singer sewing machine, \$75; 2 upholstered green chairs, \$50 ea; 2 end tables, \$50 ea. 482-1535.

table lamps, \$30; entertainment center, ex cond. \$475, 488-5564 White Simmons canopy babybed and matching changing table, ex cond, \$350. David, x38947 or

Bassett chest of drawers, 4 lg drawers, \$85; pr of

Desk, 47.5"Lx23.5"W, white w/brass handles and trim w/glass top, solid wood, \$150; pr of upholstered round back chairs, \$100 both; loveseat, ex cond, \$275; pr solid oak two tier style tables w/drawer, \$150 btoh; oriental style designer coffee table, ex cond,

w/imported xtra hvy thick glass top, \$350. 488-5564.

Whilpool refrigerator/freezer, 20 cu ft, white, w/ice maker, glass shelves, \$800. John, x45684 or 527-Beige Queen Anne sofa, ex cond. 486-5843. Panasonic Bread Bakery automatic bread maker

SD-BT56P, w/yeast dispernser, 13 hr timer, choice of bread and baking modes, \$140. Jana, x47624. Waterbed, dbl sz w/mirror bookcase headboard, 6 under drawers/padded rail all around mattress w/

### heater, \$125. 897-8171.

Want personnel to join VPSI Vanpool, departing South Braeswood Park & Ride lot at 6:50 A.M. for JSC & Offsite locations, 7:30 - 4:30 shift. Susan

Gaynor, 282-5447 or Al Ruder, x34997 Want personnel to join VPSI vanpool departing MeyerLand Park and Ride lot at 7:05 a. m. for JSC. Vanpool consist of on-site personnel working the 8 a.m./4:30 n.m. shift. Don Piokins, x35346.

Want professional non-smoking male to share 2-2 townhome, Pearland, \$350, 1/2 utili. John, 997-Want roommate, lg 4-2-2, Seabrook, separate

loft/living area, phone, cable/fax, W/D, \$375. 474-4742. Want 1 roommate, non-smoker, to share 2-2, Friendswood home, cable, W/D, microwave, VCR, all household privileges incl, \$250 mo no dep, all bills

Want .25 cal handgun. 482-0874. Want Bunk beds, wooden w/or wo/dresser. x32132 or 377-4770 Want CB base station radio w/antenna. Mike, 484-

pd. Michael, x38169 or 482-8496.

Want your non-working mower/edger. x31883. Want Minolta SLR, XG series or older in good

### working cond. 488-0664 Want Marine sextant. Bill, x35420. Miscellaneous

Wire dog pen for med sz dog, \$40; water skis, tow rone, hoarding ladder, \$30 all, David, 282-5338 or

Ultra Dyne II Irons, 2 P.W., \$75; assorted woods, \$10 ea; First Flight, etc. Jim, x38624 or 487-7132. Tablesaw, \$40. 338-6674. MARES wetsuit, men's med, 3mm, fullbody, zip-

per on back, \$90 obo: DACOR booties, men's sz 9. women's sz 6, \$15 obo; Neoprene wt belts men's/ women's, \$20 ea obo. Jeri, 333-7552. Treadmill w/arm aerobics, digital readout, ex cond,

\$90. x35753 or 337-2002. Spa and gazebo, spa 8'x8' & seats 8, gazebo 13'x20', redwood, new \$10k sell \$3k obo. 471-7442.

Computer desk, \$40; rolling TV stand, \$10; FPL tools & log rack. \$10: 200 red bricks, ten cents ea obo. Annie, x32251 or 471-8342.

Car cover, fits Ford Probe, '93 - '96, ex cond, does

not scratch paint, \$50 obo. Mark, 244-5444 or 664-White C-class fiberglass cap for short bed Chevy

PU, '85-'95 model, ex cond, \$300. Pete, 283-6813 or '87 Ford F-150 PU radio, good cond, \$10; hubcap,

'89 Ram Charger, \$15. x30737. Q-Health Club membership, Galleria area. Tom, Lady's Omega 14k gold wristwatch w/14k band, quartz movement, ex cond, \$400; Baywood Country Club golf membership, \$500 OC; EZGO golf cart, ex

cond, \$2.4k; golf cart recharger, \$400. 326-2402. Treadmill, Westo Cadence 80S, ex cond, walking treadmill, \$150 firm. x32249.

