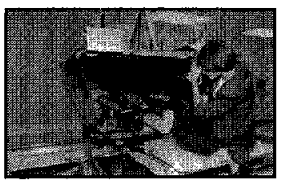
NASA
National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
Houston, Texas



Gravity mystery

The Space Life Sciences 2 mission may help solve the puzzle about how the human body adapts to microgravity. Story on Page 3.

Happy birthday

Space Center Houston celebrates its first anniversary with special events for space enthusiasts of all ages. Story on Page 4.

Space News Roundup

Vol. 32 | October 11, 1993 | No. 40

NASA reopens space station job notices

Tuesday is deadline for some applicants

By Eileen Hawley

NASA has reopened four agency-wide job announcements covering a number of new positions to be located in the Space Station Program Office at JSC.

Any NASA civil service employee who has the necessary qualifications may apply for the positions. Employees who previously submitted applications for these positions don't need to reapply. The reopened positions are:

• Aerospace technologist engineers, GS/GM 12-15 if non-supervisory or GM14-5 if supervisory; and

• Payloads engineers and scientists, GS/GM 12-15 if non-supervisory for GM 14-15 if supervisory.

Applications for the supervisory positions must be received by close of business Tuesday, Oct. 12 and applications for the non-supervisory positions must be received by close of business on Thursday, Oct. 14.

Employees selected for these positions

Please see **RESOURCES**, Page 4

Employees can name that space station

JSC employees and contractors are being invited to suggest names for the redesigned space station.

Steve Nesbitt, chief of the Public Services Branch, will head a JSC review panel and forward name recommendations to NASA Headquarters.

Bryan O'Connor, director of the Space Station Transition Team, will chair the Space Station Name Committee in Washington to review submissions from the NASA centers, industry and private individuals.

O'Connor's committee then will submit a final list of candidate names to NASA Administrator Daniel S. Goldin for consideration and transmittal to the White House. Most likely, President Clinton will give final approval for the redesigned station's name.

Some basic criteria should be kept in mind when considering a station name. Names should reflect the significant changes that have been made in the station design and program structure. Names also should be

Please see **IDEAS**, Page 4

NASA Photo

The STS-58 crew learns about pad procedures as part of the Terminal Countdown Demonstration Test at Kennedy Space Center Launch Pad 39B. Crew members, from left, are Mission Specialist Dave Wolf and Bill McArthur, Commander John Blaha, Payload Specialist Marty Fettman, Backup Payload Specialist Larry Young, Payload Commander Rhea Seddon, Pilot Rick Searfoss, Backup Payload Specialist Jay Buckey and Mission Specialist Shannon Lucid.

Columbia, crew will study ways to improve lives

By James Hartsfield

Shuttle managers cleared *Columbia* for flight last week on a 14-day-long Space Life Sciences mission.

The STS-58 crew departs JSC this morning for Kennedy Space Center to prepare for a 9:53 a.m. CDT Thursday launch.

Also last week, the crew—Commander John Blaha, Pilot Rick Searfoss, Mission Specialists Rhea Seddon, Bill McArthur, David Wolf and Shannon Lucid, and Payload Specialist Marty Fettman—spoke with the press about the upcoming mission.

"This mission is about human beings and trying to improve their quality of life here on the planet," Blaha said. "That's precisely one of the missions of NASA and that's what we're all about."

The SLS-2 module in *Columbia*'s cargo bay will carry a variety of medical investigations to study the effects of weightlessness on people and animals. Many of the maladies that occur in weightlessness are similar to health problems experienced by many people on Earth, and the SLS-2 studies may lead to discoveries that could assist with those terrestrial illnesses as well.

"The SLS portion of the flight has 18 experiments that have been proposed by investigators from all over the U.S.," Seddon, the payload commander for STS-58, explained. The mission is a follow on to the first SLS mission flown last summer, and much of the information gathered on this flight will help to verify findings and build a data base from previous research, she said.

"One of the purposes of SLS-2 is to gather enough data to make the findings from SLS-1 statistically significant," Seddon said. "We are going to have to pace ourselves on this mission—14 days is a long time."

Blaha said the crew will have two half-days off during the flight, the longest planned shuttle mission. "We are going to be the test subjects for many of the experiments, and we are going to have to make certain that we take very good care of ourselves—that we eat well, and keep ourselves well hydrated—and those two half-days off are going to help us do that," he said.

One new piece of equipment to be tested during SLS-2 will be a Portable Inflight Landing Operations Trainer that will give Blaha a landing simulator to keep his flying skills sharp. Run on a laptop computer, the landing simulator hooks up to the shuttle's control stick so that it is hoped to provide fairly realistic practice.

Extensive post-landing medical exams require the primary landing site to be Edwards Air Force Base.

Laptop helps astronauts conduct science

The STS-58 crew will test an "intelligent" computer designed to help them work more efficiently and improve the quality of science in space.

Known as the Astronaut Science Advisor, the system will help astronauts maximize the time allotted to an experiment. The ASA will undergo its first flight test during the 14-day Spacelab Life Sciences mission.

Also known as the "Principal Investigator in a Box," the system was developed by the Ames Research Center and the Massachusetts Institute of Technology. Dr. Larry Young, STS-58 backup payload specialist, conceived the idea for the system in 1987. Having served as a principal investigator on several shuttle missions, Young wanted to use a computer to help guide astronauts during life science experiments.

Artificial intelligence is a subfield of computer science that seeks to give computers the ability to solve problems typically requiring human intelligence. Using a Macintosh laptop computer and a combination of commercial and NASA-developed software, the ASA provides the crew with detailed information about the experiment.

"It's the next best thing to having the principal investigator on board," said Dr. Silvano Colombano of the Ames Artificial Intelligence Research Branch. "Our goal is to increase the astronaut's ability to be a scientific

Please see **PRINCIPAL**, Page 4

Galileo sets course for Jupiter

Sends back photos of second asteroid encounter

Using a series of about 10,000 pulses from Galileo's lateral thrusters, flight controllers at NASA's Jet Propulsion Laboratory last week aimed the spacecraft directly for Jupiter for the first time in the flight.

The five-day trajectory correction maneuver changed Galileo's velocity by about 86 miles per hour, partly increasing the speed and partly changing the direction.

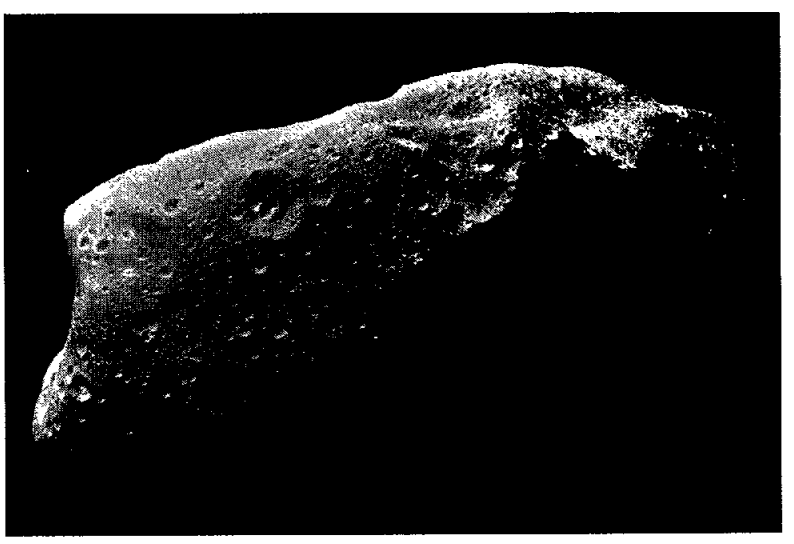
The daily sessions were commanded from the Deep Space Network station near Canberra, Australia, and took place over the stations at Goldstone, Calif., and Canberra.

