



Space News Roundup

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July 17, 1992

No. 28

Atlantis gets thumbs-up for July 31 launch

By James Hartsfield

Following a final review of preparations, shuttle managers set an 8:56 a.m. CDT July 31 launch target for *Atlantis* on STS-46.

Atlantis and crew — Commander Loren Shriver, Pilot Andy Allen, Mission Specialists Jeff Hoffman, Marsha Ivins, Franklin Chang-Diaz and Claude Nicollier, and Payload Specialist Franco Malerba — will reel out the Tethered Satellite System and deploy the European

Retrievable Carrier.

At Launch Pad 39B this week, technicians performed final checks of the connections between *Atlantis* and its cargoes and

began preparations to close the engine compartment.

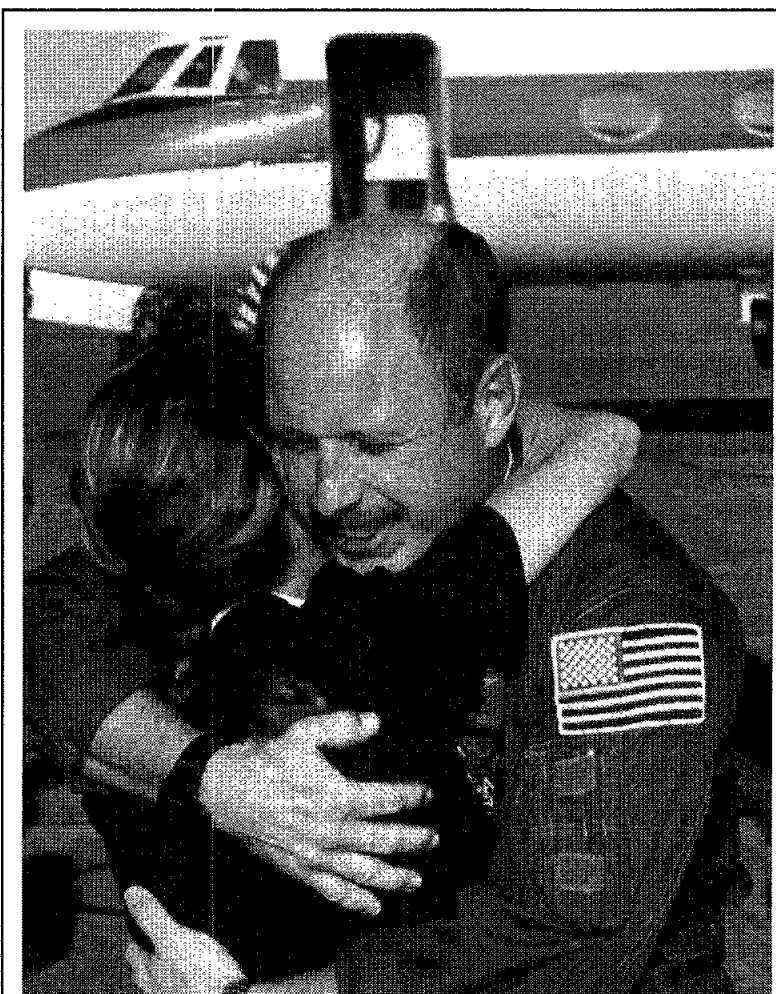
Elsewhere, *Columbia* was towed from the shuttle landing strip to the Bay 1 processing hangar a week ago. Technicians spent this week unloading experiments from the spacecraft and connection purge equipment.

Leftover hydrogen and oxygen from the shuttle's electricity generating system was to be drained off today.

Endeavour, in the Bay 3 hangar, is being readied for installation of the Spacelab-J module planned on Monday. Technicians also opened and closed the payload doors several times this week to check their operation and installed the forward reaction control system steering jets.

In the Vehicle Assembly Bldg., the twin solid rockets and fuel tank for *Endeavour's* Spacelab-J flight, STS-47 planned for an early September launch, are to be connected early next week.

In the Bay 2 hangar, *Discovery* continues through a six-month period of inspections and upgrades. Work this week focused on the auxiliary power units, generators that supply power for the spacecraft's hydraulics, and on the hydraulic system in general.



JSC Photo by Jack Jacob

HOME AT LAST — STS-50 Pilot Ken Bowersox gets a warm greeting from his wife, Ann, at a brief welcome home ceremony held for the crew at Ellington Field. Commander Dick Richards at the rest of the crew will brief employees on their record-setting 13-day mission at 10 a.m. Wednesday in Teague Auditorium.

Goldin leads trust-building visit to Russia

NASA Administrator Daniel Goldin returns to Washington today after leading an interagency delegation to Russia to continue discussions with key Russian space officials on future cooperative efforts.

Goldin, National Space Council Executive Secretary Brian Daily and the delegation met with key Russian space officials and visited several Russian space facilities to gain a first-hand understanding of Russian space capabilities.

"This mission will continue to build trust on both sides of the negotiating table," he said during a televised message to employees late last week.

President Bush and Russian President Boris Yeltsin agreed last month to increase cooperation between the two countries in the area of space exploration, including flying cosmonauts on STS-60, sending American astronauts to the Russian Mir space station in 1993 and 1994, and docking an American space shuttle with Mir in 1994 or 1995.

In addition, Goldin signed a con-

tract with Yuri Koptev, director general of the Russian space agency NPO-Energia, to study the feasibility of using the Russian Soyuz TM manned spacecraft and the Progress transport spacecraft in the Space Station Freedom program.

Goldin said that while he would represent NASA on the trip to Russia, he also is dedicated to preserving and expanding America's industrial base.

"I have been holding a series of meetings with the chief executive officers of NASA's major contractors," he said. "Most of the CEOs have related their concerns about the preservation of our industrial base in an increasingly competitive world."

Goldin said he will look for opportunities for U.S. industries to strengthen ties with their counterparts in Russia.

"Clearly a strong partnership exists between our nation, Canada, Europe and Japan," he said. "This partnership was built over decades of mutual cooperation and trust."

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JSC workers earn center's top award

Just over a hundred JSC employees will receive the center's highest honor, the JSC Certificate of Commendation, next week.

JSC Acting Director Paul J. Weitz will present the certificates — signed by JSC Director Aaron Cohen — at 3:30 p.m. Tuesday in the Gilruth Center ballroom. All employees who can be spared from their duties are encouraged to attend.

The JSC Certificate of Commendation is presented to civil servants who have made significant contributions to the mission and operation of JSC, and is reserved for no more than 3 percent of the civil service workforce each year.

This year's recipients, in alphabetical order, are:

Randall W. Adams, Francisco Alanis, Brian L. Anderson and Ralph V. Anderson. Stephen A. Bailey, Robert D. Barber, Albert R. Becker, Olan J. Bertrand, Paul J. Bertsch, David Birmingham and Maureen E. Bowen.