Ruff-Hauz, med sz dog house, \$18. Jan, x4709 or 282-0256 Dacor yellow scuba fins, sm, \$65; wooden dinette table w/chrome legs, \$40; 2 cushioned chairs w/ chrome legs; men's sz 8.5 K-2 Extreme In-Line skates,

\$100; blond simulated chest of drawers, \$120; 2 Mag wheels for '88 - '92 Chevy truck. 998-2293. Four P225x75R15 M & S w/w tires, 3 General, 1 Uniroyal, \$25 ea, 4 for \$75. Mike, 484-0987.

Concrete patio blocks, 12x12x1 5/8, 3 for \$1. x33948 or 488-5501 Wedding dress, off-white silk satin "Demetrios" gown w/fitted bodice & sheath skirt, detachable cathedral train, sz 6/8, \$400, 488-2276.

Parking out '86 Pontiac Fiero; ladies marguis wedding ring set, \$350; water skis, \$30-\$50; trick skis, \$60; gunnell mount barefoot ski boom, \$100. Keith, x35191 or 996-8318. Breakfast glass table, w/4chairs, \$125; Ranch oak

loveseat/sofa/chair, \$300; qn sz bed , \$225; NSA Environmental air system, \$100, 997-1887. Marlin 30-30 Mod 336 3/9 Redfield Tracker scope w/case, \$250; Black Max 3.5Hp 125V air compres-

sor. 20" air hose, \$225, 488-3411. Sears 10" Radial arm saw, light's, xtra blades, \$100; Kmart gasoline pwr weedeater, spare parts, \$45. Speier, 333-2263.

veil, fitted v-back w/drop pearls, long bustled train, w/cutouts, \$380. x34544 or 326-3759. Ladies 3.11 ct/tw diamond cocktail ring, 14k gold setting, \$2.5k; diamond pendant 1ct round stone w/14k gold chain, \$2.5k; diamond stud earrings, 1 ct toal wt, 14k gold setting, \$1.2k. Bonnie or Louise,

Wedding dress, sz 6/8, white beaded victorian.

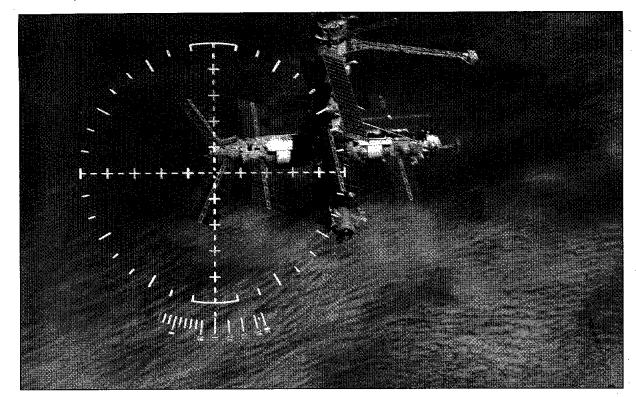
Pair of bird or sm animal cages, \$30 both. 488-5564.

Lawnmower, \$35; "Cool Wave" 8' plastic slide, \$35; Little Tykes baby swing, \$5; oak table/chairs, \$100 Mike x47656 or 992-3522

Diamond Anniversary band, 1ct/tw dbl row 14k dbl shank ring, \$500; ladies Baylor diamond watch, \$800; petite saphire & diamond cocktail ring, \$150. Bonnie or Louise, 482-8902. Ladies 1.05 ct Marquis diamond solitare cocktail

ring, \$895; Delux 1Hp treadmill, many features, ex cond. \$295 firm. 992-1300. Remington 870, 12 gauge shotgun, walnut stock,

\$165, x33213.