Launched in March 1989 by the crew of the Space Shuttle *Discovery,* Galileo has been on a leap-frog trajectory that included one Venus flyby and two Earth flybys, using the planets' gravity to boost its speed.

Galileo is almost 297 million miles from the Sun, moving at nearly 37,000 mph. The spacecraft has gone about 55 million kilometers since its encounter with asteroid Ida in August and has another 663 million to go before it reaches Jupiter in December 1995. Galileo and Earth are more than 383 million miles apart.

Galileo sent back to Earth a five image-frame mosaic of Ida, the second asteroid ever encountered by a spacecraft, in late August. Scientists believe that extensive cratering seen in the images may dispel theories about Ida's surface being geologically youthful. The south pole is believed to be in the dark side near the middle of the asteroid.

The spacecraft is in dual-spin mode, in which part of the craft spins at 3.15 rpm and part is fixed in relation to space; it is transmitting coded telemetry at 10 bits per second over the low-gain antenna. Galileo's health and performance are excellent.



NASA Photo

This view of the asteroid Ida is a mosaic of five images acquired by the Galileo spacecraft during their closest encounter of 1,500 miles on Aug. 28.

JSC

Ticket 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.

EAA Texas Renaissance Festival Bus Trips — Oct. 23 and Nov. 13, includes bus transportation and admission: adult, $16; child (5-12), $11; child (under 5), $7.

Texas Renaissance Festival — Weekends Oct. 2-Nov. 14. Discount tickets: adult, $9.95; children 5-12 years, $5.95.

Wings Over Houston Airshow — Oct. 16-17, Ellington Field: adult, $7; child (6-11), $2.

EAA Halloween Dance — 7 p.m.-midnight, Oct. 30, Gilruth Center. Tickets on sale Oct. 13-27. $15 per person. Costumes encouraged

EAA Children's Halloween Party — Oct. 30, 10 a.m.-12 p.m.. Tickets on sale until Oct. 27. adult $1, child $4.

Entertainment '94 Coupon Books — Bay Area/Galveston/Downtown or FM 1960/Downtown: $30 each, $1 off first book for civil servants.

Space Center Houston — Discount tickets: adult, $7.50; child (3-11), $4.50; commemorative, $9.95.

Metro tickets — Passes, books and single tickets available.

Movie discounts — General Cinema, $4.50; AMC Theater, $3.75; Loew's Theater, $4.

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 NASA badge or yellow EAA dependent badge. Classes tend to fill up two 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-Friday. Dependents must be between 16 and 23 years old.

Weight safety — Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. Oct. 21 Pre-registration is required. Cost is $5.

Defensive driving — Course is offered from 8:15 a.m.-3 p.m. Saturday. Next class is Oct. 23. Cost is $19.

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

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

Aikido — Martial arts class meets from 5-7:30 p.m. Tuesdays. Cost is $15 per month.

Country and western dance —Line dance class meets from 7-8 p.m. Tuesdays beginning Oct. 19. Cost is $10 for six weeks.

Softball tournament — Men's Open "C" Tournament Oct. 16-17. Registration deadline is Oct. 14 and cost is $95 per team.

Writer's workshop — Fiction-writing workshop meets from 6:30-9 p.m. Wednesdays beginning Oct. 20. Cost is $80 for five weeks.

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

JSC

Dates & Data

Today

Columbus Day — Most JSC offices will be closed in observance of the Columbus Day holiday.

Tuesday

Flu shots — The JSC Clinic will offer influenza vaccines from 10 a.m.-noon and 2-3:30 p.m. through Jan. 31. For more information, call the clinic at x34111.

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

Wednesday

Security Fair — The Security Divixsion is hosting a Security Fair in Teague Auditorium from 10 a.m.-2 p.m. Oct. 13-14. Attendees may participate in a Firearms Training System demonstration, and meet with representatives of local, state and federal law enforcement agencies. For more information, call x34441.

Professional Secretaries — Clear Lake/NASA Area Chapter of Professional Secretaries International meets at 5:30 p.m. Oct. 13 at the Holiday Inn, NASA Road 1. The topic is business meetings and conventions. For reservations or information, contact Bee Kelly at 474-6207.

Cafeteria menu — Special: salmon croquette. Total Health: vegetable plate. Entrees: roast pork, baked perch, steamed fish, vegetable lasagna, Reuben sandwich. Soup: seafood gumbo. Vegetables: mustard greens, okra and tomatoes, vegetable sticks, lima beans.

Thursday

Professional Secretaries — The Clear Lake/NASA Area Chapter of Professional Secretaries International will host a Boss' Day luncheon at 11:30 Oct. 14 at the Holiday Inn on NASA Road 1. Cost is $13 per person. For more information, call Elaine Kemp at x30556 or Vicki Gonzalez at 457-8822.

SSQ meets — The Society for Software Quality meets at 5:30 p.m. Oct. 14 at the Days Inn ballroom, 2020 NASA Road 1. Topic is the ISO-9000 standard. For more information, call Felix Balderas at x31899.

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

Friday

Cafeteria menu — Special: baked chicken. Total Health: roast beef au jus. Entrees: deviled crab, Creole baked cod, baked chicken, beef cannelloni, Reuben sandwich. Soup: seafood gumbo. Vegetables: seasoned carrots, peas, breaded okra, steamed cauliflower.

Monday

Clothing Fair — JSC Child Care Center semi-annual clothing fair will be from 9 a.m-noon Oct. 16 at the Child Care Center. For more information, call Julie Kliesing at x31540.

Cafeteria menu — Special: hamburger steak. Total Health: vegetable lasagna. Entrees: beef Burgundy over noodles, fried chicken. Soup: cream of chicken. Vegetables: buttered corn, carrots, green beans.

Oct. 20

Technology Papers — Last day to submit papers for the Dual-Use Space Technology Conference and Exhibition. For more information, contact Dr. Kumar Krishen at x48583.

Oct. 22

COD Chili Cook-off — The Center Operations Directorate will host its fifth annual COD Chili Cook-off at 4 p.m. Oct. 22 at the Gilruth Center. Public tasting begins at 7 p.m. Tickets are $3 through Oct. 15, and $5 thereafter. For more information, call Ginger Gibson at x30596.

