

### Tool testbed

STS-51 deployed two satellites, retrieved one and checked out equipment for the Hubble servicing mission. Photos on Page 3.



### Senate seat

Senator Charles S. Robb of Virginia visited JSC, which bears his father-in-law's name, last week. Photo on Page 4.

# Space News Roundup

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## Lockheed picked for contract

JSC has selected Lockheed Engineering and Sciences for the Engineering, Test and Analysis contract worth \$1.5 billion over 10 years, beginning Jan. 1.

The contract work, to be performed at JSC, will be a continuation of the engineering support currently performed by Lockheed and is expected to employ approximately 1,400 people over the next 10 years.

The work involves a variety of activities including engineering, scientific, and technical support to research and development laboratories and projects as well as analytical support to the design, development, and operations of projects.

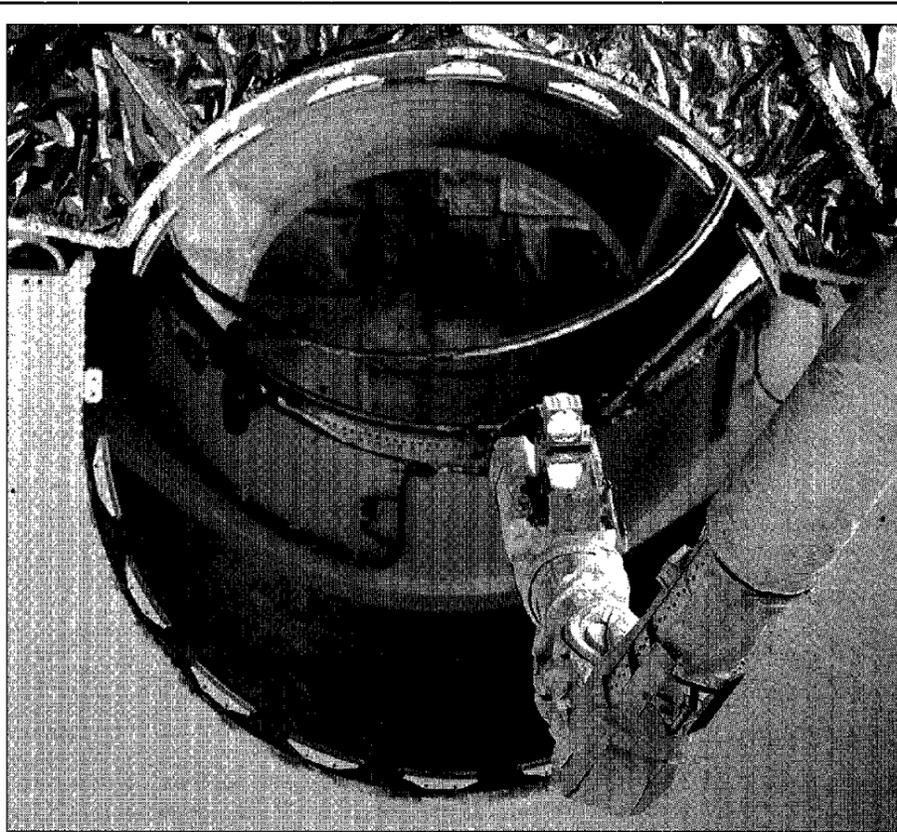
The contract also deals with engineering, maintenance, and operations support for research and development facilities, including the engineering, mechanical and avionics labs plus Space and Life Sciences Directorate scientific and curatorial facilities.

In addition, the contract covers systems engineering, programming and operations support of automatic data processing equipment and networks; design development and operations support of payloads and flight hardware.

Lockheed also will provide technical support to flight crew training for payloads and space walks and furnish equipment and systems associated with that work. Examples of this support include the crew escape pole, integration and mission management of the IMAX camera in the shuttle and development of tools for Hubble Space Telescope servicing.

The contract scope includes work currently provided under the Applications and Analysis contract which will end concurrent with the award of this contract.

Awarded through the competitive procurement process, the 10-year contract is for a five-year base effort with a one-year and a four-year renewal option.



NASA Photo

STS-51 Mission Specialist Dan Bursch uses *Discovery's* robot arm to look for damage around the Airborne Support Equipment that was used to deploy the Advanced Communications Technology Satellite and its Transfer Orbit Stage. Flight controllers called for the survey after debris was seen floating away from the cargo bay during the satellite's ejection.

## Board to probe payload bay damage

A NASA investigation board will look at the hows and whys of the simultaneous detonation of two pyrotechnic charges that damaged *Discovery's* aft payload bay during STS-51.

The board will be headed by Robert Wingate of Langley Research Center's Systems Engineering and Operations, and include JSC's Tommy Holloway, representing the NASA Headquarters Office of Space Flight.

The damage occurred when two explosive SUPERZIP cords, one a primary and the other a backup, fired during the deployment of the Advanced Communications Satellite and its Transfer Orbit Stage. When both fired at the same time a retaining band came partially loose from the equipment that had held

the satellite and booster stage in the cargo bay and created debris that damaged the aft payload bay wall.

Flight controllers and engineers at JSC began looking into the situation when television pictures showed debris floating from *Discovery* during the Sept. 12 deployment, to make sure the damage posed no danger to the crew or the orbiter. They followed up in the flight with a camera survey using the shuttle's robot arm, and with a quick look by space walkers Carl Walz and Jim Newman.

The debris damage to the aft bulkhead, which consisted of surface damage on thermal insulation, some penetrations of the insulation and payload bay liner, and one penetration of the aft cargo bay bulkhead

Please see, **BOARD**, page 4

## Clouds clear, but computer stalls launch

After waiting patiently for weather to clear at Kennedy Space Center and overseas, the crew of *Columbia* was stopped just 31 seconds short of launching Thursday morning because of a range safety computer malfunction.

The STS-58 crew—Commander John Blaha, Pilot Rick Searfoss, Payload Commander Rhea Seddon, Mission Specialists Bill McArthur, Shannon Lucid and Dave Wolf, and Payload Specialist Marty Fettman—immediately began reconfiguring the shuttle for another launch attempt.

But the same unpredictable weather system that quickly turned high hopes for a Thursday launch into doubts—and then again to high hopes—was a possible threat to the launch site again Friday.