# Quick Connect

## International and internal cooperation pave way for fast equipment repairthat saves important Mir experiment

TS-79 is a story about cooperation—just as all Phase 1 shuttle missions have been. But one example of that cooperation among NASA teams and between American and Russian teams stands out in particular now that the fourth shuttle-Mir docking mission is complete.

"It ain't Apollo 13," quipped Mission Scientist John Uri, "but from a scientist's perspective we pulled it off and saved that experiment.'

The story started the morning of Sept. 23 with the discovery by the Middeck Payload Operations Directors that one of the first powered payloads being transferred to Mir was not working correctly. The Biotechnology System-Cartilage (BTS-CART) experiment, designed to support three-dimensional growth of cartilage in microgravity, was transferred from the shuttle middeck to the Priroda module of the Mir Space Station on Flight Day 5.

Several days later, as the shuttle was preparing to undock from Mir, the BTS-CART ground support team became concerned that the experiment was having hardware and/or software troubles when data from the flight unit and the ground-based version of the experiment didn't agree.

"No one could understand the erratic data we were receiving," said Uri, who was the senior representative in the Payload Operations Support Area that morning.

Any delay in their assessment of the health and status of the experiment could have resulted in a major loss of science data if it had not been fixed within a day or two, said JSC's Biotechnology Program Chief Scientist Steve Gonda.

"Any time you have a biological system, there are time-critical constraints on keeping it the right temperature, feeding it the right nutrients, removing waste," Gonda said, "and that depends upon the operation of the experiment control computer that monitors those parameters through in-line sensors."

So, Lockheed-Martin's Lead MPOD Lynn Pickett, Biotechnology Program Integration Manager Dianne Byerly and their team asked Mission Specialist Jay Apt to take Electronic Still Camera photographs of the cartilage constructs through the experiment viewport so that they could be compared with the groundbased experiment.

Apt took several photographs of the exterior configuration of the bovine cartilage-growing experiment, but he was unable to take any close-up photographs through the viewport

window because of a broken interior light.

Nevertheless, Apt downlinked the images using the Orbiter Communications Assembly. While awaiting downlink and processing of the ESC images, the BTS ground team worked intensely on troubleshooting procedures that would need to be delivered to John Blaha, now residing on Mir-the only crew member

trained to perform them. The BTS team went through the procedure just as Blaha would perform it, and wrote up a flight note. Uri said the team knew it was running out of time but didn't have a link through Mir air-to-ground channels.

Clearing that

for return to the Earth.

respond as hoped.

hurdle of getting the instructions to Blaha

was next. Direct communication between

ground team started working with Mission

necessary malfunction procedures through

the shuttle communications link. With hatch-

team working on the troubleshooting procedures also started to consider the possibility

of transferring the equipment back to Atlantis

sent it to Blaha, who performed the proce-

dures, but the hardware and software did not

At that point on Flight Day 8, the hatches

had to be closed so that Atlantis could undock

from Mir. This meant there could be no further

assistance from the shuttle crew

The team generated its repair message and

Control-Houston to arrange uplink of the

es almost ready to be closed, the ground

available for several hours, so the BTS

Mission Control-Moscow and Mir wouldn't be

episode illustrated the incredible levels of cooperation that have been achieved...

- Frank Culbertson Phase 1 Program Manager

**T**he entire

the experiment hardware.

"When we got the download, I knew they were waiting for the pictures, so I put off processing the other pictures (a total of 394 were downlinked during the flight) until they got what they needed," Salmon said.

It Salmon took just 30 to 45 minutes to process the images once they were delivered by the OCA team.

this here," Grounds said.

Allen Moore, support contractor Krug Life Science's lead engineer for the BTS facility, saw in the photos that a control and data cable on the unit was not fully locked in place by the locking mechanism.

