



Star struck

A pictorial record of the Astro-2 mission chronicles the longest shuttle flight to date. Photos on Page 3.



Visiting dignitaries

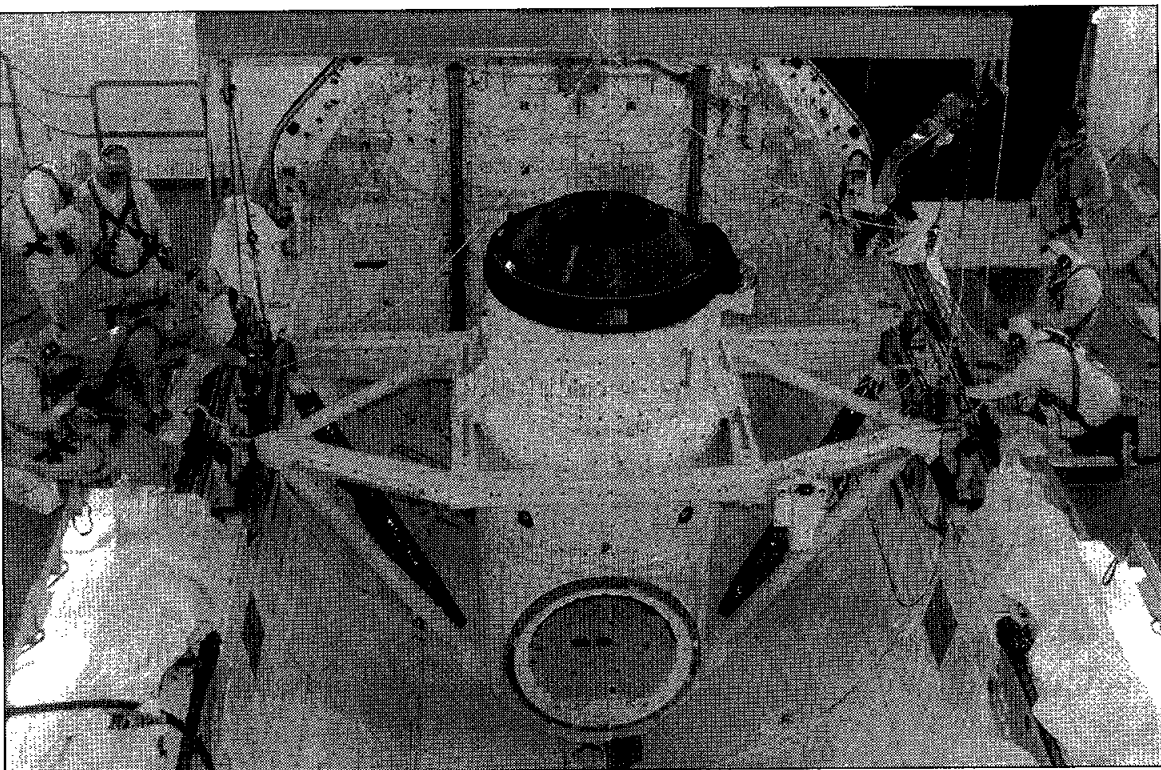
Texas Congressman Henry Bonilla and his family check out shuttle and station training facilities. Photo on Page 4.

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Technicians install the Orbiter Docking System in *Atlantis*' payload bay. The ODS, which will be used to dock with the Mir space station on STS-71 in June, includes an airlock, a supporting truss structure, a docking base and a Russian-built docking mechanism. The system will be attached near the forward end of the orbiter's payload bay and connected by a short tunnel to the existing airlock inside the orbiter's pressurized crew cabin.

STS-71 crew checks docking system

Simulated *Atlantis*-Mir linkup tests plan for June flight

Work continues on all four orbiter vehicles as preparations move ahead for the next series of shuttle flights beginning in June.

The focus of attention is on *Atlantis* at the Kennedy Space Center, which underwent an end-to-end test of the Orbiter Docking System this week in the Orbiter Processing Facility in advance of its scheduled launch less than three months from now on STS-71, the first docking mission with the Russian Space Station Mir.