If a Friday launch attempt were to prove unsuccessful, *Columbia* and crew would have to stand down at least 72 hours so that equipment and biological samples to be used on the 14-day Spacelab Life Sciences 2 mission could be changed out. That would mean a new launch window that opens at 9:53 a.m. CDT today.

Thursday's launch attempt was called off about 11:58 a.m. CDT after a long delay because of thunderstorms in the KSC area and at the trans-Atlantic abort landing sites in Spain and Morocco.

The launch window had opened at 9:53 a.m. and had another half hour to go, but the launch team already had started *Columbia's* auxiliary power units, which did not have enough hold time to support revival of the one range safety computer. Two range safety computer consoles at the Cape Canaveral Air Force Station were required to be working for the launch to proceed.

Once *Columbia* is launched, the STS-58 crew will work in the Spacelab module in *Columbia's* cargo bay on a battery of medical experiments looking at how microgravity affects the body.

About two hours and a half after launch crew members will activate the Spacelab and set up the 14 experiments that will focus zero gravity's effects on virtually every system in the body including the heart and lungs, blood and other body fluids, the body's equilibrium and orientation systems as well as muscles and bones.

Please see **SLS-2**, Page 4



## Clear Lake thanks congressmen for space station support

NASA Administrator Daniel S. Goldin and more than 2,000 Clear Lake area residents saluted three local congressmen for their ongoing support of the space station during a community appreciation reception last week.

Reps. Jack Brooks, Mike Andrews and Tom DeLay were recognized for their efforts to save the space station

from cancellation.

Brooks, Andrews and DeLay also were thanked for their work to have JSC named the host center for the station program.

"The key to all our past successes is the initiative and drive people like yourselves have shown in every undertaking that we've attempted so far," Brooks told the gathering.

As a part of their efforts to garner continued support for space station, the three congressmen met with their fellow representatives and wrote "Dear Colleague" letters stating the benefits of the space station program. They facilitated a visit by noted heart surgeons Dr. Michael DeBakey, Dr. Denton Cooley and other Texas Medical Center medical

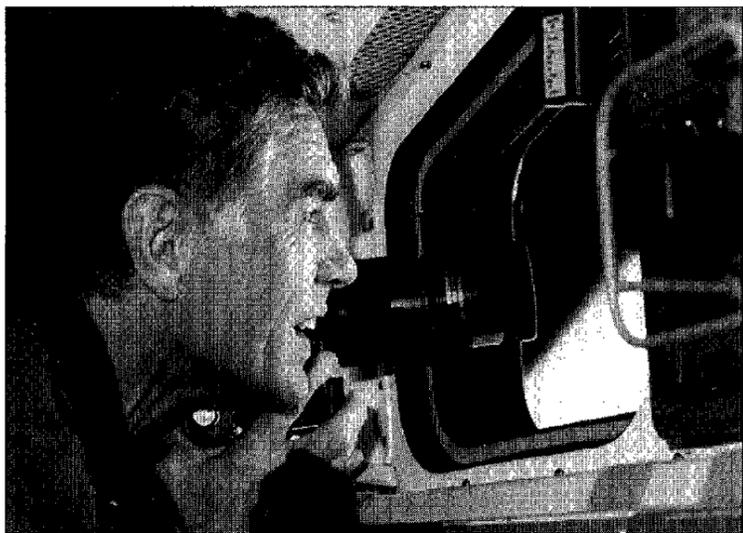
specialists to address Congress and First Lady Hillary Rodham Clinton concerning medical breakthroughs from human space flight programs.

"We can keep America number one in space technology—we can continue to lead other nations—or we can step aside and follow," Andrews said.

"Continued funding, combined

with consolidating space station operations in Houston will keep all eyes on Clear Lake as the world center for space exploration," DeLay noted.

The community appreciation reception was sponsored by numerous companies, private citizens from the Bay Area and the Clear Lake Economic Development Foundation.



NASA Photo

Karl J. Henize, who died in an attempt to climb Mount Everest, served as mission specialist onboard *Challenger* for STS-51F in 1985.

## Ex-astronaut dies in Everest climb

Friends and colleagues said goodbye to JSC senior scientist Karl Henize at a memorial service Saturday. The former astronaut died Oct. 5 during a climbing expedition on Mount Everest.

Henize was on leave from NASA participating in an expedition conducted by a British research group called High Adventure BVI at the time of his death. After several days of acclimatization in Katmandu, Nepal, and at an expedition base camp in China, Henize and the climbing team, High Adventure's Harry Taylor and Nish Brice and paramedic Brian Tilley, on Oct. 4 began their ascent to an advance camp.

When Henize began to have trouble breathing during the climb and did not respond to oxygen treatment, the

team began a return to the base camp. Henize died in his sleep early in the morning of Oct. 5. In accordance with his prior request, Henize was buried on the mountain at the British base camp.

Henize will be remembered as a man "intensely focused on the job at hand, enthusiastic and very excited about what he was doing. He truly enjoyed doing his work," said David Thompson, deputy chief of the Solar System Exploration Branch. Co-workers remembered Henize saying that as a young boy he had three goals in his life, "to have a family, to go into space and to climb Mount Everest. He accomplished two and was working on the third at the time of his death" said Thompson, "he will be missed."

Henize flew on STS-51F in July and August 1985 and in 1986 accepted a position as senior scientist in the Space Sciences Branch. He is survived by his wife, Caroline, his four children, Kurt, Marcia, Skye, and Vance, and a brother, Wilson.

A scholarship fund to benefit astronomy students at the undergraduate and graduate level has been established in memory of Henize. He had an extensive career as an astronomer including three years as a senior astronomer at the Smithsonian Astrophysical Observatory and as a professor in Northwestern University's Department of Astronomy.

Contributions to the Karl Henize Scholarship Fund may be sent to Andrew Potter at SN31.

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 through Nov. 14. Discount tickets: adult, \$9.95; children 5-12 years, \$5.95.

EAA Halloween Dance — 7 p.m.-midnight, Oct. 30, Gilruth Center. Tickets on sale through Oct. 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.

**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

# 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

Rent: Westbury, 2-2-2, den, CA/H, FPL, c'fans, new carpet/paint, lg wank-in closets, screened porch, fenced, appl/micro. 729-8846.

Sale: LC mobile home, 14' x 60', 2-1, \$5,600 OBO. 332-8531.

Lease: NW Houston TH, 2-1.5-cp, ex cond, \$450/mo + 1 mo dep. 771-1012.