While the BTS team drew up another procedure to power down the equipment so that the cable could be re-mated without damaging the system, the shuttle undocked from Mir and

But the shuttle still could be used in the trouble-shooting effort --- this time as a communications relay station. Using Atlantis' second air-to-ground communications link (A/G-2) communications link, scientists and technicians in the POSA, the Houston control center for the Mir Science Payloads Team, were able to call Blaha with further

troubleshooting procedures. In the meantime, the ESC photographs had been processed by Phyllis Grounds and her team in the Payload Operations Control Center of Bldg. 30S. Dianne Valdez and

> Cara White of JSC's Digital Imaging Lab processed the images normally. Then, John Salmon, an ESC software developer for Lockheed-Martin, enhanced the photographs cartilage con-

enough to show the status of the structs inside

"We had the payload guys hovering behind John and saying 'Let's zoom in on

began its fly-around of the Russian space station. During the fly-around, John Blaha called from the Mir via the shuttle communications link to report that further attempts to fix the problems had failed.

The air-to-ground relay was enabled again to allow the POSA in Houston to discuss the suspect cable connection, since communication directly from Russia was still unavailable. They arrived at a solution, but the repair procedures still had to be approved by Mission Control-Moscow before they could be voiced up to Blaha.

While this was being explained, air-toground communication between Moscow and Mir, via the shuttle, was suddenly acquired. and Bill Gerstenmaier, leading the U.S. consultants group in Russia, excitedly broke in to announce that the procedures were approved by the Russian shift flight director.

It was about 6:50 p.m. by then, and Gerstenmaier and Uri both talked with Blaha directly through the communications relay. It took longer to read up the 15-minute procedure than it would take Blaha to perform it.

After completing the repair, Blaha called down to report that the cable connection had, indeed, been the problem and that BTS-CART one of his favorite experiments — was functioning properly.

The whole team was up in Mission Ops and when John went through the procedure we had voiced up to test the coupling and reported that all parameters came up and were nominal, there was a shout of joy that everyone voiced," Gonda recalled. "Now we were ready to take that first long step of a 140day long-duration cell culture, and it is a giant step for our program.'

STS-79 Lead Flight Director Paul Dye said the flight control team always tries to keep A/G-2 available as a relay option because it makes up for lack of coverage through Russian communications systems. The MCC-Houston team was happy to support the effort as long as the relay wasn't a distraction for Commander Bill Readdy and Pilot Terry Wilcutt as they performed the fly-around.

"The entire episode illustrated the incredible levels of cooperation that have been achieved among the many ground support teams within Mission Control-Houston, as well as international cooperation between Houston, Moscow and the shuttle and Mir crews," said Phase 1 Program Manager Frank Culbertson.

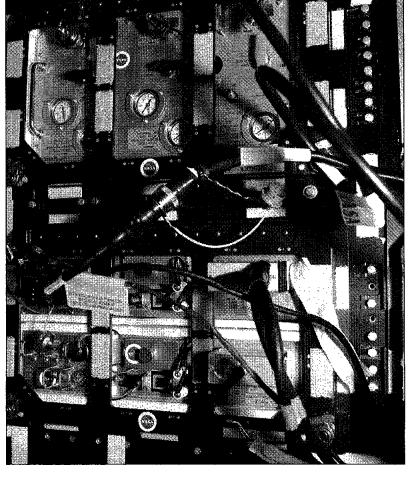
The entire process, from problem identification to solution, took only nine hours.

"This is one of the most incredible examples of cooperation across the ocean." Uri said. "There were no brick walls. Nobody said 'no.' Everybody was working toward the same goal and everybody understood what that was. It saved the experiment and it was all done in real time and it really sets an example for the future. I came home from work that night and told my wife, 'Now I know why I work at NASA." Q

Top: The process of reading up a procedure to reconfigure the Biotechnology System-Cartilage (BTS-CART) experiment took place as Atlantis was circling the Mir space station. Far left, top: Departing Mir crew member Shannon Lucid works out while arriving Mir crew member John Blaha checks the daily schedule. Left: This photo showed Allen Moore, support contractor Krug Life Science's lead engineer for the BTS, what was amiss. Far left, bottom: STS-79 Mission Specialists Carl Walz, left, and Jay Apt analyze a bovine cartilage sample in the Spacehab module before BTS was transferred to Mir.