Juanie J. Campbell, John B. Charles, David C. Christianson, Michael F. Collins and Diane G. Costello. James D. Dagen, Keith A. Day, Gregory J. Della Longa, Sharon A. Delp, Bernestine D. Dickey and Duane L. Duston.

Richard E. Eckelkamp and Judith A. Elam.
Kyle O. Fairchild.

Claudette A. Gage, Darilyn M. Gaston and Camille C. Goodwin.

Janice K. Hall, Jonathan W. Hall, Mark M. Hammerschmidt, Lauri N. Hansen, Alva C. Hardy, Clifford W. Hess, Hollie R. Hodges, Paul F. Horsman, Georgie A. Huepers and Kelly O. Humphries.

John E. James, Georgia M. Jarrell, Thomas D. Jeffcoat, Billy J. Jefferson and Paul M. Joyce.

Margie S. Keller, Albert F. Kelly, Mark A. Kirasich, Patricia A. Kolkmeier and David J. Kroen.

Larry R. La Rose, Robert T. LaBrier, Kathleen M. Leary, Alice T. Lee, Abel J. Legendre Jr., Suzanne B. Leibert, James L. Lewis Jr., Thomas J. Linbeck,

Marilyn M. Lindstrom, Charles W. Lloyd, T. Rodney Loe, Thomas W. Logan Jr. and Jerry S. Lowe.

Angela K. Martin, Jerry E. McCullough, James B. McDede, Mark A. McDonald, Elric N. McHenry, Maury L. Minette, Robert W. Mitchell, Rhonda R. Moore and Scott V. Murray.

Phong H. Ngo, Betty Ann Nicholson and Donald S. Noah.

Janet S. Pacek and Lakshmi Putcha

M. Caroline Qualls
Mary D. Randolph, Richard Regenburgh III, William A. Reini, George B. Roush and Janet E. Rowlands. Bruce W. Sauser, B.

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Job seekers swamp Space Center Houston

By Kelly Humphries

A throng of space program enthusiasts crowded the University of Houston-Clear Lake's Bayou Bldg. this week, doubling the expected turn out for Space Center Houston's two recruiting days.

More than 600 people showed up with resumes in hand on Tuesday, and another 300 to 400 filled out applications on Wednesday, said Space Center Houston spokeswoman Gwen Griffin.

The applicants, mostly from the Clear Lake area and many with family members who work at JSC, were applying for service-sector jobs as hostesses, tour guides, tram drivers and ticket sellers, among others.

"We're pleased with the turn out," Griffin said. "We're delighted that

so many came out and are interested in being a part of Space Center Houston."

Following the two recruitment days, the 20 Space Center Houston interviewers began the process of reviewing the applications and the many interviews that were conducted. They planned tele-

phone follow-ups on any applicants who weren't able to stay for in-person interviews when schedules ran behind because of the strong turn out.

In addition, they accepted applications from a number of people looking for administrative positions, most of which had been filled.

The hiring process will continue through mid-September.

"Don't panic if you haven't heard from us by the end of this week," Griffin said.



JSC Photo by Jack Jacob

Anxious job seekers line up at Space Center Houston's recruiting days at the University of Houston-Clear Lake. About 1,000 applicants turned out to apply for about 300 jobs.

Convention coming

JSC volunteers needed to staff Republican visits

JSC needs volunteers to help out with tours and other responsibilities when the Republican National Convention brings some 50,000 visitors to Houston.

A number of large tour groups — state delegations and other special groups — are expected to visit JSC from Aug. 14 to 22, and volunteers are needed to greet visitors, present technical briefings, help with crowd control and provide general assistance.

Those who would like to help as presenters should have a general knowledge of the space shuttle trainers, space station mockup, remote manipulator system or air-bearing floor in Bldg. 9; the flight control room in Bldg. 30; the Weightless Environment Training Facility in Bldg. 29; or the Space Environment Simulation Lab in

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JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Gift Store from 10 a.m.-2 p.m. weekdays. For more information, call x35350 or x30990.

Metro passes, books, tickets available throughout July.

Fiesta Texas Park (San Antonio): adult, \$19.50; child 4-11, \$13.55.

Sea World (San Antonio): adult, \$18.90 (child free with paying adult); child 3-11 \$13.55.

Astroworld, \$16.95 and \$14.95 (child under 54 inches), \$44.95 (season pass) and Waterworld, \$9.50.

Six Flags, \$16.95 (one-day) and \$22.95 (two-day).

Movie discounts: General Cinema, \$4; AMC Theater, \$3.75; Loews Theater, \$4. Stamps, Walt Disney Club memberships also available.

JSC

Gilruth 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 badge or EAA membership card. Classes tend to fill up four weeks in advance. For more information, call x30304.

EAA badges — Dependents and spouses may apply for photo identification badges from 6:30-9 p.m. Monday through Friday. Dependents must be between 16 and 23 years old.

Weight Safety — Required course for employees wishing to use the Gilruth weight room is offered from 8-9:30 p.m. July 28. Cost is \$5.

Defensive driving — Course is offered from 8 a.m.-5 p.m. Aug. 1. Cost is \$19.

Aerobics — High/low-impact classes meet from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks.

Aikido — Martial arts class meets Tuesdays from 6:15-8 p.m. Cost is \$15 per month.

Softball sign-ups — The schedule for summer softball league sign-ups is: Mixed C Recreational: July 21; Men's C, July 22; Men's B, July 23, Mixed B, Men's A, Friday Special C: July 24; non-badged teams: July 24 after 4:30 p.m.

Softball tournament — Moonwalk Men's Open C Softball Tournament will be July 25 and 26. Cost is \$95 per team; deadline for registration is 7 p.m. July 23.

Volleyball sign-ups — Registration for teams in summer volleyball leagues will be July 27-28.

Basketball sign-ups — Registration for teams in summer basketball leagues will be July 29-30.

Scuba — Scuba lessons will be offered at 6:30 p.m. Tuesdays and Thursdays beginning July 30. Cost is \$190 plus \$20 for the open water dive trip. Personal equipment needed runs about \$90.

Tennis — Beginner lessons will be from 5:15-6:45 p.m. Mondays beginning July 20. Beginner-advanced classes will be from 5:15-6:45 p.m. Wednesdays beginning July 22.

Fitness program — Health Related Fitness Program includes medical examination screening, 12-week individually prescribed exercise program. Call Larry Wier, x30301.

JSC

Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP3, or deliver them to the deposit box outside Rm. 147 in Bldg. 2. No phone or fax ads accepted.

Property

Sale: 118 acres remote forested land near Nacadoches, spring fed creek, hills, \$795/acre. Charlie, 554-6201.