Oct. 26

Apollo Tribute — Space Center Houston will honor the 25th anniversary of Apollo 7 with a buffet dinner and program starting at 7 p.m. Oct. 26. Astronaut Gene Cernan will be master of ceremonies and Apollo 7 crewmen Walt Cunningham and Wally Schirra will make a special presentation. Tickets are $15.50 per person. For more information, call 244-2100.

Oct. 27

Halloween Dance — Last day to purchase tickets for the Halloween Dance. Tickets are $15 per person. For more information, call Mike Gaudiano at x58318.

Oct. 31

Bike tour — The Lions Eye Bank of Texas and the JSC Bike Club are sponsoring the 15th Annual Texas Coastal Cruise. The ride will begin at 8 a.m. Oct. 31 at Clear Lake Park on NASA Road 1. For more information, call 798-5510.

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: LC, 4-2-2, colonial, lg lot, both formals, FR, new roof/carpet, gas FPL, covered patio. 332-6325.

Sale: Galveston San Luis condo efficiency, gulf view, swimup bar, quarter timeshare, $14.5k. 326-4938.

Sale: Deer Park 2-1-1, CA/H, tenant occupied, low $40ks. 282-6909 or 476-5817.

Sale: Univ Green TH, 3-2.5-2, new A/C, recent upgrades, $73.9k. Ellen, x48919 or 488-7383.

Lease: Meadowgreen, 3-2.5-2, 2 story on cul-de-sac, new paint, $850/mo + dep. 486-8551.

Lease: Baywind II corner unit, 2-2.5-2, 2 story, W/D, refrig w/icemaker, avail 11/1, park at back dr, FPL, $575 + $250 dep. Sue, 282-3951 or 339-3464.

Lease: Seabrook, 3-2 w/attached garage, new paint, carpet, tile, boat launch and pier, trees, $800/mo + dep. 332-6305.

Sale: Pearland, 5.8 acres, cleared, fenced, city water/ sewer, approved for horses, $9k/acre. Lee Ann, 485-8823 or 965-2988.

Sale or Lease; CLC, 4-2-2, unfurn, no pets or smokers, $79.5k or $890/mo. Joe, 335-2506 or 486-1142.

Sale: LC, Meadowbend, 4-2-2, FPL, c'fans, newly landscaped and painted, $70.9k nego, assumable. Peter, 526-1853.

Rent: Heritage Park, 3-2-2, cul-de-sac, FPL, fenced. Geno, x44867 or 992-2156.

Sale: Dickinson waterfront, 4-2.5.2, pool, trees, FPL, WB, sec sys, 3/4 acre, $208k/$206k. x34354 or 337-1640.

Sale: Nov 13-20, 1993 at 5 star resorn in Cancun, Mexico, 2 -2, was $1400 now $700. x48336.

Rent: Lake Travis cabin, private boat dock, CA/H, fully equipped, sleeps 8, fall/winter, $325/$90 wkly/dly. 474-4922.

Sale or Lease: Nassau Bay, 4-2-2, recently remodeled, gas, trees, $119.5k/$850. Minh, x30992 or 484-2456.

Rent: Galveston condo, Seawall Blvd and 61st St, furn, sleeps 6, wknd/wkly/dly rates. Magdi Yassa, 333-4760 or 486-0788.

Rent: Southern Colorado, 2 BR, furn, sleeps 5, no smoking/pets, day/wk/mo or longer. Bob, x30825 or 998-7372.

Sale: Lake Livingston, Impala Woods at Onalaska, 30' x 70' lot, camp or build, util avail, paved roads, $3k. Teena, x37787 or 422-6369.

Sale: Univ Green, 3-2-2, ex cond, new A/C, c'fans, deck, custom blinds and drapes, all appliances, $83k, assum, no approval. 488-0345.

Cars & Trucks

'93 Ford Escort Wagon, approx 5k mi, new teal color, $9k. 992-4216.

'66 Bronco, 302 V8, auto, pwr brakes, dual tanks, new brakes, 35" Mickey Thompson tires, 4WD, $3500 OBO. 554-4717.

'88 Subaru Justy, GL, 5 spd, A/C, 60k mi, 4 new tires, 2 dr htchbk, tinted glass, ex cond, $2,750 OBO. x44540.

'92 Ford Ranger XLT PU, 21.5 mi, AM/FM/ cass, 5 spd w/OD, $9,700. Neil Kennemer, 554-7035.

'80 Datsun B-210 station wagon, white, new battery and carb, 5 spd. Ray, x41010.

'74 Triumph Spitfire, '78 eng, new int, recent paint, tires, valve job, spare eng, hard top, extra parts, $2,200 OBO. Craig, x36206 or 280-0176.

'88 Ford Ranger, blk, V6, PS/PB, AM/FM, A/C, $57k mi, $4,000 OBO. Tim, 332-0044.

'84 Toyota Corolla, 125k mi, new inspection, new battery, good cond, $1,050. 286-0022.

'91 Nissan Stanza XE, auo, A/C, pwr windows/ locks, tilt, cruise, AM/FM/cass, 60k mi, $8,400. James, x40045 or 332-1129.

'85 Buick Park Avenue, low mi, loaded, leather, $3,500. 532-2082.

'93 Mustang GT, 2dr htchbk, bra, 7k mi, med blue/gray, loaded, ex cond, $14.5k. Mike, x38203 or 554-4026.

'89 Cadillac Sedan DeVille, smoke grey ext, grey leather int, V8, 82k mi, $9,500. Bill, 489-9312.

'84 Astro Van, luxury touring, LT pkg, loaded, new tires, 6 capt chairs, $8,700. 337-5350.

'84 Nissan 300ZX, ex cond, BO. 409-744-3594.

'85 BMW 325i, ex cond, white, new paint, AM/ FM/cass, A/C, sun roof. Norbert, 680-4189 pager or 721-1633.

'85 Olds Calais Supreme, V6, 67k mi, auto, pwr windows/locks, tilt, cruise, new A/C w/1 yr warr, $3,200. Sheri, x37451 or 326-1110.

'85 Volvo 740 GLE, leather, A/C, stereo, sunroof, pwr steering, good cond, $4,000.333-7325.

'86 Chevy S-10 Blazer, approx 14k mi on rebuilt motor and trans, loaded sports pkg, new tires, 4X4, $6,900 OBO. x44864 or 470-0820.

'87 Plymouth Horizon, 4 dr htchbk, PS, AM/ FM/cass, A/C, ex cond, paint faded, good tires, new battery, $1,800. x45421 or 286-4067.

'85 Ford LTD mid-sz, loaded, approx 40k mi on factory rebuilt motor, $2,000. x32116.

'90 T-Bird SC, dk blue, every option except CD and leather, $13k OBO. x34204 or 480-2954.

'66 Buick Electra 225, 445 Wildcat eng, 2 dr, good cond, $2,000 OBO. x47367.

'87 Chevy Spectrum, 4 dr, 5 spd, 70k mi, new tires, good cond, $3,300 OBO. Ed, 486-9747 or 996-8403.

Boats & Planes

'75 Del Magic Streaker, 16' boat w/65 hp Mercury motor, Little Dude galv trlr, all good cond, $2,000. 471-4100.