# STS-80 to feature double deploy, retrieval

Preparations of Columbia remained on target this week for a launch of STS-80 around Nov. 8, carrying the Wake Shield Facility aloft for a third flight and ORFEUS-SPAS for a second flight.

Columbia, now in Kennedy Space Center's Bay 1 shuttle hangar, is planned to be moved to the Vehicle Assembly Bldg. Monday to be hoisted vertical and joined with the STS-80 solid rockets and external tank. It is scheduled

to be moved to Launch Pad 39-B on Oct. 14.

The STS-80 crew-Commander Ken Cockrell, Pilot Kent Rominger and Mission Specialists Tammy Jernigan, Tom Jones and Story Musgrave-will travel to KSC Oct. 17 for a dress rehearsal of the launch countdown. A launch on Nov. 8 would have Columbia lift off at 1:47 p.m. CST.

Meanwhile, Atlantis, just returned from the fourth docking with the Russian Mir Space Station on STS-79, is now in KSC's Bay 3 processing hangar being readied for a fifth docking with the Mir in January 1997 on STS-81. Initial post-landing inspections of Atlantis revealed that it had returned to Earth in excellent condition, with only light debris damage to its thermal tiles. As technicians began inspecting the orbiter's aft compartment last weekend, a 1/16th inch Allen wrench was found on the compartment floor. The small wrench bore no discernible markings such as a serial number. An analysis is

under way to determine its origin, although the small wrench is believed to have posed absolutely no threat to Atlantis' operations during STS-79.

Elsewhere, Discovery is in the Bay 2 hangar being readied for a launch in February 1997 on STS-82, the second Hubble Space Telescope servicing mission. Current work includes the installation of the main engines next week and completing installation of the forward reaction control system module.

### **Quality forum** to focus on past present, future

One of the men who taught Japan how to manage for quality will be the featured speaker during a live interactive satellite broadcast set for noon Thursday.

Joseph Juran, the world's leading expert on the history and practice of quality, will discuss "Quality: Yesterday, Today and Tomorrow" at noon Thursday in Teague Auditorium.

Employees who attend the seminar in Teague will have the opportunity to fax or call-in questions to Juran and a wide variety of quality experts. The two and a half hour program also will be telecast on the JSC Television Distribution System on channel 23.

In Juran's first public appearance in years, this 91-year-old quality pioneer will draw from a lifetime of experience to explore the origins of quality, today's best practices and the role of quality management in the future.

The seminar will begin at noon with opening remarks from Juran and Blanton Godfrey, chairman of the Juran Institute. Several experts will discuss the history of quality. At 12:45 p.m. the discussion will focus on quality today and at 1:35 p.m. the discussion will turn to quality in the future. Each topic will include round table discussions, viewer call-ins and quality minutes.

Juran will be joined by a diverse and engaging panel of experts that includes: Robert Galvin, chairman of executive committee at Motorola; Yoshinao Nakada, technical manager of competitive analysis and reverse engineering at Bell Laboratories; Ron Kenett of Kenett-Preminger Associates; Ludmila Konareva, a senior researcher at the Russian Academy of Sciences; Lisa Joronen, chairman of Sol Ltd.; Frank Pipp, president of the Diversified Business Group at Xerox Corp.; and Curt Reimann, senior scientist at the National Institute of Standards and Technology.

For more information call Gloria Stiner at x41607.

### Fun run to end safety, health day activities

The closing event at this year's Safety and Total Health Day will be a fun run/walk at 3:30 p.m. Oct. 23 at the Gilruth Center.

Employees are welcome to participate-walking, running, biking or rollerblading-in this non-competitive event along the JSC jogging trail or around the mall pond. A registration fee of \$5 is required for a T-shirt, and should be in by close of business Wednesday to guarantee a shirt on race day. Late registration will end at 2 p.m. the day of the event.