Lease: Friendswood/Wedgewood, 3-2-2, lg LR, patio, trees, fenced, quiet neighborhood, new paint, \$750. 482-6609.

Rent: 1 BR apt, assume 6 mo least at Huntley, incl dep, \$405. Army, 244-5576, 286-3446.

Sale: El Lago 4-2-2, new carpet, paint, ceramic tile bath, FPL, sec sys, gar door openers, \$85.5k. 488-8611, 409-765-9338.

Sale: Bay Glen 1.5 story 3-2.5-2, vaulted LR, DR, master, oversz cul-de-sac, sec sys, whirlpool, brick FPL, \$119.9k. 488-6838.

Lease/Sale: 4-2-2 Nassau Bay TH, remodeled, master dn, deck, 2-story den, no TH fee, \$1290/mo nego, 1-3 yr lease, \$119.9k. Jerry, x38922, 488-5307.

Sale: Gulf Meadows 3-2-2 brick, den, redecorated, open house Sat 12-4, \$53.9k. 333-6127, 337-3406.

Sale: Baywind II condo, 1-1, FPL, 2 patios, W/D, refrig, avall immed, \$27.5k. 488-8102, 532-1100.

Rent: Cape Royale, Lake Livingston, Harbour Villa TH, near marina, newly decorated, sleeps 6. 334-5818.

Lease: Pipers Meadow 3 BR brick, study, DR, 2 car gar, fenced, refrig, W/D, \$860/mo. Jon, 661-3430.

Sale: Countryside 3-2.5-2A 2 story, lg corner lot, cov deck, all BR up, int util rm, \$66.9k. 554-7623.

Sale: 71+ acre ranch, La Moca, Hwy 83, Webb Co. near Laredo, Tx, cattle, hunting, 2 BR on 9' stilts, water well, min rts. 326-1833.

Rent: 2 BR lux condo near DisneyWorld, 2 nights/3 days, sleeps 6, \$350/night, sell for \$500 OBO, not timeshare. Diane, 283-5618.

Rent: Lake Travis cabin, private boat dock, C AC/H, fully equipped, accom 8, \$425/wk, \$85/day. 474-4922.

Rent: Arkansas Lake cabin, antique furn, screened porch, accom 8, \$250/wk, \$50/day. x33005, 338-2517.

Rent: Galv beach house, W/D, C AC, furn. Ed Shumilak, x37686.

Cars & Trucks

'77 Grand Prix, new eng, alternator, starter, batt, radiator, ex running cond, body needs work, \$1k OBO. David, 554-5514, 282-3827.

'81 Mercedes 300D, blue, low mi, single owner, \$5.5k OBO. L. Das, x33235, 488-5532.

'78 Caprice Classic, 89k mi, 305 V8, trans serviced, rebuilt carb, alt, rad, brake master cyl, new tires, etc, \$1250. 283-5604, 326-4617.

'84 BMW 318i, sun roof, AM/FM/cass, 5 spd, new tires w/lifetime warr tires and alignment, rims and alarm, \$5k nego. 680-4189.

'89 Chevy IROC Camaro, V8, white w/red int, T-tops, less than 35k mi, \$8.5k or \$500 dn take over prnts, \$314/32 mo. Ray, 992-4046.

'84 S-10 Blazer, 5 spd, 4x4, 66k mi body, new motor and clutch; Honda 250R 3-wheeler w/custom trlr, some acces incl. 476-5035

'90 Mitsubishi Galant LS, auto, pwr windows/locks, cruise, A/C, PS/PB, AM/FM/cass, warr, 29.7k mi, \$11,750 nego. 484-9233.

'85 Corvette, red on red, ex cond, 4 spd manual w overdr, leather int, sun roof, 58k mi, \$11.5k. Tom, 286-2713 or 282-3803.

'72 Datsun 240Z, rebuilt eng, 50 ser tires, 5 spd, spoiler/flair kit, \$1k nego. x38796, 457-5217.

'89 Sunbird, ex cond, 24k mi, auto, A/C, stereo/cass, tilt, lug rack, one owner, \$5k. x38506.

Chevy S-10 4 spd, custom, A/C sunroof, ground effects, alarm, snug top, custom tires/rims, \$6700. Fred, x31261, 471-1488.

'85 Pontiac Firebird, V8, auto, T-tops, alarm, A/C, P/S, P/B, red, blk int, well maintained, \$3800. Joe, 409-948-2340.

'70 VW Bug, \$2k; '77 Chevy Suburban, \$2k. Heather, x30582.

'90 Ford F350 Crew Cab PU, loaded, XLT Lariat 4x4 w/Brama top, 19k mi. Charlie, 554-6201.

'79 MGB, runs and looks great, no rust, \$2950. 326-1278.

'84 Nissan Turbo 300ZX, A/C, 5 spd, pwr windows, digital, 85k mi, good cond, \$5200, 488-3706.

'87 Jeep CJ-7, 6 cyl, 4 spd, hard top, lug rack, AM/FM/cass, ex cond, garaged, \$5000. John, 409-986-6381.

'81 Mustang, \$900. 922-1137.

'87 Porsche 924S, red w/blk int, 5 spd, pwr sun roof, alarm, stereo, radar detect, ex cond, \$6875. Leonard, 283-4150, 488-7616.

'79 Pontiac SW, fiat blk, V8, A/C, all pwr, 151k mi, \$600. John, x39147, 474-9353.

'68 Dodge Dart, 90k mi, mech restored, runs great, needs int and body work, slant 6/289 w/Holley. George, x36391, 486-8803.

'87 Taurus LX, blue, 62k mi, loaded, car phone, \$4900. 485-8710.

'91 Eagle Talon Tsi AWD, all options, 7 yr transferable warr, \$17.5k nego. 280-8693.

'79 Chrysler LaBaron 4dr sedan, new eng, trans, paint, ex cond, gray velour int, \$1950. Jim Clarke, x32121, 489-1235.

'92 Mitsubishi Diamante LS, loaded, sun roof, leather, 6 way driver seat, air bag, 6.4k mi, \$25.9k OBO. L. Das, x33235, 488-5532.

JSC

Dates & Data

Today

UNIX meeting — The JSC UNIX Systems Administration Group will meet at 2 p.m. July 17 in Bldg. 12, Rm. 256. Dan McCoy of Loral will discuss "Running COPS Software." For more information, call Mark Hutchison, x31141.

Cafeteria menu — Special: tuna and noodle casserole. Entrees: broiled codfish, fried shrimp, baked ham. Soup: seafood gumbo. Vegetables: corn, turnip greens, stewed tomatoes.

Saturday

Lunar run — The 14th annual Loral Lunar Rendezvous Run will begin at 8 a.m. July 18 at the Gilruth Center. The 5-kilometer run and 2-mile walk, organized by the Bay Area Running Club, is part of the Spaceweek. Entry fee is \$12 if postmarked by July 11 or \$15 after July 12. For more information, call Len Topolski at 333-5576, or Brenda Sanzone at 480-0257.