Sale: Galveston Island, Jamaica Beach lot, 60' x 120' lot, on canal, \$12k. 538-3119.

Lease: CLC Univ Place TH, 2-2.5-2, high eff A/C, FPL, W/D, refrig, miniblinds, no pets. \$800/mo. 488-1036.

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

Sale: Sagemont, 3-2-2, both formals, lg den, new carpet/roof, \$72k. x34339 or 481-1439.

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

Sale: Meadowbend, 3-2-2, FPL, sun-deck, new garage doors, \$69.9k. Nasser, x33685 or 334-1032.

Sale: San Leon mobile home, 14' x 80', 3-2, \$17k. Anna, x38138.

Sale: LC Meadowbend, 4-2-2, FPL, c'fans, new landscape/paint, \$70.9k, nego, assum. Peter, 526-1853.

Lease/Sale: Seabrook, Pebblebrook condo, 2-2, all app incl W/D, FPL, \$500/mo + dep or \$34.9k, immed occ. 992-4923.

Rent: Beach house, wk/wknd. 485-1730.

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

Sale: Piper's Meadow, 4-2.5-2, new carpet/vinyl, low util, fans, miniblinds, auto garage dr opener, immed occ. Wayne, x36617 or 291-9020.

Rent: Arkansas cottage on Blue Mountain Lake, furn, wooded, 4 ac, screened porch, antiques, \$250/wk, \$50/day. x33005 or 334-7531.

Sale: Nov 13-20, '93 at 5-star resort in Cancun, Mex, 2-2, was \$1400 now \$700. 992-3876.

Sale: LC Countryside South, contempo 3-2.5-2A, 2-story, new paint/carpet, c'fans, custom window shades in SW tones, ceramic tiled kitchen, lg corner lot,

\$81.5k. x38413 or 554-2728.

Sale/Rent: Univ Green TH, 2-2.5-gar, FPL, pool, \$69.9k or \$800/mo. Dave, x38156 or Herb, x38161.

Sale: Lake Livingston, Impala Woods at Onalaska, 30' x 70' lot, camp or build, 1/2 mi off water, util avail, paved roads, \$3k. Teena, x37787 or 422-6369.

Sale/Rent: Nassau Bay, 4-2-2, recently remodeled, gas, trees, \$119.5k/\$850. Minh, 333-6806 or 484-2456.

Rent: New Orleans condo in French Quarter, week of Oct 22-29, furn, sleeps four, priv rooftop deck, skyline view, \$400. 282-6422 or 280-8927.

Sale: Dickinson waterfront, 4-2.5-2, pool, FPL, WB, sec sys, 3/4 acre, trees, \$210k. x34354 or 337-1640.

## Cars & Trucks

'Toyota Supra, 91k mi, 5 spd, pwr windows/locks/mirrors, \$3,900. Mike, x30993 or 333-1856.

'90 Honda CRX SI, 5 spd, 65k mi, new tires, \$6,800 OBO. 332-8531.

'87 Porsche 944 Turbo, 5 spd, 4 cyl, pwr steering/ windows/brakes, A/C, AM/FM stereo, cruise, sunroof, 77k mi, \$13k OBO. 388-0612.

'86 Sentra, good cond, maint records, \$2.3k. x36059 or 332-2796.

'87 Hyundai Excel, 5 dr htrchk, 89k mi, A/C, radio/cass, \$1,000. Sarah, 486-2164 or 559-1327.

'81 Olds Cutlass, 4 dr, 63k mi, orig owner, loaded, runs great, \$1.4k. Jack, x33741 or 488-1222.

'90 Ford Ranger XLT PU, 5 spd, A/C, AM/FM/cass, tinted window, low mi, \$6.5k OBO. 461-4898 or 280-0986.

'92 Ford Ranger PU, extra cab, 5 spd, 13k mi, loaded, ex cond, \$10.5k; '86 Nissan 4X4 King cab hardbody PU, 5 spd, 90k mi, \$5.8k. 334-2335.

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

'89 Toyota MR2, 32k mi, loaded, T-top, silver/gray, ex cond, \$8.7k. 480-4007.

'91 Nissan Stanza XE, auto, A/C, pwr windows/locks, tilt, cruise, AM/FM/cass, 59k mi, \$7.9k. James, x40045 or 332-1129.

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

'86 Mustang GT, 5.0L, 5 sp, A/C, all pwr, 59k mi, ex cond. Hooper, x39027 or 585-0156.

'82 Chevy Cavalier, gray, rebuilt engine, runs well, \$750 OBO. 474-2339.

'92/'93 Honda Accord LX, 4dr, less than 12k mi. 282-4972.

'75 Chevy Nova, 2 dr, 350, auto, needs work, \$1k. x30259.

## Boats & Planes

15' x 18' galv boat trlr, \$350 OBO. 334-2335.

JSC

# Dates & Data

## Today

**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: hamburger steak. Total Health: vegetable lasagna. Entrees: beef Burgundy over noodles, barbecue smoked link, vegetable lasagna, steamed fish, French dip sandwich. Soup: cream of chicken. Vegetables: buttered corn, steamed spinach, vegetable sticks, navy beans.

## Tuesday

**Cafeteria menu** — Special: turkey and dressing. Total Health: roast turkey. Entrees: baked meatloaf, barbecue spare ribs, liver and onions, baked chicken, French dip sandwich. Soup: black bean and rice. Vegetables: steamed broccoli, California vegetables, breaded squash, savory dressing.

## Wednesday

**Toastmasters Meet** — Spaceland Toastmasters meet at 7 a.m. Oct. 20 at House of Prayer Lutheran Church on Bay Area Blvd. For information, contact Darrell Boyd at x36803.

**Technology Papers** — Last day to submit papers for the Dual-Use Space Technology Conference and Exhibition is Oct. 20. For more information, contact Dr. Kumar Krishen at x30695.

**Cafeteria menu** — Special: Mexican dinner. Total Health: ground turkey tacos. Entrees: Parmesan steak, beef cannelloni, catfish and hush puppies, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: peas and carrots, ranch beans, mustard greens, Spanish rice.

## Thursday

**Station Names** — Last day to submit suggested names for the redesigned space station. All suggestions must be submitted no later than Oct. 21 to Steve Nesbitt at AP4. For more information, contact Nesbitt at x34241.