22.5' Sea Ray cuddy cruiser, 228 Mercruiser I/O, ex cond, VHF, Furano color CRT, $8,500. Mark, x38013 or 992-4132.

16' tri-hull boat w/motor and trlr, $1,200 OBO. x35022 or 331-9136.

16' Hobie Cat, Signature mod w/trlr, beach-wheels, life jackets, harnesses, yelllow sails, very fast, $1,375 OBO. Doug, x41081.

15' Wellcraft, walk thru windshield, vinyl fold down seats/top, carpet, 50 hp Johnson, big wheel galv trlr, low hrs, good cond. John, 488-4487.

'87 Four Winn 16', skiing hook, trlr, ex cond, $6.5k. Eloina or Roger, 280-1743 or 992-1781.

Cycles

Suzuki 1100, red, good cond; Suzuki 1000, blue, ex cond, price nego. Jerry, 944-1337.

'74 Kawasaki KS, 125cc dirt bite, new chain, carburetor boot, transmission gasket, rebuilt clutch linkage, $140. Keith, 482-2741.

Child's 10" tricycle, $10; Sears 15" child's first bike, $15; Huffy lady's 26" 10 spd bike, $75; girl's 20" bike, $20. John, x45684 or 554-6922.

27" Fugi 10 spd bike, good cond, $75. Mark, x38013 or 992-4132.

Huffy S-2000 Strider 10 spd women's bike, ex cond, $125 OBO. Steve, 286-7908 or 727-1264.

'88 Hurricane, 18k mi, tank bag, helmet, $2k OBO. x34204 or 480-2954.

Audiovisual & Computers

IBM PS/2 mod 25, mono monitor, two 1.4 MB FD, 512k RAM, no HD, ex cond, $275, x38516 or 482-8820.

Technics SL-BD22 auto turntable, new cartridge, $10; Sansui 3-way speakers, 120W, $60/pr. x37137 or 482-8966.

IBM PS/2 mod 50Z, 30 MB HD, 2MB RAM, 3.5" and 5.25" FDs, VGA color monitor, mouse, $680. x36814.

Two Nintendo games w/controller, $35 ea; various games, $15 ea. Jim, x47068.

IBM 5525 CPU, 18 IBM 5253 work stns, kybds, 11 IBM 5219-B02 printers, auto sort/envelope feeders, $3k OBO,or trade. Ted, 729-9300.

AT&T 6300 computer and CITOH Prowriter 9-pin printer, 640k RAM, 40 MB HD, color monitor, SW, $350. 333-4381.

Star Power Mate daisywheel printer, wide carriage, tractor or single sheet feed, ex cond, $75. Speier, 333-2263.

Magnavox word processor w/printer, $100; 128k Macintosh and Imagewriter printer, $40; Minolta autofocus 35mm camera, $40; RCA VCR, $40. 486-4392.

Computer supplies, 10 MB MFM, $10; 30 MB RLL, $20; low density 3.5 floppy, $10; sm XT-AT kybd, $5. Charlie, x34754 or 554-7116.

Photographic

Nikonis 103 underwater flash and camera mount, bag incl, ex cond, $250 OBO. 282-6909.

Pets & Livestock

Boxer/Chow mix puppies. Laurie, x35590 or 991-0821.

Lab/Collie mix, docile fem, spayed, current shots, has allergies, free. x49712 or 585-3610.

Kittens, born 9-19, avail 10-30, 2 litters, tabbys or orange/white. Tom or Laura, 946-0681.

Musical Instruments

Selmer wooden oboe, good cond, used one yr, was $1000, now $700; Yamaha kybd, ex cond, $85. Kathy, 486-9606 or 286-1767.

Young-Chang baby grand piano, blk lacquer finish, good cond, was $8,500, now $4,000. Debbie, 282-4522.

G&L five string electric bass guitar model L5000, made by Leo Fender, ex cond, $600 OBO. x47367.

Guild model D40C acoustic/electric guitar, hard case, solid spruce top, scalloped bracing, multiple binding, was $1.6k, now $595. 280-9621.

Ibanez RG550 electric guitar w/active EMG pickups and hardshell case, was over $1k now $495. 280-9621.

Lost & Found

Found Walkman at Rockwell picnic at H&H Ranch, identify radio and tape. x34964.

Found button cover in parking lot across from Bldg 2, 9-23-93. Pete, x45693.

Household

Sears side-by-side refrigerator, 19 cu ft w/ice-maker, $75. x38785 or 409-945-8787.

Rattan sofa, chair; DR table w/4 chairs; desk and chair; 2 formica top tables and 2 end tables, $650 OBO. Steve, x37152 or 992-7049.

Matching set of mauve and blue seascape pictures w/silver frames, ea 24" x 36", was $120, now $60. Dorothy, 482-1505.

Solid oak DR set w/china cabinet, ex cond, $900 nego. 947-6223.

Coffee table and 2 end tables w/inlaid beveled glass and wicker lower shelf, $175; 2 glass lamps filled w/seashells, $50 ea. 480-1682.

Navy floral sleeper sofa and love seat, $100 OBO. 482-8270.

Bassett formal DR set, 6 chairs, oval table w/leaf, lighted china cabinet and buffet, $350. 283-7530 or 280-5058.

'85 White, 91 cu ft Signature refrigerator w/ice-maker. ex cond, $300. x33313 or 480-3977.

Simmons crib w/mattress and sheets. $200; Fisher Price playpen, was $90 now $50; maple head/foot boards and side rails, $75. x36776 or 286-3266.

Children's white triple dresser w/lingerie chest, $175; antique white wrought iron full sz bed, $165. 996-8522.

Matching earthtone couch, $150, and love seat $100, $200 pair . Curt, 480-9034.

Antique vanity dresser, $100; kg sz bookshelf headboard for waterbed, $50; Sears exercycle, ex cond, $50. 488-6521.

New white frame daybed, $150 OBO; lg cap microwave, working, $50 OBO. Trudy, 333-6688.

Kenmore dishwasher, 4 yrs old, good cond, three level wash w/pwr miser, $35. 554-4717.

Bassett 7' sofa, solid beige, oak wood trim, $100; lg Kenmore, 1400W microwave, $80; wood rocking chair, $15; 4 dinette style chairs w/custom covers, $20; twin sz bed set, metal frames, $30. John, x45684 or 554-6922.

Carpet, cinnamon brown, good cond, 150 yds, $300 all or $3/yd. Mark, x38013 or 992-4132.

Two piece lighted china cabinet, ex cond, $700 OBO. 554-7669.

Mitsubishi 45" lg screen TV, stereo, was $3,300, now $1,600, or trade for car. 488-0345.

Wanted

Want to buy laptop/desktop computers. Mandal, 333-6001 or 498-5400.

Want carpool or vanpool from The Woodlands area, I-45 N to JSC, 7:30 am-4 pm, will change hrs if needed. x31806.

Want nonsmoking roommate to share 3-2.5-2, LC Meadowbend, $300/mo + 1/3 util + dep. Gloria, x31891 or 538-2283.

Want 3 or 4 channel radio control for airplane in good working cond. 480-2350.