Monday

Spaceweek banquet — The Spaceweek 1992 National Banquet will be at 7 p.m. July 20 at the Holiday Inn Hobby Airport, 9100 Gulf Freeway. U.S. Rep. Mike Andrews and NASA Acting Deputy Administrator Aaron Cohen will speak. For more information, call 333-3672.

Cafeteria menu — Special: meatballs and spaghetti. Entrees: Wieners and beans, round steak with hash browns. Soup: chicken noodle. Vegetables: okra and tomatoes, carrots, whipped potatoes.

Tuesday

Cafeteria menu — Special: fried chicken. Entrees: beef stew, shrimp creole, sweet and sour pork chop with fried rice. Soup: beef and barley. Vegetables: stewed tomatoes, mixed vegetables, broccoli.

Wednesday

On-site registration — JSC's Human Resources Office will offer on-site registration for fall semester graduate engineering courses at the University of Houston-Clear Lake from 10:30 a.m.-2 p.m. July 22 in the Bldg. 45 lobby. Registration forms are available in Bldg. 45, Rm. 146. For more information, call Elaine Trainor at x45349.

Lunch and learn — The American Institute of Aeronautics and Astronautics Houston Section will meet at 11:30 a.m. July 22 in Bldg. 225 N, Rm. 174. Tim McCullough of Webb, Murray and Associates, will speak about "Implementation of Safety Regulations at JSC Test Facilities." For more information, call Sivaram Arepalli at x35910.

Astronomy Seminar — The Astronomy Video Tape Series continues during the weekly JSC Astronomy Seminars. "Gamma Ray Bursts Observed by BATSE" with Dr. C.A. Meegan will be shown at noon July 22 in Bldg. 31, Room 129. For more information, contact Al Jackson at 333-7679.

Toastmasters meet — The Spaceland Toastmasters Club will meet at 7:15 a.m. July 22 in the Bldg. 3 cafeteria. For more information, call Darrell Boyd at x36803.

Cafeteria menu — Special: Swiss steak. Entrees: fried perch, New England dinner. Soup: seafood gumbo. Vegetables: Italian green beans, cabbage, carrots.

Thursday

Cafeteria menu — Special: stuffed bell pepper. Entrees: turkey and dressing, enchiladas with chili, Wieners and baked beans. Soup: cream of chicken. Vegetables: zucchini squash, English peas, rice.

July 24

RICEE deadline — The deadline for applications to participate in the Rice Institute for Continuing Education in Engineering program is July 24. Interested employees should contact Laura Goerner at x33067.

Cafeteria menu — Special: Salisbury steak. Entrees: baked scrod, broiled chicken with peach half. Soup: seafood gumbo. Vegetables: cauliflower au gratin, mixed vegetables, buttered cabbage, whipped potatoes.

July 28

BMC meets — The Bendix Field Engineering Corp. Management Club will meet at 5 p.m. July 28 at the Gilruth Center. Gwen Griffin will provide "A Look Inside Space Center Houston." For more information, call 282-3462.

July 29

Astronomy seminar — JSC Astronomy Seminar will be held from noon to 1 p.m. July 29 in Bldg. 31, Room 129. For more information, contact Al Jackson at 333-7679.

Boats & Planes

Marlin full sz windsurfer, life jacket, roof rack, ex cond. \$250. 992-5524.

Cycles

Schwinn Sierra mountain bike, 15 spd, Shimano components, good cond, \$300 OBO. Allen, x31188.

Audiovisual & Computers

Sanyo MBC555 computer, MSDOS, dot matrix printer, mono monitor, 2 FD, SW, \$250; terminal, RS232, \$75. Walter, x37332.

Ans machine, code-a-phone, \$20; dual chan oscilloscope, \$95; dot matrix printer for parts, \$25; IBM Selectric, \$75; mono monitor, \$25. Walter, x37332.

Pioneer rcvr, 4 spkrs, \$75; Lobo Max-80 computer, 64k, CP/M or LDOS OS, 8-in drive, SW, \$75; modem, \$50. Ronnie, x32539, 5381649.

Pets & Livestock

Amazons, Senegals, Connres, Ring-necks, Parrotlets, Congo Greys, Meyers, Grey Cheeks, cockatiels, lovebirds, breeders/pets, also boas. Darlene, 331-6659.

Household

Pair butler's end tables, \$100 ea; antique piano bench, \$100; lg brass rnd tray w/stand, \$100; rnd table w/2 bentwood chairs, \$100. 488-5564.

10'x12', 100% wool gold rug, \$60; computer chair w/arms and casters, \$45; 3 drwr VCR tape holder, \$8; 3 gal humidifier, \$25. 480-7643.

Wanted

Want scuba equipment in good condition. Bill, x32602, 326-2326.

Want serious waterskiier for partnership on premier ski lakes in Alvin. Rich Delgado, x38519, 996-7630.

Want car/vanpool from Heights to JSC. x35785, 861-6646.

Want license plate border w/"Team Member: Space Station Freedom." Rudi, 283-5865, 480-7834.

Want roommate, Meadowgreen 3-2.5-2, Hwy 3 and Pineloch, 10 min to JSC, 20 min to Downtown. Edgar, x38841, 326-5446.

Want vanpool riders from NW Houston to NASA area. Wendell Carter, x36182, 466-3203.

Want lady's golf clubs and bag, partial set OK. Jim Poindexter, 475-9671.

Want patches, old, new, rare, unique, anything NASA/space related. Andrew, 280-0647.

Want cheap work car for NASA Coop student, minor repairs OK. Phil, 280-2239, 333-1017.

Want female roommate, non-smoker, to share 3,2,5,2 in Lakeside, 8 min to NASA, \$370/mo incl util + dep. Ann, 282-3790.

Want students to join Russian language class taught by Rice Univ prof, begin/intermed level, some experience, Rick, x36042, Keith, x38024.

Miscellaneous

Radio controlled Challenge IV high perf pattern airplane, ready to fly. Carlos, x38879, 554-7727.

Exercise bike, \$30; complete weight lifting set, incl 2 barbells w/extra wts and deluxe wt bench, \$150/OBO. Wendy, 554-2532.

Apt sz dryer, \$125; Moped, \$700; tread-mill, \$200; alum canoe, \$295. 332-0365.

Craftsman lawn mower, Briggs & Stratton eng, 3.5 hp, good running cond, \$50. Phong, x37990.

Multi-purpose rowing machine, \$20; Hirsch saw guide table, \$20. 487-1883.

Yellow satin/lace, tea-length cocktail dress, sz 3-4, \$60. Linda, 244-9658, 486-6873.