Prizes will be given, including an audio walk/jog tape to the first 500 registrants. All registered participants also will be eligible for prizes by random drawing at the refreshment station near the finish line. Plenty of fresh fruit, bagels, energy food and cold drinks also will be available. Those who choose to rollerblade or ride a bike will begin first and must wear a helmet.

For more information contact Larry Wier, event director, at x30301.



The newest Mir 22 crew member, Cosmonaut Researcher John Blaha, right, and Mir 22 Commander Valery Korzun share a meal on Atlantis' middeck during docked operations with STS-79 crew members.

### Blaha settles in on station

(Continued from Page 1)

different from the simulators I trained in, so at first I was a little concerned about that. But Valery (Korzun) and Sasha (Alexander

Kaleri), my two Russian crewmates, as well as Shannon, who's spent six months here, have really helped me out in the last three days. I had a great night's sleep and I feel very good on the Mir."

Blaha initiated the Biotech-

nology System activities shortly after undocking, using a rotating vessel to suspend cells in a low gravity, stationary environment. The experiment will use cartilage cells to investigate long-term on-

orbit cell growth in the microgravity environment of space. At various times during his mission, Blaha will sample and analyze cellular environment for post-flight analysis.

Blaha also fixed several more plants for the Greenhouse Experiment. These dwarf wheat plants will allow investigators to study the effects of space on plant growth, reproduction and metabolism, as well as chemical

and structural changes. Blaha has reported that the heads of the plants are maturing.

In the area of Human Life Sciences, Blaha has taken several measurements that will

> allow researchers to assess the changes in muscle mass during the course of his stay on Mir. The measurements will be compared to those taken before and after his mission to help quantify the extent of the changes his body will undergo while on Mir and assess how quickly his body returns to its preflight condition after returning to

Blaha is scheduled to remain aboard Mir until January with his Mir 22 crewmates, performing a variety of

experiments across six disciplines: Advanced Technology, Earth Sciences, International Space Station Risk Mitigation, Fundamental Biology, Human Life Sciences and Microgravity Sciences. The research, begun by Lucid and continuing under Blaha, will advance the science knowledge base to the benefit of all people on Earth.

### Singers to perform for Hispanic Heritage

In celebration of National Hispanic Heritage Month, the Equal Opportunity Programs Office will host "The Family Singers" from 11:30 a.m.-12:30 p.m. Tuesday in the Bldg. 3 cafeteria.

National Hispanic Heritage Month runs from Sept. 15-Oct. 15. The Family Singers will perform traditional, popular songs and their own musical compositions for the event. For more information on National Hispanic Heritage Month, including highlights of some of the achievements of Hispanics at NASA, reference the following URL: http://www.jsc.nasa.gov/pao/events/hispanic/hispanic.html

### JSC seeks employee input for Inspection Day

JSC needs employees to identify associates at local technical businesses who can benefit from an "upclose" look at more than 100 exhibits and programs during JSC's Inspection Day.

JSC will open its doors on Nov. 13 and 14 to business leaders and technical representatives from outside the NASA/aerospace community to learn more about the center's missions, facilities and technologies. A major effort is under way to identify the appropriate attendees who will benefit from this event.

Employees may submit their recommendations by Oct. 13 to the JSC Inspection Day logistics center at x47853. A special Internet site has also been established at http://www.jsc.nasa .gov/seejsc

### JSC adds new ATM on site

The JSC Credit Union recently added a third Automated Teller Machine on site for employees.

ATMs are now available in Bldgs. 1, 3 and 11. The new ATM in Bldg. 1 is located across from the Travel Funding Desk and the Cashiers Office on the first floor.

The new ATM machine was installed to provide JSC travelers with quick access to an ATM machine for acquiring travel advances using the American Express Government Card," said Deputy Chief Financial Officer for Finance John Beal. "After picking up approved travel orders and airline tickets, JSC travelers can conveniently receive the necessary cash advance for their official travel from the ATM machine."

### STS-79 crew to recap mission Thursday

**BLAHA** 

(Continued from Page 1)

it brings," he said. "Now it's a part of our lives, thanks to this crew and others like them.