Commander "Hoot" Gibson, Pilot Charlie Precourt and Mission Specialists Greg Harbaugh and Ellen Baker were aboard *Atlantis* during the ODS test, which simulated a linkup of the shuttle's docking system to a replica of the docking port of the Mir's Kristall module, which *Atlantis* will lock onto for real two days after launch.

Atlantis' three liquid-fueled main engines have been installed and electrical tests have been conducted on

the Spacelab science module which is housed in the shuttle's cargo bay. Joint biomedical experiments will be conducted in the Spacelab by both U.S. and Russian crewmembers during more than four days of docked operations between *Atlantis* and Mir.

Aboard the Russian Space Station, U.S. astronaut Norm Thagard entered his third week of work along with his Russian crewmembers, Commander Vladimir Dezhurov and Flight Engineer Gennadiy Strekalov. Thagard and his colleagues began the first metabolic experiments of the Mir 18 mission and conducted other biomedical tests with a variety of equipment on Mir. Thagard told flight surgeons stationed at the Russian Mission Control Center in Kaliningrad, outside Moscow, that he is in excellent condition and is fully acclimated to his new surroundings.

Please see **DISCOVERY**, Page 4



President touts NASA as model for reinvention

President Clinton touted NASA as a role model in the reinvention of government Monday as he outlined a total of \$13 billion in spending cuts for four federal agencies.

For NASA, the announcement underscores the Agency's plan to absorb up to \$5 billion in reductions from previous spending plans by the end of the decade. Accounting for inflation and other predictable cost influences, this amounts to a reduction of \$8 billion in "spending power." NASA's pledge to "Reinventing Government - Phase II" (REGO II) also includes eliminating at least 2,000 civil service jobs by the year 2000.

"You can reinvent government, cut costs to the taxpayers, without a mean spirit or a meat ax," Clinton said. Monday's examples included the reorganization and consolidation plans of NASA, in addition to commitments from the Interior Department, the Small Business Administration and the Federal Emergency Management Agency.

REGO II is a continuation of the National Performance Review led by Clinton and Vice President Al Gore. NASA Administrator Daniel S. Goldin said NASA has embraced the challenge with innovation and cutting edge ideas.

"During Phase I of the reinventing government process, we learned a great deal about ourselves and our customers—the science and education communities, policy makers, private industry and the American people," Goldin said. "The result is a new blueprint for the future of our agency."

Goldin said that over the past four decades, NASA's field centers have evolved into organizations with overlapping research capabilities that often compete with one another. Through reinvention, NASA is re-vamping the field center infrastructure

to align it with a smaller space program. The current infrastructure was designed for an annual mission of roughly \$20 billion, but NASA will have only about \$13 billion a year to spend by fiscal year 2000, he said.

"The accomplishments we have made over the past two years to reinvent our programs have allowed us to absorb significant cuts in our budget," Goldin said. "We have initiated the first steps by reducing our five-year budget plan by 30 percent since 1993. Now, we have an opportunity to continue reinventing NASA as an institution, which will result in even further savings to the American taxpayer and help reduce the deficit for future generations."

Goldin said the International Space Station, which has gone from four prime contractors to one and from a staff of 42 senior managers to four, is being used as a model for streamlining efforts in other areas. With Russian participation, it will be completed 15 months earlier than originally planned at a cost that has gone down from \$25.1 billion to \$17.4 billion.

Other examples of streamlining successes include reducing the cost of major space and Earth science research while maintaining high quality. Goldin noted that the cost of the Advanced X-Ray Astrophysics Facility has been reduced from \$5.5 billion to \$2 billion; the Cassini mission to Saturn has been cut from \$3.1 billion to \$2.1 billion, and the Earth Observing System cost has been driven down from \$17 billion to \$7.3 billion.

Goldin said the Zero-Base Review is looking at a broad range of center-specific reinvention proposals. NASA will incorporate decisions about the reinvention candidates selected into the fiscal year 1997 budget that is submitted the Office of Management and Budget in September.

Conference toasts benefits of space medical research

The benefits of medical research conducted in space come down to Earth during a three-day conference hosted by NASA and the American Institute of Astronautics and Aeronautics set to begin Monday in Houston.