Want to buy twin sz bookcase headboard, prefer maple finish. 480-3424.

Want carpool rider, Westwood Mall Park & Ride to JSC/CLC area, 7 am-3:45 pm, nego. James, 333-6458.

Want roommate, Friendswood 3-2-2, pref non-smoking, $300 + 1/2 util. 216-4001 or 992-5765.

Want 12-17' canoe, prefer aluminum model in good cond. Steve, x37152 or 992-7049.

Want used 4-harness weaving loom, table top or foldup style. L. Bartos, 282-4175.

Want roommate, new 4 BR 2 story, separate phone/living room, boat storage w/fully fenced back yard, $350/mo. x35107 or 474-4742.

Want doors and top for Jeep Laredo CJ-7. x35107 or 474-4742.

Want nonsmoking roommate to share 3-2-2 in LC near I-45. $325/mo + 1/2 util + dep. Doug, 212-1380 or 554-2660.

Want self-starting riding lawnmower, must be ex cond/reasonably priced. x38510 or 399-0980.

Want part time kitchen help at Gilruth Center, waitress, dishwasher positions, evening shift 4 pm to 9:30 pm. Pat, x30326.

Want riders for vanpool, West Loop Park & Ride to JSC. Richard Heetderks, x37557.

Want child's bicycle helmet for 4 yr old; want Little Tykes kitchen. 480-3424.

Miscellaneous

Tunturi exercise bike, ex cond, was $300, now $125; Sony CD player, ex cond, $125. x38516 or 482-8820.

Exercise bike w/20 lb flywheel, speedometer, timer, $70; rowing machine, $50; driving net, 9' x 7', $15; microwave, $25. x37137 or 482-8966.

Golf balls, experienced, all grades, priced to sell, depending on quantity. 488-4487.

Dolls, assorted, ex cond, reasonable. 488-6521.

Remington 7400 model .270 ca hunting rifle w/Redfield scope, $300. 280-9861.

X-ray film viewer lamp, 2' x 5', mobile stand, $150. Enrique, 991-0821.

GEO 370 Roadmaster exercise bike, ex cond, was $150, now $85. Bill, 282-2830 or 996-1067.

20' shrimp net w/hvy duty doors, $60. 482-7073.

Girl's red dbl-breast wool coat w/blk velvet trim, ex cond, was $175, now $100. 283-7530.

Motorcycle helmets, 2 full-face Fulmer, 1 open-face Snell, 1 child's, $100 for all 4, or sell separately. x31484 or 280-8563.

Have-A-Heart animal trap, 11"x11"x37", traps animals w/o harming them. $15. Jim, x39229 or 482-7873.

Electric ice cream freezer, Richmond cedar, 5 qt, new, was $40, now $25. Jim, x39229 or 482-7873.

Riding lawnmower, 11 hp, 30" deck, 8 spd, $650. Mark, x38013 or 992-4132.

Magic Chef electric cook-top, stainless steel, $50; chalk board, 36" x 48", 2 sides, flip over, wooden stand, $50. 922-1115.

Craftsman 1.5 hp router w/table and stencil maker, some bits incl, unused, was $260, now $150. x32116.

Brassiere for '82-'85 Mazda RX-7, quality leather, ex cond, $40. Speier, 333-2263.

Golf clubs, Tour model III, 1-SW, $16.95/club; metal woods, 1, 3, or 5, $35/club; peripheral wt, custom made clubs, 1-SW, 1 yr old, $150. David, 282-3827 or 554-5514.

McGregor GM 1800 golf clubs, 2-PW irons, graphite shafts, 1, 3, 5, woods, graphite shafts, ex cond, $150; POWAKaddy motorized walking cart, ex cond, $150. Jay, 929-7134 or 481-2335.

Soloflex, $600; P&FL Charter Gold, $500; men's giant bicycle, $100; men's lg leather jacket, $60; Phototron electric indoor greenhouse, $150. 486-4392.

Men's wedding ring, 14K, 5-.15 pt diamonds, $250 OBO; blk leather MOMO Monte Carlo steering wheel w/BMW hub, $125; old cast iron 8" table saw, $150. Paul, 332-2915.

Spacelab Life Sciences 2

Second life sciences research mission to unlock secrets of human physiology in space

Mission Specialist David Wolf participates in pre-flight data collection for the cardiovascular experiments.

By Kari Fluegel

For hundreds of years, scientists have been trying to unlock the secrets of the human body, but even with the thousands of volumes that have been written on the subject, some mysteries remain.

One of those mysteries is how the human body adapts to the microgravity, and Spacelab Life Sciences 2 seeks to add more pieces to that puzzle.

Gravity plays an important role in the development and functioning of the human body. Body fluids pool in the lower extremities because of gravity. Bones and muscles take on certain characteristics so they can provide body structure and the ability to move in the presence of gravity. Even the tiny calcium stones in the inner ear respond to the downward pull of gravity to help to maintain our balance.

"Gravity has been such an important, pervasive and constant influence on how life evolved and formed on Earth and shaped, literally, how we all are today and how we function," said SLS-2 Program Scientist Frank Sulzman. "Other aspects of the environment have changed, but gravity has really remained constant."

In weightlessness, however, where gravity's influence is lessened, virtually every human physiological system undergoes some form of adaptation. The capacity of the cardiovascular system is diminished. Muscle and bone density also begin to decrease. A shifting of the body's fluids affect the renal and endocrine systems as well as the way the blood system operates. And the balance and position sensing organs of the neurovestibular system must readapt to an environment where up and down no longer matter.

The 14 comprehensive investigations that make up SLS-2 are designed to harvest more information on the physiological responses that are at the heart of these adaptations.

The experiments also will provide investigators with additional information so that they can confirm the findings of SLS-1 and add to NASA's overall biomedical research program.

"If our goal is to explore space and to spend longer periods of time there, we really need to have a better understanding of what potential adverse affects there are," said Payload Specialist Marty Fettman. "There are so many things that we only have an inkling as to the answers and some of that came from SLS-1. Some of those answers came from previous spacelab flights along the way.

"I look at it as each additional life sciences flight opens up a whole new dimension of potential answers to questions that have remained on the books for many, many years."

Overall, the goal of the SLS-2 investigations is to assess the effects of microgravity on human physiology so the preparations can begin for long-term stays on orbit. These experiments also will provide the basis for the development of countermeasures and better care for tomorrow's astronauts.

The SLS-2 investigations are divided into four science disciplines — cardiovascular/cardiopulmonary physiology, neuroscience, musculoskeletal physiology and regulatory physiology.

The experiments also can be divided into human and rodent investigations with the eight human experiments being managed by JSC and the six rat experiments being managed by Ames Research Center.

JSC also has managed the mission development and integration activities. A group of payload controllers from JSC will go to Marshall's Payload Operations Control Center to oversee the experiment activities.

The team, many of which also served as payload controllers for SLS-1, has been training extensively for the mission.

"This team of men and women have worked extremely hard at pulling everything together for this very complicated mission," said Mission Manager Katherine "Lele" Newkirk. "We're ready to fly and ready to do whatever we can to help and enhance the science gathering."