**Cafeteria menu** — Special: smothered steak. Total Health: steamed pollock. Entrees: chicken and dumplings, corned beef and cabbage, broccoli cheese quiche, steamed fish, French dip sandwich. Soup: navy bean soup. Vegetables: steamed cabbage, cauliflower au gratin, buttered carrots, lima beans.

## Friday

**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 \$5. For more information, call Ginger Gibson at x30596.

**Cafeteria menu** — Special: baked meatloaf. Total Health: lite macaroni and cheese. Entrees: baked scrod with Hollandaise, broiled chicken, pork and beef egg rolls, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: stewed tomatoes, seasoned spinach, cut corn, macaroni and cheese.

## Monday

**Cafeteria menu** — Special: Italian outlet. Total Health: roast beef au jus. Entrees: chicken a la king, enchiladas with chili, baked lasagna with meat, steamed fish, French dip sandwich. Soup: split pea and ham. Vegetables: Brussels sprouts, oriental vegetables, buttered carrots, lima beans.

## 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 is Oct. 27. 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.

**Costume Contest** — Space Center Houston is having a space-themed contest for children age 12 and under. Children in costume will be admitted free when accompanied by a paying adult. For more information, call 244-2100.

## Nov. 5

**AFCEA nominations** — The deadline for nominations for the Armed Forces Communications and Electronics Association Distinguished Young AFCEAN award is Nov. 5. For more information, contact Becky Nolan, at 703-631-6170.

Windsurfer, 8' 6", ASYM, \$80; beginner 1.5 sq meter sail, mast, boom, \$35; sail, 6.5 sq meter, \$40 OBO. Carl, 488-4412 or 280-9478.

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

Santana 22 sailboat, fixed keel, recent bottom job and survey, main, jib, spinaker, ex cond, \$3.5k OBO. x34063 or 532-1730.

## Cycles

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

Huffy Dirt Monster boy's bike, 20", purple and black, BMX, new, assembled, was \$90, now \$70 OBO. x38826 or 332-4493.

## Audiovisual & Computers

Computer software, Lotus 1,2,3, BO. 488-5445.

Component stereo, Pioneer 4x CD, \$45; 2-way mahogany veneer speakers w/8" woofers, homebuilt, \$35; Realistic tuner w/homebuilt amp in case, \$30; all for \$95, x35258 or 482-0374.

JVC camcorder, 8X zoom, 5 lux, hard case, VHS-C, charger, cables, accessories, \$450. 488-8126.

Computer, Mac 512k upgraded to 1 MB RAM, peripheral drive, monitor, CPU, keyboard, ImageWriter printer, \$250 for all. Brad, x30453.

Two Canon copiers, both work, \$500 both. 339-2869.

## Pets & Livestock

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

Kitten, marbled coat American Short-hair, brown and white, fem, housebroken, 10 wks old, \$40; yellow tabby, male, housebroken, 9 wks old, \$20. x30117 or 996-0949.

## Musical Instruments

Passport Trax for Windows, MIDI music sequencer, \$50. David, x36427.

Bundy clarinet, \$200 OBO; Bundy alto saxophone, \$250 OBO; King trombone, \$150 OBO. Debi, 280-2522 or 286-6630.

Alto saxophone, top of the line, \$1k. Teresa, 534-3279.

## Household

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

TV and stereo entertainment center. Fred, 944-3523.

Full sz sleeper sofa, brown fabric, good cond, \$150; 22 gal aquarium, all access, \$60. x37137 or 482-8966.

Two mirrors, 3' x 8', 1 mirror, 3' x 4', 2 beveled mirror strips, 4" x 8", all mounting

hardware, \$150 OBO; 3' sq glass table top, beveled edges, \$60 OBO. Rob, x38061 or 486-1804.

Spa, hot tub, 5'x7', cover, \$500. Roseanne, x30939 or 487-3002.

Bed frame, solid maple, short poster, dbl sz, \$125; wall mirror 2' h x 3' w in ornate gold leaf frame, \$75; wooden gold leaf candlestick holders for wall mounting, 2, \$25. Gene, x30182 or 480-9580.

Broyhill couch and love seat, \$600; qn sz bed, \$100; couch, \$100. 480-1074.

Earth-tone couch, \$150; loveseat, \$100; \$200 for pair. Curt, 480-9034.

Decorative iron patio furniture, 1 glass-top table w/4 chairs, 2 chaise lounges, grey antique color, \$1.6k OBO. Jo Anne, 480-6969 or Larry, x47013.

Modern couch and love seat set, 2 yr old, earth-tones and mauve, slanted arm rests, built-in, thick pillowed upholstered back rests, wood strip with gold inlay, \$700 for set OBO. Barry, 286-3004.

Bedroom suit, dbl bed, hdbd, 9 drawer dresser w/mirror, 5 drawer oak, mattress, \$400 OBO. x32136.

## Wanted

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

Want female roommate to share nice house, \$285/mo util incl. Theresa, 333-6491 or 480-6980.

Want frisbee golfers or wannabees to help design, implement, or just play on a frisbee golf course at JSC. Dave Williams, x47577.

Want female nonsmoking roommate to share house in Pipers Meadow, 2 story, lg living area upstairs, cable, \$350/mo, all util paid. x47485 or 286-3101.

Want 20 to 30 ft travel trlr or 22 to 32 ft 5th wheel, almost any cond. 488-8126.

Want part time kitchen help at Gilruth Center, waitress, dishwasher positions, evening shift 4:00 pm to 9:30 pm. Pat, x30326.

Want used darkroom equipment for black and white photography, reasonably priced. x38586 or 728-1877.

Want 3/4 ton truck, prefer Chevy, mechanical problems and body damage fine. 339-2869.

Want to buy Nordic Trac Pro, 282-4972.

Want 20 or 40 MB external HD for Macintosh. Kathy, x47354 or 286-3101.

## Miscellaneous

GEO 370 Roadmaster exercise bike, ex cond, was \$150, now \$85. Bill, 282-2839 or 996-1067.

Schwinn 10 spd bicycle, \$75; Univega 12 spd bicycle, \$85; snow skis, 195s w/lock bindings, poles, boots, \$50. 480-4007.

'87-'93 Mustang LX LaBra; Class I receiver hitch; LX sport rim w/tire. Pat,

332-6681 or 337-7528.

Chainlink fence stretcher, \$12; timing light, \$15; compression tester; arched chrome glass shelf, \$55; Recliner w/back massage, \$75; qn sz brass bed frame, \$100; old mower, \$15; mauve sleeper sofa, \$200; dorm fridge, \$45. 334-2335.