Murray 4.0 hp self propelled lawn mower, ex cond, \$175. 992-5524.

Golf clubs, never used, 3-PW cavity back perimeter weighted irons, 1-3-5 metal woods, \$250 OBO. Allen, x31188.

Used mini-blinds, copper color, various sz, hardware incl, good cond, \$125. 486-5432.

Dog kennel panels, various sz w/gate, \$200; portable dog pen, \$50; chainlink fence fabric, 6'x60', \$30; 2 4'x6' chainlink gates, \$50 ea. Mark x38013, 992-4132.

Monark 633 rowing machine w/riser, \$125. Frank, x34185, 471-2934.

10 gal aquarium, pump, filter, hood, lights, plants, \$20; 10 gal wood stand, \$25. 991-6503.

Used 6 Eagle GT 195/70R15 tires, \$3 ea, all \$15; alum wheel, 14" 4 hole pattern, \$30, rolling, lockable tool cabinet and chest, \$30. x36391, 486-8803.

Interior doors w/hardware, \$5-\$10; office chair, swivel w/rollers, \$10. 482-5837.

BBQ & cart, \$15; kitchen chairs, \$10 ea; \$100 jewelry gift cert, BO; mango plants, \$5 up; elec furnace, \$100 OBO. 333-6127, 337-3406.

Saltwater aquarium, complete setup, 55 gal, w/cabinet stand, fish, \$500 OBO, 283-1118, 480-7226.

The Furniture Idea gift cert, \$1067 val, now \$967, exp Mar '93. Karen, 538-3444.

Tour Model III golf clubs, 1-SW, \$16.95 ea; metal woods, 1-3-5 wood, \$35 ea. David, 554-5514.

Dishwasher, kg sz headboard, exercise bike, dehumidifier, BO. L. Das, x33235, 488-5532.

Ex lg cap washer, \$75; kg sz wtrbd w/heater, bedding, \$125; Pres & first Lady memb, \$500; bow/arrows \$100 OBO. George, x35398, 474-7021.

Chrysler New Yorker wire wheels, BO. Sam, 282-6701 x3478.

3 wht wagon-type rims sz 10, \$50. Greg Hill Cyclepro dirt bike, good cond, \$75. Aven, 482-7835.

Tunturi variable resistance stair climber w/computerized monitor, ex cond, \$70; Sears Lifestyler 2200 multi-action rower, manual and fitness prog, good cond, \$50, both for \$100. Fran, 282-5266 or 992-7329.

5 drwr side access file cabinet, \$100; drafting table w/lg door top surface, \$25; cookware, men's clothing, med to lg sz, A/C, chalkboard, 16mm projector, golf clubs w/bag, 205cm skis. 225-4064.

20' alum trlr, 7' ramps w/lock storage, 4 wheel elec brakes, 5000 lb Bulldog hitch w/jack and wheel, front airshield, axle straps, tie downs. Joe, 409-948-2340.

GE hvy duty washer, \$140; 2 white commodes, BO; Panasonic answering machine, \$30. Danny, 282-4303.

JBL Competition Magnum 3 band speargun w/quick release cable, \$75; foldout couch, brn, corduroy, good cond, \$100; old school desk, \$15; book shelf, \$10, rocking chair, \$20. Kevin, 486-6411, 480-0828.

"Big Stick" model airplane, 4.5' wingspan, tri-wheel, gas pwr, Futaba mod FPT4FG radio control, ex cond, \$200. 332-7082.

On sz waterbed, padded rails, sheets, \$50; exercise bike, \$50; 6 person port hot tub w/cover, \$1500; exec desk, \$250; '72 Triumph Spitfire, new top, Pirelli tires, not running. x37667, 524-0251.

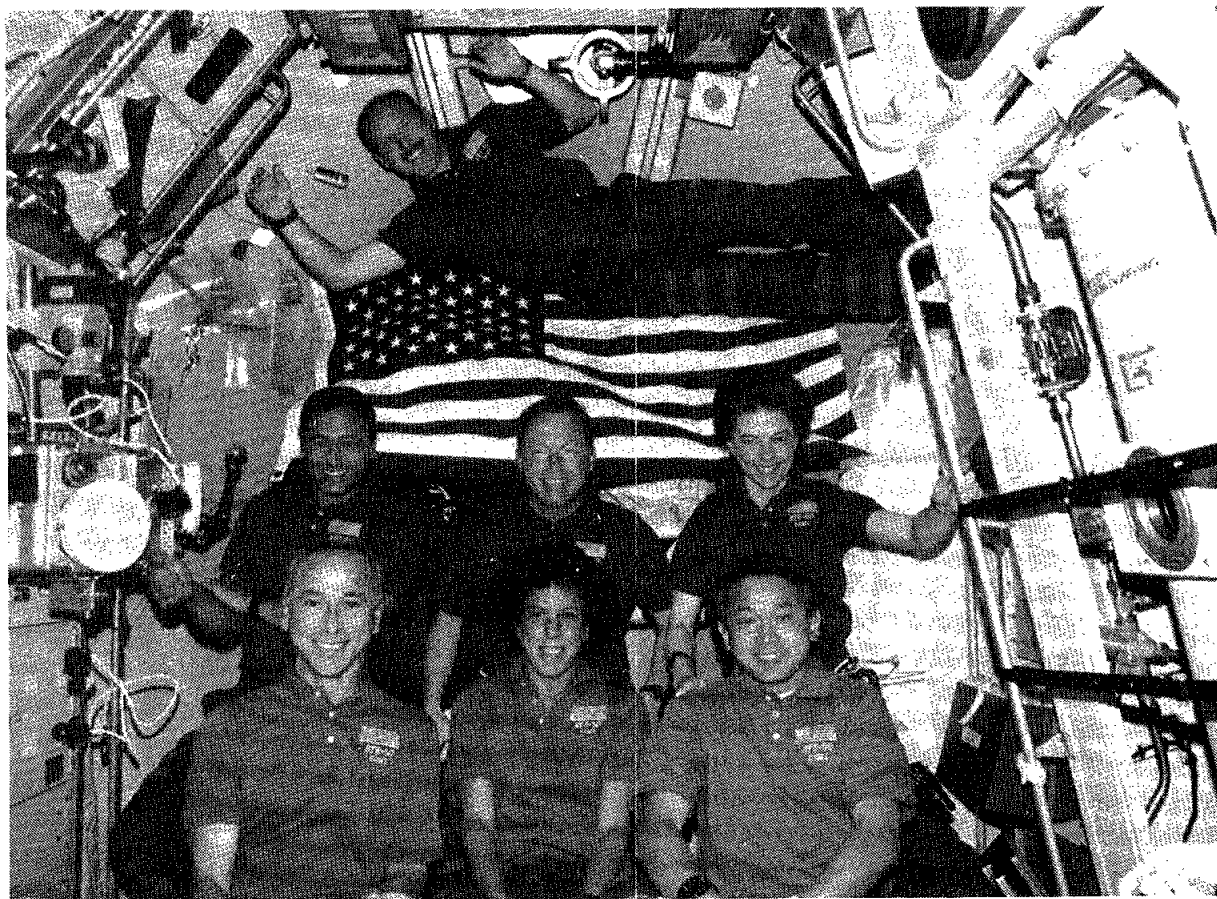
Blue Hammer bowling ball, 14 lb, Columbia double bag, blk, new, \$120 both OBO. Leonard or Youm, 283-4813, 922-6484.