For the human investigations, the seven crew members will serve as subjects as well as operators.

Already the crew has undergone a battery of preflight tests to provide baseline data for the in-flight tests.

On-orbit however, their activities will include taking heart echocardiographs; measurements during various levels of exercise for the cardiovascular investigations; collecting blood, saliva and urine samples for the hematology and regulatory physiology tests; ingesting and injecting several different tracers for the regulatory and musculoskeletal investigations; and testing their balance and reflexes for the neuroscience investigations.

"The samples we bring back are as precious as to the life scientists as those that were brought back in 1969 to the geologists, the Lunar samples," said Dr. Howard Schneider, SLS-2 mission scientist.

About 40 percent of the SLS-2 timeline is devoted to the rodent experiments. Like the astronauts, the rats that fly on Columbia will receive tracer injections and have blood drawn afterwards for hematology and musculoskeletal investigations.

"Animal research has played such an important role in biomedical research from its outset," said Payload Commander Rhea Seddon. "Animals have served an extremely useful purpose in studying disease processes here on the ground, in developing medicines that people use everyday.

"I think without animal research we would really be back in the dark ages of medicine. I think that most people realize that and understand that."

On the 13th flight day, Fettman and Seddon will humanely kill and dissect five rats providing researchers with their first look at tissues and organs that have not had some readaptation to gravity.

In past rodent experiments, researchers did not receive the flight rats for data collection for about three to four hours after landing. By that time, readaptation to Earth's had already begun. The SLS-2 experiments will provide investigators with tissues unaltered by gravity after exposure and adaptation to space.

"This is such a unique opportunity for space life sciences research," Fettman said. "This is the first and probably the only time we will ever have to opportunity to use animals in space for the purposes of tissue collection. ...The process will end up producing dozens of tissue specimens to be sent off to researchers around the world."

Understanding how the human body works in space will provide scientists with new insights to how it works on Earth. This one day may led to advances in cardiovascular research and treatments, enhanced care of the elderly and infirm and overall improvements in the health system at home. ❑

SLS-2 Investigations

Cardiovascular/ Cardiopulmonary

Throughout the space program, cardiovascular "deconditioning" has often been observed in spaceflight crews. This diminished capacity of the cardiovascular system is evidenced by decreased orthostatic tolerance upon return to Earth's gravity.

Measurements of body fluids in microgravity reveal a redistribution of circulating blood and body water toward the head and neck, and a net decrease in body fluid volume. This headward shift may influence various cardiovascular parameters. Upon return to Earth, the cardiovascular system must readapt rapidly. This challenges the space-adapted cardiovascular system, which contains less blood volume than normal because of the reduction in body fluid.

Scientists also believe that microgravity may alter lung function in orbit and are investigating the effect that weightlessness has on the pulmonary system, particularly on respiration, blood flow, and gas exchange.

The three SLS-2 cardiovascular/cardiopulmonary experiments seek to understand and quantify these changes that occur on orbit and focus especially on the acute fluid shift and the adaptation of the heart and lungs. All three are human investigations.

The cardiovascular/cardiopulmonary principal investigators are "Inflight Study of Cardiovascular Deconditioning," Dr. Leon Farhi of the State University of New York at Buffalo; "Cardiovascular Adaptation to Zero Gravity," Dr. C. Gunnar Blomqvist of the University of Texas Health Science Center in Dallas; and "Pulmonary Function During Weightlessness," Dr. John West of the University of California at San Diego.

Regulatory Physiology

SLS-2's regulatory physiology investigations include studies of both the renal/endocrine and hematological systems.

On Earth, gravity affects the distribution of fluids inside the body by pulling the various body fluids down toward the feet, but in space, fluids redistribute upwards toward the chest and the head. This perceived increase causes multiple physiological changes in the kidneys and associated fluid regulating hormones in the cardiovascular system and in the blood system.

The SLS-2 Regulatory Physiology experiments investigate the theory that the kidneys and endocrine glands adjust the body's fluid regulating hormones to stimulate an increase in fluid to be excreted. Over a longer period of time the kidneys and hormones establish new levels of salts, minerals and hormones appropriate for the reduced fluid volume. The fluid shift also impacts the blood system initially by a decrease in the plasma volume. Another effect of space flight is a decrease in red blood cells which are responsible for carrying oxygen to the tissues.

Four SLS-2 experiments focus on this area of physiology. Two of the experiments use humans as subjects and two use rats. The human investigations are "Fluid-Electrolyte Regulation During Spaceflight," by Dr. Carolyn Huntoon, director of JSC's Space and Life Sciences Directorate; and "Influence of Spaceflight on Erythrokinetics in Man," by Dr. Clarence Alfrey of the Baylor College of Medicine in Houston. Alfrey also is principal investigator of one of the rat experiments, "Regulation of Blood Volume During Space Flight. The other rat experiment is "Regulation of Erythropoiesis in Rats During Space Flight," by Dr. Albert Ichiki of the University of Tennessee Medical Center.

Neurovestibular

Neurovestibular changes related to equilibrium and body orientation affect astronauts early in flight of probably more than any other physiological changes. The awareness of body orientation on Earth is attributed, in part, to the detection of gravity by the otolith organs in the inner ear. Gravity sensors in the joints and touch sensors in the skin also are involved, and the eyes contribute by sensing the body's relationship to other objects. In space, the environment no longer corresponds with the visual and sensual cues sent to the brain causing disorientation.

Space motion sickness may result from this disorientation, and although astronauts adapt within a few days, investigators are working to better understand and counter these negative effects. A similar disorientation can occur when astronauts readapt to Earth's gravity after landing.

Two experiments — one using humans and one using rats — make up the neuroscience studies.

Dr. Larry Young of Massachusetts Institute for Technology is the principal investigator of "Vestibular Experiments in Spacelab," six different tests to assess sensory-motor adaptation in humans, and Dr. Muriel Ross of the Ames Research Center is the principal investigator of "A study of the Effects of Space Travel on Mammalian Gravity Receptors."

Musculoskeletal

In microgravity, the body's bones and muscles are not used as extensively as they are on Earth. As a result, researchers have seen a decrease in the mass of both during space flight.

Human muscle atrophy has been noted frequently among returning astronauts and can be characterized by a loss of lean body mass, decreased muscle mass in the calves and decreased muscle strength. Researchers also have identified a progressive loss of skeletal mass in microgravity. This is associated with changes of calcium homeostasis as is evidenced by increased urinary and fecal excretion of calcium. Efforts to avoid the loss of skeletal density through exercise have been only partially successful, and researchers have not been able to reverse calcium and nitrogen loss.

Five SLS-2 experiments focus on the musculoskeletal area. The two experiments using humans as subjects are "Protein Metabolism During Spaceflight," Dr. T. Peter Stein of the University of Medicine and Dentistry of New Jersey, and " Pathophysiology of Mineral Loss During Spaceflight," Dr. Claude D. Arnaud of the University of California in San Francisco.