Three tickets to Fiesta Texas Park, San Antonio, were \$18.35 ea, now \$10 ea, good through end of season, Nov 7, '93. x38182.

Computer desk, 2 tier walnut top w/wrist comfort edge, sturdy, sleek steel frame, black sides w/champagne modesty panel, disassembles flat for transport by car, \$85 OBO. Barry, 286-3004.

Golf clubs with bag, Ram irons 3-PW, new putter, Spalding bag, \$150. Scott, x39156.

Three-inch refractor telescope, 25x, terrestrial or lunar observations, near by star clusters, sm crack in lens obscures planetary detail, \$25. x35258 or 482-0374.

Bruce finger oak parquet floor, 300 sq ft. Geno, x44867 or 992-2156.

Graco baby stroller, \$40; brass fire-place screen, 31" h, 38" w, \$20; 21" welding/cutting torch handle, \$50; full sz elec blanket, \$20; commercial Green-Machine Weed-eater, \$65. 480-3424.

Dorm refrigerator, ex cond, \$85; 14 interior doors, some hardware, \$3 per door; rubber cargo king mat and tail gate cover for fullsz PU, \$35. Ken, x35999 or 486-5432.

Zinsco circuit breakers. Fred, 944-3523.

Roofing nails, 1.25", 50 lbs, \$25; 8d bright common nails, 50 lb, \$15. x30686 or 480-3260.

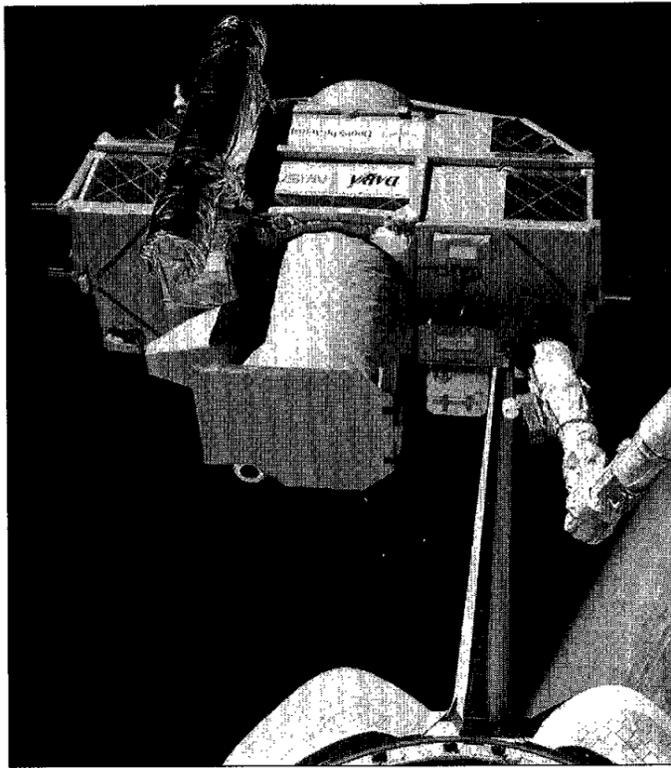
Marquis cut diamond engagement ring, 1.65 karat, custom ring guards, men's 10mm gold wedding band, were \$4,400, now \$1,800. x35710 or 286-2958.

Spare tires w/rim, 4/5 bold patterns, \$30 OBO; tool box for mid size truck, lock, \$30 OBO. Youm, x44544.

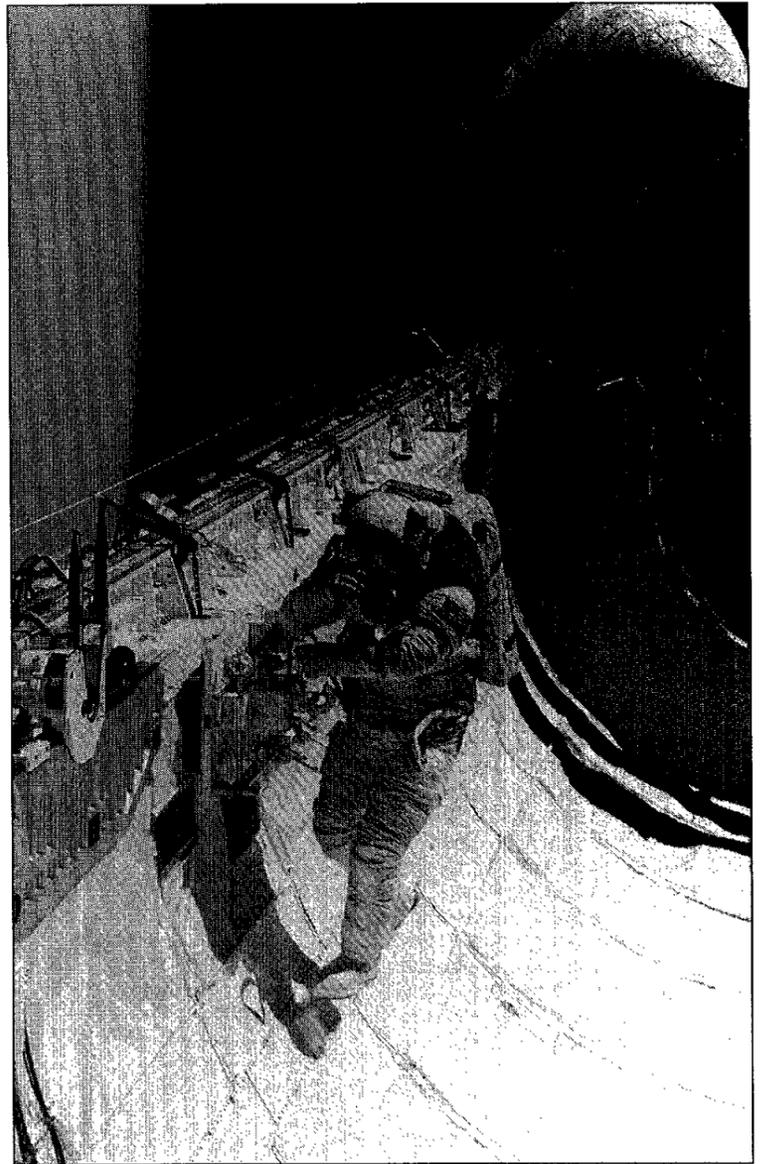
X-ray viewer lamp, 2' x 5', mobile stand, \$150. Enrique, 991-0821.