Rain-gutter attached overhead auto rack w/ratchet-strap tie-down, \$20. Ronnie, x32539, 538-1649.

RCA 27" console color stereo TV, BO over \$400; blk velvet and hot pink after 5 dress, sz 5, \$75; pink, floor length after 5 dress, sz 5-7, \$75; Kenmore floor cleaner/polisher, unused, \$125. Diane, 283-5618.

Gas lawn edger, '79 Ford Pinto body parts. Trey, 484-7834, 280-2989.

Dormeyer food mixer, \$20



Home Sweet Home Away from Home

Columbia crew spends almost 14 days delving into mysteries of microgravity

Space Shuttle *Columbia* crew members carved out a home for themselves in space during a record-setting mission United States Microgravity Laboratory-1 mission that lasted 13 days, 19 hours and 30 minutes. The mission was seen as a pathfinder mission for Space Station *Freedom*, which will continue microgravity experiments.

Counterclockwise from top left: 1) STS-50 crew members show their Fourth of July spirit in the Spacelab module. In the front row, from left, are Mission Specialists Carl Meade and Ellen Baker, and Payload Specialist Gene Trinh. In the back row are Payload Specialist Larry DeLucas, Commander Dick Richards and Payload Commander Bonnie Dunbar. In the upper deck is Pilot Ken Bowersox.

2) Dunbar prepares to load a sample in the Crystal Growth Furnace while DeLucas checks out the multi-purpose Glovebox Facility. The CGF operated for some 286 hours, processing seven semiconductor crystal samples. The glovebox supported 16 different experiments in fluid dynamics, combustion science, crystal growth and technology demonstration.

3) Dunbar wears protective goggles as she assembles a zeolite sample cartridge for the CGF. Zeolite crystals are complex

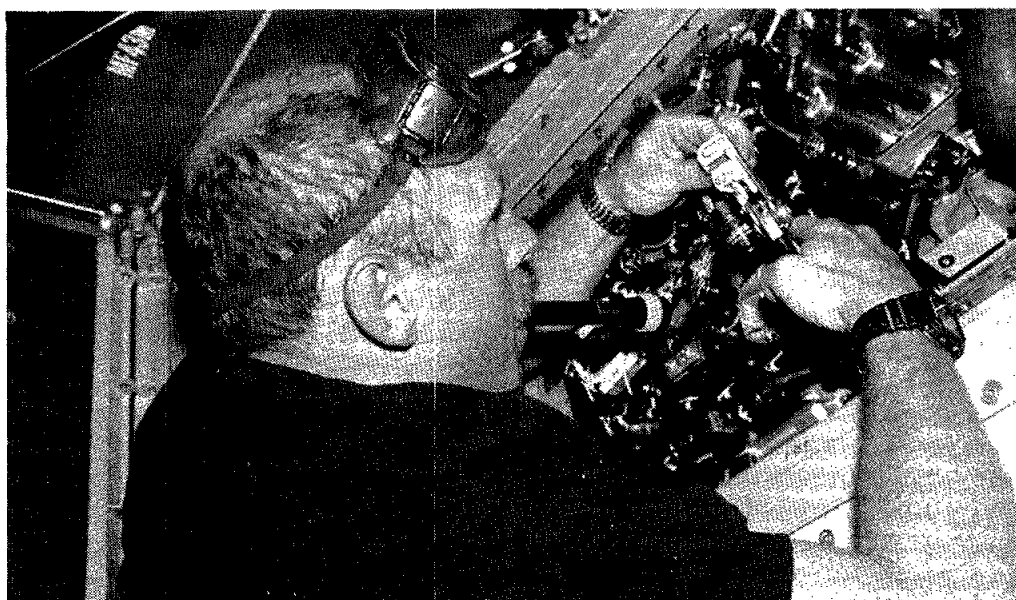
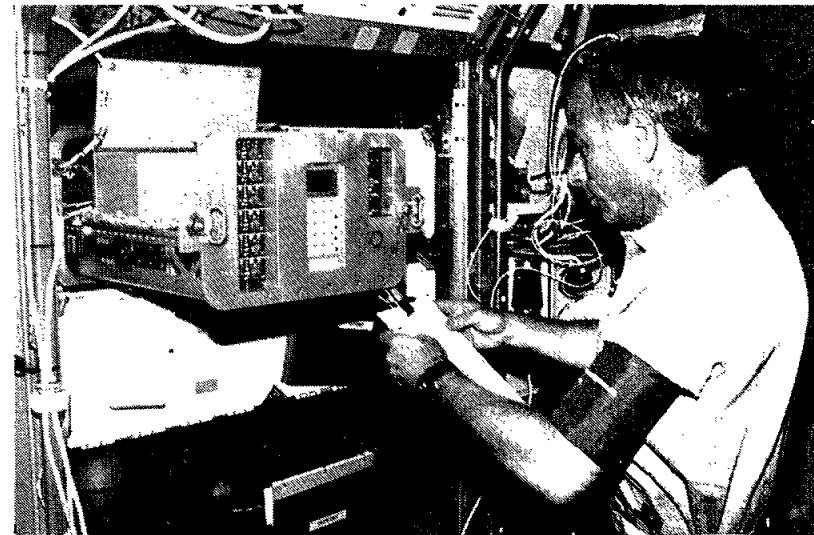
arrangements of silica and alumina that form an open, three-dimensional crystalline structure and can selectively absorb elements or compounds. They are useful as catalysts, filters and absorbing agents.

4) Meade operates the Generic Bioprocessing Apparatus, a multipurpose facility designed to help answer important questions about the relationship between gravity and biology.

5) Trinh works at the Drop Physics Module, where he spent a great deal of time monitoring experiments involving water globules levitated and manipulated through sound pressure generated by speakers.

6) Bowersox performs an in-flight maintenance procedure that brought the Regenerative Carbon Dioxide Removal System back on line. Bowersox spliced several wires together to "fool" a faulty sensor that caused the new shuttle "air conditioner" to shut down. The system worked well for the rest of the mission.