The three rodent musculoskeletal experiments are "Effects of Microgravity on the Electron Microscopy, Histochemistry and Protease Activities of Rat Hindlimb Muscles," Dr. Danny Riley of the Medical College of Wisconsin; Effects of Zero Gravity on Biochemical and Metabolic Properties of Skeletal Muscles in Rats," Dr. Kenneth Baldwin of the University of California at Irvine; and "Bone, Calcium and Spaceflight," Dr. Emily Morey-Holton of Ames Research Center. ❑

Team shares ideas on space walk technology

A grass-roots organization designed to foster information sharing within the extra-vehicular activity technology community is hosting the first Advanced EVA Systems Technology Information Meeting on Oct. 19-20.

The meeting is the result of the EVA community's efforts to define technology development requirements for the future. It starts at 9 a.m. Oct. 19 at the Lunar and Planetary Institute and the public is welcome to attend.

Topics to be discussed include development of a next-generation EVA suit and funding priorities within the EVA community.

Robert "Cab" Callaway of the New Initiatives Office and Dean Eppler of SAIC formed the group and believe this team effort will benefit future EVA technology development.

"The goal of this meeting is to exchange information among industry, academia and NASA and to build a consensus within the EVA community about where we are healthy and where we are hurting," Callaway said.

"With the limited funding available for EVA technology development it becomes important to develop a logical thought process to ensure we can take care of business in the future."

With the approval of NIO, Callaway took his idea to other NASA organizations and industry. The group now has representatives from several directorates, 13 contractors, and two universities discussing the health and future of next-generation EVA technology.Some basic assumptions had to be made about the types of missions a next-generation EVA suit might have to support and Callaway and Eppler presented three options for next generation missions. The options are a lunar return mission, a mission to Mars and zero-gravity operations in low earth orbit. Based on these assumptions, the group then developed a matrix relating specific suit functions to mission objectives.

"This allows the community to determine its priorities based on anticipated mission requirements so we will be ready when our customer needs a new system in the future."

Callaway said the goal of the meeting is to develop a sense of community between NASA, industry and academia and to utilize that sense of community to work towards a future where "we can make some of the hard decisions and help to make the future better."

Invite your boss to lunch

Need an opportunity to tell your boss you appreciate him or her? That chance is coming when the Clear Lake/NASA Area Chapter of Professional Secretaries International hosts its annual Boss's Day Luncheon at 11:30 a.m. Oct. 14.

Astronaut Tammy Jernigan will be the featured speaker for the event which will be held at the Holiday Inn on NASA Road 1. Cost is $13 per person and reservations must be made by Oct. 13.

"The lunch isn't just for secretaries and their bosses. Anyone can bring a favorite boss to lunch," said Elaine Kemp, president of the local PSI chapter.

For reservations and information, contact Kemp at x30556 or Vicki Gonzalez at 457-8822.

Last chance for cook-off tickets

Friday is the last day to buy bargain tickets to the Center Operations Directorate's fifth annual COD Chili Cook-off.

Tickets, which cost $3 through Friday and $5 thereafter, can be purchased from any COD employee. The ticket price includes admission, a souvenir button, refreshments, a tasting kit, entertainment and a door-prize drawing. Hot dogs and funnel cakes will be available for purchase.

The cook-off starts at 4 p.m. Oct. 22 at the Gilruth Center and features 14 teams. Public tasting begins at 7 p.m. For more information, call Ginger Gibson at x30596.

MCC viewing hours

The Mission Control Center viewing room will be open to JSC and contractor badged employees and their families during STS-58.

Based on a Thursday launch, employees will be allowed to visit the MCC Friday from 11:30 a.m.-2:30 p.m.; Sunday, from 1-5 p.m.; Monday, from 11:30 a.m.-2:30 and 5-7 p.m.; Wednesday from 11:30 a.m.-2:30 p.m.; Friday from 11:30-2:30 p.m. and 5-7 p.m.; Saturday, from 10 a.m.-2 p.m.; Oct. 25 from 11:30 a.m.-2:30 p.m. and 5-7 p.m.; and Oct. 27 from 11:30-2:30 p.m.

The Bldg. 11 cafeteria will be open from 6:30 a.m.-2 p.m. weekdays, except launch and landing days. The Bldg. 3 cafeteria will be open normal hours from 7 a.m.-2 p.m. weekdays.

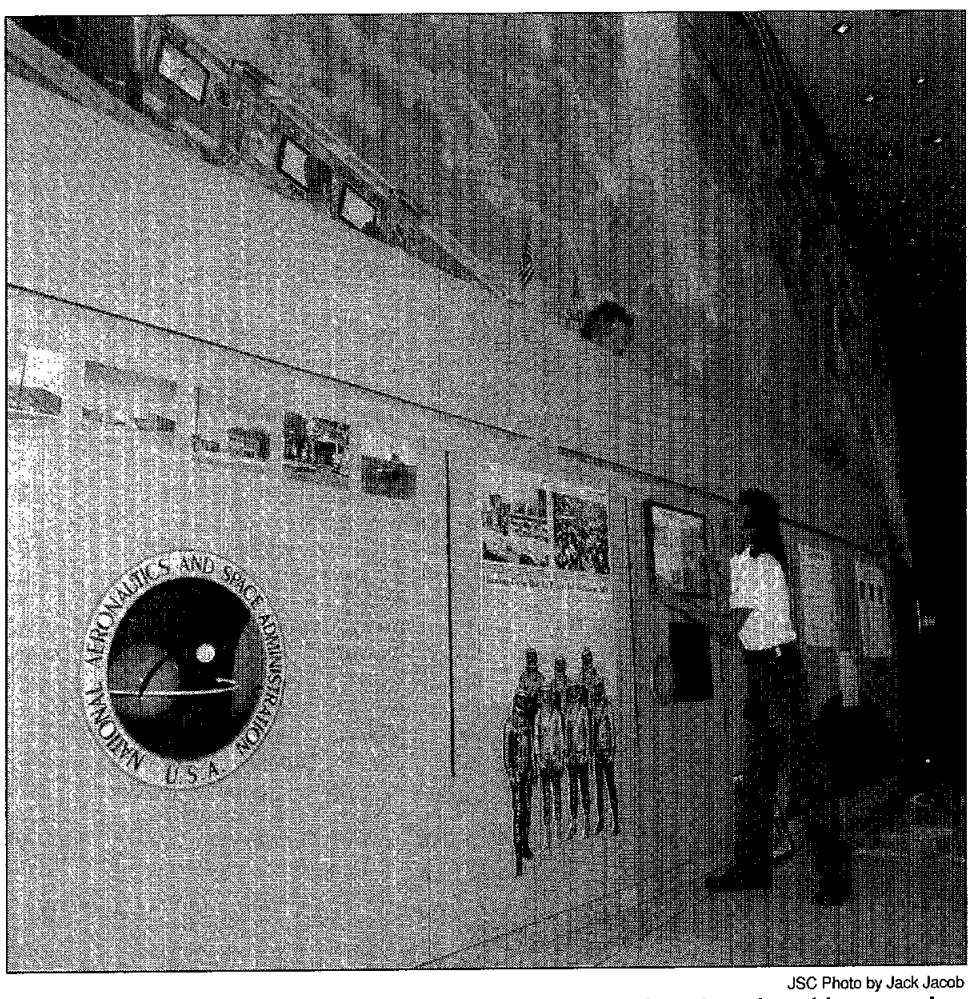
Ideas due Oct. 21

(Continued from Page 1)

simple and easily pronounced. All submissions should be original and not duplicate or sound so similar to other NASA or non-NASA project names that they create confusion. Names should be translatable in the languages of station's international partners and must not have ambiguous or offensive meanings. Acronyms or names of living people will not be accepted.