DrawTite trlr hitch, class II for Cutlass Cierra or Pontiac 6000, \$75. Gary, x36219 or 486-8587.

Two seater infant/child's stroller, Graco Deluxe, ex cond, \$60; misc glass and/or plastic baby bottles, feeding accessories; baby accessory table on rollers, \$10; upright vacuum cleaner, ex cond, was \$150, now \$60 OBO. Ed, 481-4889.

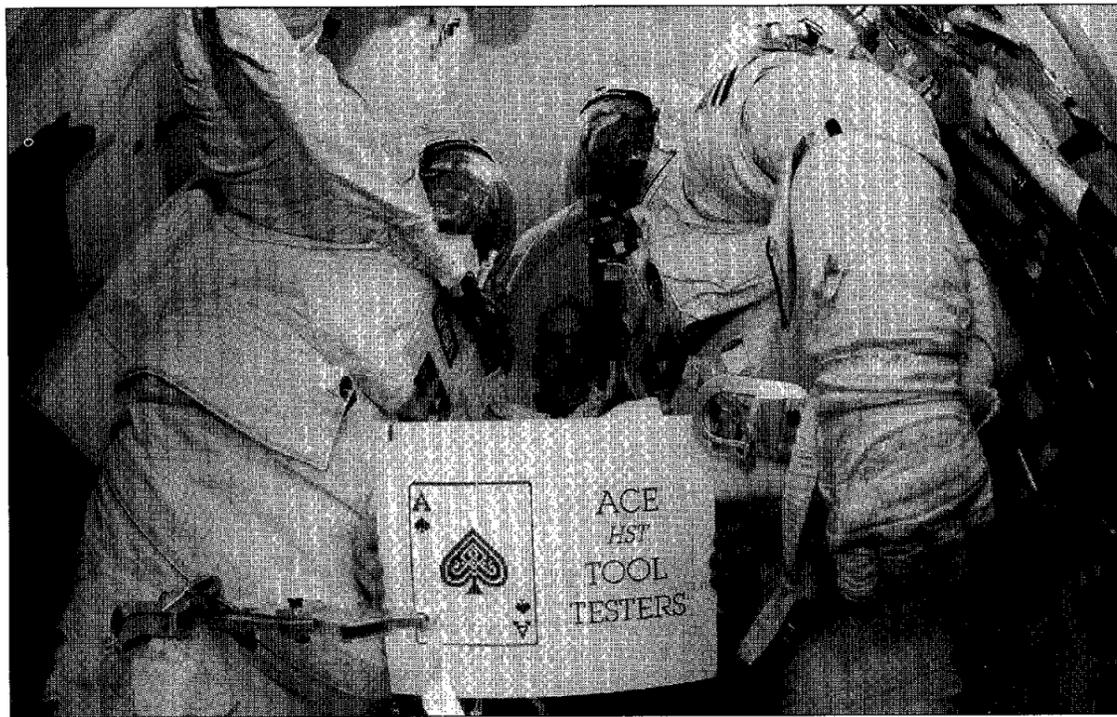


NASA Photos



# Ace tool testers

## Seven-hour space walk tests tools, procedures for Hubble servicing



It's been almost a month since the STS-51 mission ended with the first night landing at the Kennedy Space Center capping a successful nine-day mission for the *Discovery* crew.

The mission successfully accomplished all of its objectives with the deployment of the Advanced Communications Technology Satellite and the deployment and retrieval of the Orbiting and Retrievable Far and Extreme Ultraviolet Satellite.

Crew members Carl Walz and Jim Newman also performed a 7-hour 5-minute space walk designed to test tools and techniques for the upcoming Hubble Space Telescope Servicing mission.

Clockwise from top left:  
 1) The ORFEUS-SPAS, in the grip of the remote manipulator system, hovers over *Discovery's* payload bay prior to its final

berthing on flight day eight.

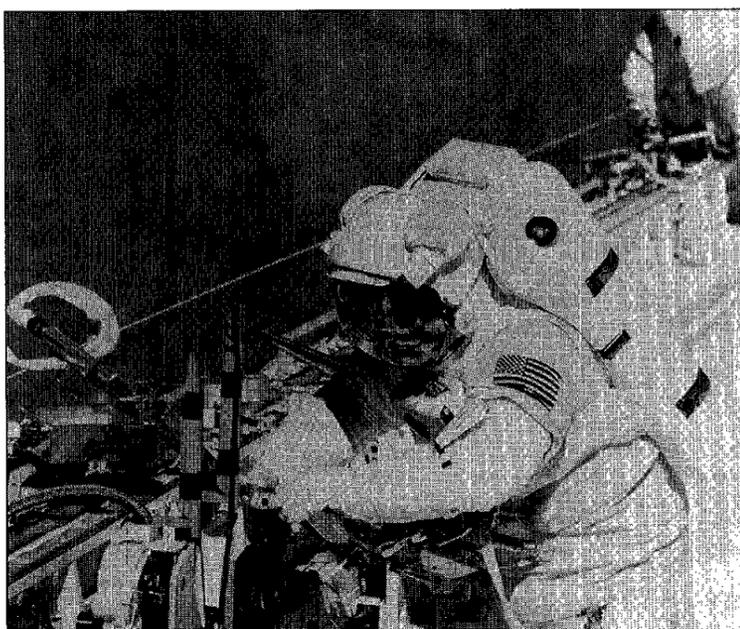
2) Newman takes a moment during the 7-hour space walk to photograph fellow crewman Walz, not seen in this picture. The photo was taken from inside the crew cabin by Commander Frank Culbertson.

3) Newman is surrounded by a series of computers on *Discovery's* middeck.

4) Newman works with the power ratchet tool in *Discovery's* cargo bay.

5) Following their successful space walk to test tools and techniques for the Hubble Space Telescope Servicing Mission, Walz, left and Newman flank Pilot Bill Readdy in *Discovery's* airlock. Readdy displays the crew slogan "ACE HST Tool Testers."

6) Readdy, Bursch, Culbertson, Walz, and Newman take a moment for a crew picture on the flight deck. □



# JSC employees honored for source board service

Fifty-six JSC employees received special awards for their outstanding performance as members of source evaluation boards for several recent competitive procurements.