7) Bowersox sets up the Isolated/Stabilized Exercise Platform on the shuttle middeck. The four rectangular blocks are stabilizers attached to a frame that rests on shock absorbers. An exercise bike attaches to the frame. This first use of ISEP was designed to test how well it insulated the sensitive microgravity experiments from vibration caused by crew exercise. □



NASA Photos

Nutrition program will help you watch what you eat

By Kelly Humphries

The old saw "you are what you eat" may not carry as much weight as it once did, but the phrase "you are as healthy as you eat" is gaining more and more credence.

But while there is a smorgasbord of nutrition information available, but it can be conflicting and confusing. That's why JSC is instituting a 12-week Nutrition Intervention Program directed by a registered dietitian, Cindy Yuan, M.S., R.D., L.D.

"I'm hoping we can clear up some of that confusion," Yuan said.

One of the biggest dietary concerns today is fat intake, which can lead to high cholesterol and heart disease. Blood chemistry analyses from employees' regular physicals show many JSC workers have a fat intake problem.

"A lot of times you don't even realize that what you're eating contains a lot of fat," Yuan said.

Lecture topics will include reviews of the dietary guidelines set by the American Heart Association and the National Cholesterol Education Program. Participants also will learn how to

read food package labels, how to dine out healthfully and how to plan and prepare meals.

The program, put together by Kelsey-Seybold workers through the JSC Clinic, will include a blood chemistry analysis at the beginning and after 12 weeks, a series of lectures on diet and nutrition, private consultations with the dietitian and yearly progress reviews.

Fitness Director Larry Wier said the nutrition program will also coordinate with the JSC Fitness Program, since exercise is an important part of maintaining a

healthy body.

This won't be another dietary card shuffle or required recipe list, Yuan said. Instead, the program will focus on providing information on what foods can be harmful to your health, tips on how to make favorite recipes more healthful and providing immediate feedback on progress.

"We're going to use a more realistic approach with common-sense guidelines," Yuan said.

Classes will meet from 3:30-4:30 p.m. or 4:30-5:30 p.m. Tuesdays at the Gilruth Center. Class sessions

will run from Aug. 4 to Sept. 8, Sept. 15 to Oct. 20 and Oct. 27 to Dec. 1.

All JSC civil servants, contractors and their spouses are eligible, but participation will be limited. The family member who buys and prepares the food is encouraged attend. To register, obtain an application at the Gilruth and mail it to the Nutrition Intervention Program, Code AW9. Program staff will arrange for a free blood chemistry analysis at the JSC Clinic.

For more information, call the dietitian at x32980.

Professional engineers honor JSC

JSC recently was honored by the Professional Engineers in Government Practice Division of the Texas Society of Professional Engineers with the 1992 Professional Development Award.

Donald L. Hiatt, president of the National Society of Professional Engineers, and Dave Pullin, president of the Professional Engineers in Government Practice Division, presented the award to Acting Director Paul J. Weitz at the TSPE annual meeting in Arlington.

Also attending were Chet Vaughan of Engineering's Propulsion and Power Division, Marvin LeBlanc of Mission Operations' Flight Planning/ Pointing Section; and Hubert Brasseaux of Engineering's Power and Propulsion Systems Branch.

The award recognizes the government agency that has made the most outstanding contribution to the advancement and improvement of the engineering profession through its employment policies and practices.

As the 1992 recipient, JSC will be the state's nomination for the NSPE National Award.

Engineering students may register on-site

JSC and the Cullen School of Engineering at the University of Houston will be offering on-site graduate engineering classes at the Clear Lake campus again this fall.

On-site registration will be from 10:30 a.m. to 2 p.m. Wednesday in the lobby of Bldg. 45.

Registration forms are available at the Human Resources Development Branch, Bldg. 45, Rm. 146. The university will require payment at the time of registration. JSC employees may submit a completed Form 75 as payment for their engineering courses.

For more information, call Elaine Trainor at x45349.

Graduate engineering courses offered here

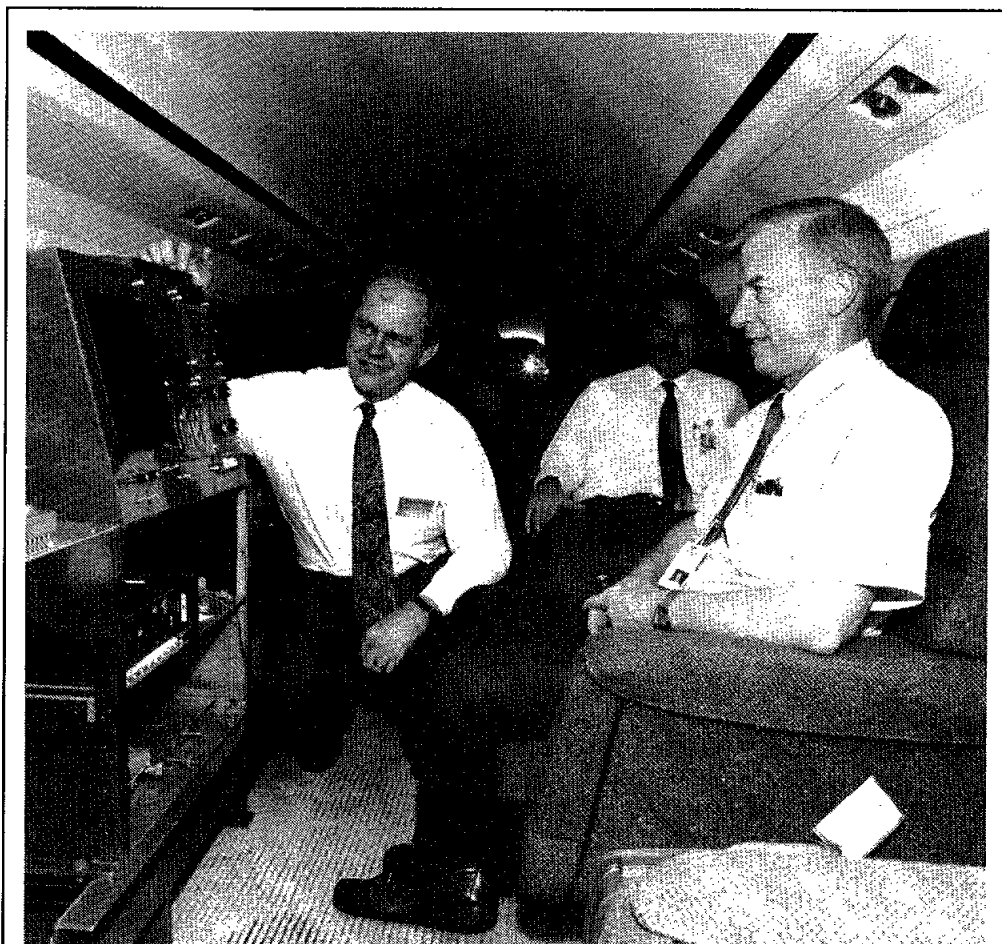
JSC will continue its joint venture with Rice University this fall, making graduate engineering classes available through on-site television.