"I appreciate the work that is done here by all of you at NASA," Clinton added. "I thank everyone that works for America's space program for a job well done. This is all of your triumph here and America is very proud of you."

The president said the mission was an important tool in America's foreign policy and its efforts to encourage international peace.

"The mission from which Dr. Lucid returns continues to cement the close and growing bonds of cooperation between the United States' and the Russian's space programs, something that we have worked very hard for," Clinton added. "Not only the cooperation between our nation and Russia, but between our nation and other nations as well in the space station project. We are committed to continuing the strong U.S. space program."

After the president departed, Readdy commended his crew for a perfect mission.

"I could not be prouder of the crew that is up here today," Readdy said. "This crew and you all form an incredible team of professionals that made a very, very complicated 10-day mission come off seamlessly and achieve more than 100 percent of our mission objectives. My hat's off to all of you."

Wilcutt praised the training team and its tireless efforts to prepare for STS-79. "Thank you especially our training team who worked all the hours with us whenever we had a late simulation, they were right there with us," he said.

Apt praised the entire team at JSC. "We had

a flight that was really two flights rolled into one," Apt said. "There was enough work for any two flights and the fact that we got it done is a tribute to the entire team here at JSC. We couldn't possibly done it without the dedication and professionalism of everybody down here that is part of the team.

Akers also praised the JSC team. "Everybody here knows it takes a whole team to make a successful space mission, this great crew who is here, John, our two cosmonauts, and more importantly all you folks who did all the work ahead of time and during the mission back here on the ground. We are going to do our very best to come by personally and thank you in the coming days."

Walz reflected about his time on Mir. "John looked at me as said you know Carl, this is the kind of mission that we're going to be flying in the year 2002 with the International Space Station. This mission is a prototype for future crew transfer, logistics transfer and a whole bunch of science all wrapped up into one."

Lucid stood at the lectern last to reflect on her homecoming. "I want to say thank you to everybody that supported the mission here on the ground. It was a great mission, it was a great adventure and I thoroughly enjoyed it. The reason why it worked was due to all the people that worked so hard to make it great."

The crew, including Lucid, will recap the fourth shuttle/Mir docking at 3 p.m. Thursday in Teague Auditorium. Employees are encouraged to invite family and friends. In addition, "Welcome Home Shannon" T-Shirts are available at the Exchange Store in Bldg. 11.

### New contract will reward for shuttle cost savings

(Continued from Page 1)

technologies and inspiration to children, adults and the economic sector of America," Goldin said. "It frees our people from managing contracts and to getting back to being on the cutting edge of technology.

The new single prime contract, called the Space Flight Operations Contract, replaces 12 previous individual contracts, the largest two of which had covered shuttle ground processing work and shuttle operations.

"We are very honored at USA to play this roll in taking America's human space program forward into the future," said Kent Black, chief executive officer at USA. "We are absolutely dedicated to maintaining safety first meeting the manifest and then reducing the cost. I'd like to believe we are paving the way for others to follow, bringing the efficiencies of the private sector into what had been traditionally government roles and allow NASA to do what they do best which is to pursue new frontiers in space for our nation."

This is the first phase of the SFOC, and its content includes preparatory work for operation of the International Space Station as well as the shuttle. A second phase that may be negotiated could include another 16 contracts covering the supply of shuttle components.

The Phase I contract includes a unique incentive that rewards USA for cost savings. The incentive allows the contractor to retain 35 percent of any cost savings, while 65 percent of the savings go back to the government. Conversely, the contractor will be penalized in a similar fashion for any cost overrun.

"We have set this up so that the contractor has every possibility to succeed, but we are giving them the right to fail." Goldin added.

To ensure safety is maintained, the transition of responsibilities from NASA to USA for day-to-day operations will be performed on a highly structured, job-byjob basis, taking into account the criticality levels and complexity of tasks and equipment involved.

'Today is the first day of a new space program in America," Goldin said. "We are opening up the space program to commercial space involving humans. May it survive and get stronger."

NASA-JSC