Director of Procurement Gene Easley distributed awards with a total monetary value of \$21,000.

The awards come from a special SEB award allocation received directly from NASA Headquarters. They are designed to emphasize the importance of the SEB process by recognizing individuals who are specifically designated to serve on a source board. SEB participants prepare requests for proposals, evaluate proposals and present SEB findings to the source selection official for final contractor selection.

"The competitive source selection process is one of the most important activities here at the

center," Easley said. "Because of the conscientious dedication of these SEB participants, all of these SEB activities were completed on an accelerated time schedule—without a compromise in the quality of the work performed by the SEB."

Awards for the Information Systems Contract were presented to Larry D. Hartley who was the SEB chairman; Peter Gillette, Jackie L. Fisher, Thornton E. Dyson, Sheridan J. Berthiaume, Ralph Schomburg, Leon A. Blum, Judith A. Sparks, Mark Ryan and Melissa Pena.

SEB awards for the Manned Systems Support Services contract went to James A. Taylor who served as chairman, William A. Langdoc,

Malcolm L. Johnson, Ben E. Fulbright, James H. O'Kane, Judith L. Robinson, Shari K. Miller, Jose C. Garcia, Diana Torres and Kay Duncan.

The SEB awards for Science Payload Development Engineering and Operations Contract were presented to James H. Barnett Jr. who served as board chairman, Gary R. Primeaux, Earl W. Tiedt, Linda M. Lewallen,

Clarence F. Sams, George W. Sandars, Nancy L. Kennamer, Rebecca L. Roach and Diana Torres.

Facilities Engineering Support SEB awards went to chairman Earl Rubenstein, Ronald C. Bailey, Richard W. March, Larry Shelmire,

Cindy L. Daniels, Susan E. Lister and Cynthia T. Thomasen.

Awards for the Technology Development Contract went to Robert T. Savelly who served as chairman, Christopher J. Culbert, Ervin O. Grice, Dennis G. Lawler, Caroline M. Marrs, Donald L. Ward, Rose Mary Thompson and Karen S. Stokes.

Central Shop Support Contract SEB awards were presented to Earl Rubenstein who served as chairman, Jesse T. Adkins Jr., Torrance J. Lambing, John H. Kidd, Richard W. March and Virginia L. Gibson.

Ground Maintenance Support Contract SEB awards went to chairman Michael J. Scott, Alan M. Miyamoto, Gary L. Johnson, Cheryl A. Harrison, Chester P. Reno and Kelly L. Karcher.

## JSC People

## Russian lunch bunch forms

Do you speak Russian? If the answer is "da," the Russian language lunch group invites you to try a little chitchat with your borscht.

The group meets each Wednesday and Thursday in the Bldg. 3 cafeteria. Tables are set aside between 11 a.m. and 1 p.m. to accommodate several lunch periods.

The Russian lunch bunch offers speakers at all levels an opportunity to practice their language skills through informal discussion. Participants also may play a Russian speaking game during lunch that offers more structure than the table talk.

For more information, contact Jack Bacon at x38725 or Amy Mendez at 38066.

## MCC viewing hours

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

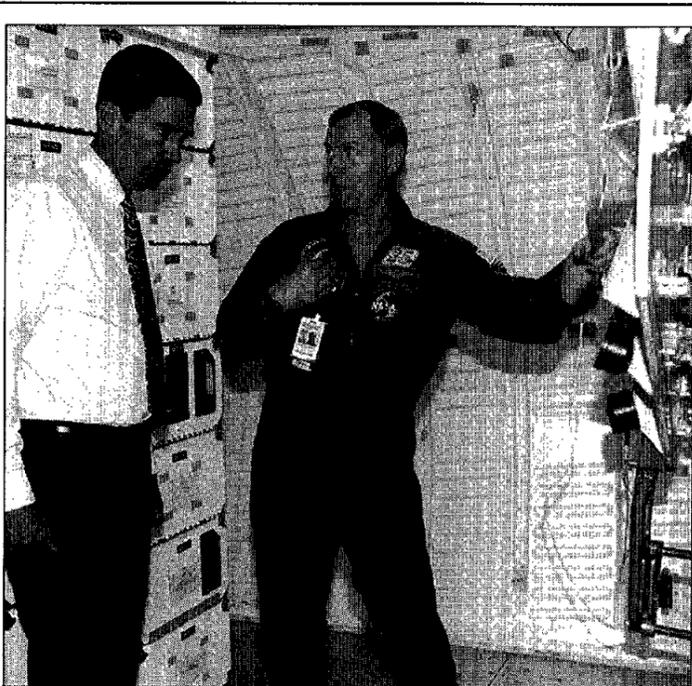
Based on a Thursday launch, employees will be allowed to visit the MCC Friday from 11:30 a.m.-2:30 p.m.; Sunday, from 1-5 p.m.; Monday, from 11:30 a.m.-2:30 and 5-7 p.m.; Wednesday from 11:30 a.m.-2:30 p.m.; Friday from 11:30-2:30 p.m. and 5-7 p.m.; Saturday, from 10 a.m.-2 p.m.; Oct. 25 from 11:30 a.m.-2:30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

Employees must wear their badges and escort family members through the regular public entrance on the northeast side of Bldg. 30. Children under 5 will not be permitted. No flash photography or loud talking will be permitted at any time.

Because of the dynamic nature of shuttle missions, viewing hours may be changed or canceled without notice. For the latest information on the schedule, call the Employee Information Service at x36765.

## Correction

The Oct. 11 Roundup listed incorrect hours for the JSC cafeterias during the STS-58 mission. Both the Bldg. 3 and Bldg. 11 cafeterias will be opened normal hours—7 a.m. to 2 p.m. weekdays—during the flight. The cafeterias will be closed weekends.



JSC Photo by Robert Markowitz

**FIRST VISIT—Astronaut Dave Walker, right, demonstrates the mid-deck airlock in the Full Fuselage Trainer in Bldg. 9 for Sen. Charles S. Robb of Virginia. Robb, the son-in-law of the late President Lyndon B. Johnson, visited JSC last week. A member of the Senate authorization committee overseeing NASA, Robb toured shuttle and space station mockups, Mission Control and Space Center Houston.**

## SLS-2 crew to study health changes during longer duration space flights

(Continued from Page 1)

The seven crew members will work one 12-hour shift per day, with each astronaut getting one half-day off during the two week mission.