The deadline for registering is July 24.

The classes, offered through the Rice Institute for Continuing Education in Engineering, will be broadcast live from a television studio classroom on the Rice campus to a designated conference room at JSC. Two-way communication will ensure interaction between lecturers and students.

Courses available this fall include Computer Systems Architecture, Tuesdays and Thursdays from 9:25 to 10:40 a.m., and Integrated Circuit Engineering, Tuesdays and Thursdays from 8 to 9:15 a.m.

JSC will select a limited number of students to participate. Applications are available through the Human Resources Development Branch; call Laura Goerner at x33067. For more information, call Paige Maulsby at x45349.



GLOBAL POSITIONING — Honeywell's Steve Serfling shows JSC Acting Director Paul J. Weitz and Flight Crew Operations' Larry Neu the workings of his company's global positioning system receiver aboard a Gulfstream 4 aircraft. JSC plans to install a GPS receiver in one of its Shuttle Training Aircraft within the next six months and test its ability to augment shuttle navigation capability.

JSC Photo by Jack Jacob

Twenty receive accolades for inventive ideas

Twenty JSC inventors recently were recognized for their creations and discoveries during a special ceremony with Acting Director Paul J. Weitz.

Weitz presented Tech Brief Awards to Timothy Fisher, "Fast Pixel Buffering Scheme for Lookup Table Driven Image Processors;" Brian G. Morris, "Check Valve Poppet Damping Mechanisms;" Larry Li, "Computer Mouse with Continuous-Time Input;" Leslie Hartz and Margaret Grimaldi, "Memory Alloy Retaining Mechanism for Orbiter Tile Gap Fillers;" George F. Parma, "Hammer-Head Robot Friendly Truss Joint;" Joseph Rogers, "NASA Device Independent Graphics Library;" and Robert O. Shelton, "An Accelerated Training Method for Back Propagation Networks."

A five-man team received Tech Brief Awards for three different editions of the C Language Integrated Production Systems. Robert Savely, Christopher Culbert, Brian Donnell, Huyen-Anh Ly and Gary Riley were recognized for CLIPS versions for personal computers, MacIntoshes and VAX.

Seven individuals were recognized for the development of patent applications. Awards were presented to Rex Boyce, Bearing Servicing Tool; Leo Monford, Payload Retention Device; George Parma, Robot Friendly Connector; Steve Gonda, Three-Dimensional Cultured Glioma Cell Lines; Angelene Lee, Sharps Container; and Jeanne Crews and Burton Cour-Palais, Protection of Spacecraft from Impact by Hypervelocity Particles.

Richard Juday also was recognized for his invention of the Optical Joint-Correlation for Real-Time Tracking.

NASA, DOE sign civil space agreements

NASA Administrator Daniel S. Goldin and Secretary of Energy James D. Watkins this week signed a cooperative agreement on energy-related civil space programs.

The agreement provides "umbrella" principles that outline the responsibilities and authority of both NASA and the Department of Energy in research and development, fundamental science, advanced technology development and education efforts.

"This agreement is the latest step in a fruitful history of cooperation between NASA and the Department

of Energy, which has existed since the beginnings of the U.S. space program," Goldin said. "Combining the respective strengths of our agencies will make sure that our future space endeavors will succeed and pay off for the nation — even more effectively than they have in the past."

In energy and energy-related research and development, the agencies will coordinate their efforts in renewable energy programs and will identify activities that address NASA's civil space power needs.

The agencies agreed to continue

ongoing research in space nuclear power. DOE will design, build and test space nuclear power and propulsion subsystems. For NASA missions that require nuclear propulsion, NASA will be responsible for systems requirements and overall program management of space nuclear propulsion systems, system integration and launch and space operations. Both agencies will ensure that their space nuclear-related activities meet environmental, safety and security requirements.

In activities connected with the U.S. Global Change Research

Program, NASA will lead the definition of the space-based part of the program with DOE support.

The agreement also covers fundamental science research. DOE irradiation facilities, including particle accelerators, will support NASA life sciences, space physics and spacecraft development activities designed to understand the radiation effects of long-duration space flight for both humans and hardware. The agencies also agreed to continue research in space physics and astrophysics to support America's space science program.

Goldin to report on progress of review teams

(Continued from Page 1)

The time has come to begin to develop similar bonds with Russia."

Goldin said that next month he plans to get more specific with employees about his ideas on Total Quality Management and to report on the progress of the red and blue teams he established in May to challenge the content, timing, technology, management approach and

schedules of NASA programs.

"The process we have begun will be institutionalized with the creation of an Independent Assessment Group that will scrub our future requirements and ensure 'best value' in every endeavor undertaken by NASA," he said. "I have asked each team to redouble its efforts, to keep moving and to get more specific with regard to

their findings."

Traveling from center to center, Goldin said, he has met thousands of NASA employees and become convinced that they are willing to embrace cultural change within the agency because they believe it will be good for NASA and America.

Goldin admitted that he had not accomplished everything he set out to do during his first few months in

office, but that with the help of his immediate staff he has established five processes by which they will measure his effectiveness.

He reiterated his challenge to all employees to set five things by which to measure their performance.

"If you haven't done this yet, I challenge you to begin the process so we can all improve together," he said.

Volunteers needed to support Republican convention visits

(Continued from Page 1)

Bldg. 32.

Volunteers will need to be available on an on-call basis, and some weekend and after-hours work may be required. Employees will be responsible for obtaining approval from their supervisors for time away from official duties, as well as for approval of comp-time or overtime.

Volunteers should fax or mail their name, title, directorate, phone,

area of expertise and time limitations (if any), along with the name, title and phone number of their direct supervisor, to AP4/ Community Affairs, x34241, fax x34876.

Volunteers will be contacted as their written responses are received, and a special training/information session will be scheduled before the convention.

For more information, call Linda Copley at x38609.

Space News Roundup

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Editor Kelly Humphries
Associate Editor Kari Fluegel

JSC top honors

(Continued from Page 1)

Karen Schmalz, John H. Scott, Sonbol F. Sepahban, Gwyn E. Smith, Thomas C. Snedecor and Martha C. Speller.

Ralph J. Taeuber, Edith C. Taylor, William H. Taylor Jr., Wayne A. Thomas and Ted W. Tsai. Glen E. Van Zandt.

Tamara R. West, Kenneth W. Westerfeld, Charles E. Whitsett Jr., Gilbert W. Whittaker, Leesa R.H. Wolf, William E. Wood and Neil A. Woodbury.

David W. Yearly.