Submissions must be accompanied by a brief statement explaining the significance of the name and why it would be appropriate. The review panel will select five to 10 suggestions to forward to the Space Station Name Committee for further consideration.

All suggestions must be submitted no later than Oct. 21 to Nesbitt at AP4. For more information, contact Nesbitt at x34241.



JSC Photo by Jack Jacob

HISTORY ROUNDUP — Roger Eklund of Hernandez Engineering gives his co-worker Curly Phillips some "top level" help in constructing the "History of JSC" exhibit to be permanently displayed in the north lobby of Teague Auditorium. The exhibit chronicles JSC highlights from the beginning of the Manned Spacecraft Center in 1962 to the present as told through the pages of the Space News Roundup. The historical display also will have the Lunar Landing Training Vehicle elevated over the center of the lobby. Completion of the exhibit is expected by the first of the year.

Hernandez earns contractor honors

Hernandez Engineering Inc., Houston, was named as NASA's Minority Contractor of the Year.

Although Hernandez was nominated this year by Kennedy Space Center, the company was a finalist for the same award last year after being nominated by JSC.

AJT and Associates Inc., Cape Canaveral, Fla., was named Minority Subcontractor of the Year.

Hernandez Engineering was cited for providing outstanding and critical technical support in safety engineering, industrial engineering, and software support to the KSC Directorate of Safety, Reliability and Quality Assurance as part of the Space Shuttle Program. Hernandez was cited for creative problem solving techniques, strong management leadership and efficient resource utilization and cost control.

The contractor's president, Miguel A. Hernandez Jr., is on NASA's minority resources advisory committee.

NASA Administrator Daniel S. Goldin presented the awards last week at NASA Headquarters. The Minority Contractor and Subcontractor of the Year Awards are given each year in recognition of minority businesses that have made outstanding contributions to NASA.

"As we continue to strive to meet our goals in minority subcontracting, all of NASA takes pride in seeing the excellence provided by Hernandez Engineering and AJT and Associates. We are also proud to announce this year's Exceptional Achievement medals to three NASA employees, nominated by their centers, for their participation in NASA's commitment to minority contracting," Goldin said.

AJT and Associates was nominated by the USBI Facilities Group of the United Technologies Corp., a prime contractor at KSC, managed by Marshall Space Flight Center. AJT's president, Alfredo J. Teran, is the founder and president of the Minority Business Enterprise Alliance of Florida. AJT provided high quality architect/engineering Services that assisted USBI in meeting and exceeding the prime contract statement of work.

Space Center Houston celebrates first anniversary

Space Center Houston first opened its doors to the public as the new JSC visitor center one year ago this month and observes its anniversary with a number of special events.

Throughout October, Bay Area residents can receive a $2 discount on all tickets by saying "Bay Area Salute" at the ticket window. Visitors to the center also are eligible to win a variety of prizes including annual passes to the center, lunch at the Silver Moon Cafe and free round-trip tickets on Southwest Airlines.

Sunday, Space Center Houston celebrates its birthday from 1-3 p.m. with a musical performance by the children of the Houston Chorus and a remote broadcast by radio station KKBQ.

The center honors the 25th anniversary of the Apollo 7 mission with a special evening on Oct. 26. Apollo astronaut Gene Cernan will serve as master of ceremonies for the program starting at 7 p.m. Apollo 7 crewmen Walt Cunningham and Wally Schirra will make a special presentation to the center.

A buffet dinner will be offered in the Silver Moon Cafe and a cash bar will be available. Tickets for the Apollo 7 special evening are $15.50 per person and are available at both the Space Center Houston ticket window and JSC Exchange Store in Bldg. 11.

A space-themed children's Halloween contest is planned for Oct. 31. Children under the age of 12 who come to Space Center Houston dressed as their favorite alien, astronaut or spaceship will be admitted free when accompanied by an adult with a regular-priced ticket. Contest hours are 1-5 p.m. Prizes will be awarded in a variety of categories and age groups.

Principal investigator in a box helps crew stay on track

(Continued from Page 1)

collaborator with the ground-based principal investigator."

The ASA has four major functions: diagnosis and trouble-shooting of experiment equipment, data collection, management of experimental procedures and detection of interesting data. The science computer recognizes something as interesting by comparing the data it collects with pre-determined rules set up by the principal investigator for analyzing data.

The developers of the ASA hope to prove that an on-board assistant can significantly enhance the crews ability to perform microgravity science experiments. It also would reduce reliance on air-to-ground communications.

The ASA was ground-tested during the first Spacelab Life Sciences mission in June 1991. During its flight test, it will support the Rotating Dome Experiment. Young, and MIT professor, is the principal investigator for this experiment.

The Rotating Dome Experiment will study how the conflict between inner ear signals and visual cues contributes to space motion sickness. The experiment also will measure how human adaptation to microgravity affects this interaction.

The ASA keeps track of the time spent on the experiment. If a test session is behind schedule, the ASA will suggest steps in the procedure to delete with minimal effect on the collection of data.

An astronaut can ask the system to propose a new sequence of steps that could be used to get the most and best data in the time remaining. The new sequence takes into account the interesting data and results of previous sessions.

The system also can lead an astronaut through trouble-shooting problems, step by step. If the problem with the experiment is in a low-priority item, the system might recommend not making the repair. Instead, the crew could use that time to get additional data.

Resources available to applicants

(Continued from Page 1)

will be badged as NASA Headquarters employees with a permanent duty station at JSC.

Applications may be turned in to JSC's Human Resources Office, Mail Code AH76 or they may be mailed directly to Headquarters, Code FPP. No faxes will be accepted.

Employees may review their personnel files in Bldg. 45, Rm. 140, and applicants can make copies of the electronic employment forms on Macintosh diskettes.

In addition, work stations are available by appointment in the ISD Product Center, Bldg. 12 so that employees can fill out their applications and work on their resumes.

A proposed organization chart and draft position descriptions for some of the positions are now available through the Human Resources Employee Services Section.

For more information, contact Employee Services at x 32681.

Space News Roundup

The **Roundup** is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every Monday by the Public Affairs Office for all space center employees.

Editor .....Kelly Humphries
Associate Editor .....Kari Fluegel

Child Care Center hosts clothing fair

The JSC Child Care Center hosts its semi-annual clothing fair from 9 a.m.-noon on Saturday.

A variety of items will be offered for sale including children's and maternity clothes, baby items, toys and port-a-cribs. The money raised during the sale buys new toys and other items for the Child Care Center.

For more information, contact Julie Kliesing at x31540.

NASA-JSC