JSC oversees the eight human experiments on-board *Columbia* with Ames Research Center managing six rodent experiments. For the first time on a shuttle flight, tissue will be gathered from the rodents during the mission and compared with data collected before and after the flight.

Managed by JSC, the SLS-2 mission is the second of a series of shuttle flights that will allow researchers to study physiological changes that occur in response to space flight and re-adaptation to Earth's gravity. The first mission SLS-1 flew in June 1991 and provided the first opportunity since Skylab for comprehensive studies of how the body changes in zero gravity.

The results from the life sciences missions can help researchers find ways to treat or to counteract any changes in space that are adverse to human health during longer dura-

tion missions.

Results also may be applied to ongoing research on Earth for such disorders as high blood pressure, heart failure, anemia and osteoporosis.

The crew also plans to conduct seven detailed supplementary objectives, sponsored by JSC's Medical Sciences Division, that will provide additional medical information in support of extended duration missions.

Students from four Houston-area schools—Lloyd Ferguson Elementary in League City, Space Center Intermediate of Houston, St. Barnabas Episcopal School in Houston and Gardens Elementary in Pasadena—will get a chance to talk directly to Searfoss, McArthur and Fettman using "ham radio" as part of the Shuttle Amateur Radio Experiment.

The astronauts plan to contact 12 other schools in the U.S. and France during the mission. Flown on 10 previous missions, SAREX is designed to encourage public participation in the space program and to support education initiatives.

# Space politics focus of Space Expo '93

Space policy issues will highlight the NASA Alumni League's Space Exploration '93 next week.

NASA Administrator Daniel Goldin will deliver the keynote address on opening day at 1:30 p.m. Tuesday, Oct. 26. Sen. Barbara Mikulski is invited to be the keynote speaker at the grand banquet at 8 p.m. on Wednesday.

More than 3,000 people are expected to attend the fourth annual conference and exposition at the South Shore Conference Center.

Conference chairman and former NASA Administrator James Beggs will open the conference at 9 a.m. Tuesday, followed by a 9:30 a.m. panel discussion on lowering shuttle

operations costs, moderated by conference host Glynn Lunney.

Following Goldin's keynote address Tuesday, representatives from Boeing, the European Space Agency and NASDA Japan will discuss space station plans and redesign at a 2 p.m. plenary session.

Directors from all eight NASA field centers will participate in a panel discussion, moderated by Gerald Griffin, former JSC director, beginning at 9:30 a.m. Wednesday.

Staff members from congressional committees that oversee NASA will discuss policy issues beginning at 1:30 p.m. Wednesday. Scheduled to speak are Richard DalBello, assistant to the director of the Office of

Science and Technology Policy; Jack Fellows, chief of the Science and Space Programs Branch, Office of Management and Budget; Theresa Foley, Space News editor; Kevin Kelly, chief clerk and Richard Malow, staff assistant of the Senate's VA, HUD and Independent Agencies appropriations subcommittee; Stephen Palmer, professional staff member of the Senate's Subcommittee on Science, Technology and Space and William Smith Jr., staff director of the Space Subcommittee in the House of Representatives.

A session discussing international space programs begins at 9:30 a.m. Thursday. NAL will host a reception

to close the conference beginning at 5:30 p.m. at the Gilruth Center.

Technical exhibits will be opened beginning at 8 a.m. during the conference. Employees of government agencies, private firms and organizations actively involved in the aerospace industry may visit the exhibits free.

Cost for the three-day conference is \$335, not including banquet and reception tickets. Special single-day registrations as well as government employee and student discounts are available.

For more information, contact the Space Exploration '93 Conference Registration Center at (800) 765-7616.

## Board to submit report on deploy problem in December

(Continued from Page 1)

Space Flight Jeremiah W. Pearson on Wednesday, will focus on determining events leading to the problem and recommending any necessary corrections to ensure the such a problem does not occur again.

The board will submit an initial report to Pearson by mid-November.

A final report of the findings of the review will be submitted by early December.

Other members of the team include Michael A. Greenfield, Office of Safety and Mission Assurance, Headquarters; Charles R. Gunn, Office of Space Science, Head-

quarters; Keith L. Hudkins, Office of Space Flight, Headquarters; Lawrence J. Bement, Systems Engineering and Operations, LaRC; Robert M. Stephens, Office of the General Counsel, Headquarters; and Robert W. Moss, Systems Engineering and Operations, LaRC.

# NASA to help Russian emergency victims

NASA has received a request from Russian physicians, treating victims of the recent emergency in Moscow, for medical assistance from U.S. clinicians. These urgent medical consultations will use a previously established U.S.-Russian satellite telemedicine program known as "Spacebridge to Moscow."

Spacebridge to Moscow is a cooperative demonstration program between Russia and the United States to develop the use of telemedicine technologies and procedures. The initial program sessions began in September and are scheduled biweekly over the next eight months.

Following the recent events in Russia, a request was made to the U.S. government that the scheduled sessions of Spacebridge to Moscow be reconfigured to conduct medical consultations on patients who sustained injuries during the crisis earlier this month.

The Spacebridge to Moscow telemedicine demonstration project utilizes two-way interactive video between clinical consultants at the Moscow Clinical Hospital and four clinical sites in the United States. The U.S. sites are the University of Texas Health Science Center, Houston; Uniformed Services University of Health Sciences,

Bethesda, Md.; Fairfax Hospital, Falls Church, Va.; and LDS Hospital, University of Utah, Salt Lake City.

The current telemedicine demonstration project is being conducted under the auspices of the 1992 Civil Space Agreement. While the telemedicine effort will assist NASA and the Russian Space Agency in developing systems and protocols for medical care of astronauts in space, it also will demonstrate how communications technology can improve the quality of health care for patients on Earth. Additionally, it will provide opportunities for technical refinement in telemedicine technologies

NASA first became involved in satellite telemedicine programs in the 1970s when a NASA satellite was used for medical consultation and health care delivery to remote sites in Alaska. In 1989, NASA initiated a telemedicine Spacebridge program to aid victims of the earthquake in Armenia.

During that two-month-long telemedicine program, approximately 200 physicians in the United States and Armenia conducted consultations on more than 200 earthquake victims. Many of those same U.S. physicians are participating in the current telemedicine program.

## 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.

Dates and Data submissions are due Wednesdays, eight working days before the desired date of publication.

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