JSC Director Dr. Carolyn Huntoon is the general chair of the 1995 Life Sciences and Space Medicine Conference and Exhibition being held April 3-5 at the Westin Galleria.

"This conference marks a significant step in establishing the impor-

tance of the work we do in space and in government laboratories," Huntoon said. "Our medical research done on Skylab, the shuttle, and now on Mir, has direct applications for every man, woman and child on Earth."

The conference is the first of its kind, designed to bring together life science and space medicine experts from across the country with private entrepreneurs, researchers and clinicians. The conference is in direct response to a White House call to share the wealth of information col-

lected during 30 years of space exploration and government research with the public.

Sen. Kay Bailey Hutchison, R-Texas, NASA Administrator Dan Goldin, and Huntoon are among the speakers at the conference. In addition, Dr. Michael DeBakey, Baylor College of Medicine; Dr. M.R.C. Greenwood, associate director for science, Executive Office of the President; and Astronauts Bernard Harris and Rhea Seddon will be featured speakers.

The conference focuses on several keynote and panel sessions including: Gifts from Space—NASA's Contributions to Well-Being on Earth; Benefits from International Cooperation in Space; Interagency Collaboration in Life Science and Space Medicine Research; Health Care—Anytime, Anywhere; and Terrestrial Applications of Space Vestibular Research.

Attendees will have the opportunity to hear world-class speakers discuss technology improvements and spin-

offs, the technology transfer process, space flight crew health and countermeasures, and the research planned for the International Space Station.

The conference begins with an opening statement by Huntoon at 9 a.m. Monday and is set to conclude Wednesday afternoon. JSC employees may attend Monday's opening session as work schedules permit. Shuttle buses will depart from in front of Bldg. 1 at 7:30 and 7:45 a.m. Monday.

Please see **KEYNOTE**, Page 4

Human Resources to provide expert career transition help

By James Hartsfield

With NASA's buyout authority drawing to a close, a new program to be offered by JSC will assist current civil servants who may wish to voluntarily leave the center as well as those who have taken the buyout and are looking for new employment.

The Career Transition Assistance Program will be a full-scope, professionally operated outplacement center opening within a few weeks at JSC and continuing through September, explained Dan Mangieri, JSC's

coordinator for CTAP.

"We are opening this program because we want to exhaust all possible voluntary methods for downsizing the civil service workforce as well as assist anyone who has taken the buyout but who still desires employment," Mangieri said. "It is a place where current civil servants can go and test the water to see what other career opportunities may be available to them."

The on-site program will be housed in Bldg. 45 Rm. 308. Remote

branches of CTAP also will be available to the White Sands Test Facility, to JSC employees on the West coast and to JSC employees in Florida.

Mangieri stressed that CTAP is not in place because any type of involuntary reductions are currently planned, but only as another means, supplementing the buyout, of accomplishing voluntary downsizing. The center, staffed by professional employment counselors from the

Please see **HELP**, Page 4



Rick Hieb

Astronaut Hieb joins AlliedSignal

By Kyle Herring

Astronaut Richard Hieb will leave NASA effective today to join AlliedSignal Technical Services Corp.'s civilian space business enterprise as senior engineering advisor.

"Rick has contributed significantly to the advancement of human space exploration in his years with NASA," said Chief Astronaut Robert Cabana. "He's an extremely talented astronaut and a joy to work with. We're going to miss him."

At AlliedSignal Technical Services, Hieb will be responsible for develop-

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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.

Ice Skating: World Championship Ice Skating 8 p.m. June 15 at the Summit. Tickets cost \$30.50 upper prom, \$45.50 lower prom.

Easter Party: Easter party from 10 a.m. - noon April 15 at the Gilruth. Tickets cost \$4 for children and \$1 for adults.

Snow White: Snow White and the Seven Dwarfs, noon April 8 at the Summit. Tickets cost \$12.

International Festival: Houston International Festival April 20-30. Tickets cost \$3.

Bluebonnet trip: Bluebonnet trail bus trip April 1 and 8. Four different trips to choose from. Cost is \$15 and \$24 limit four tickets per employee.

JSC Picnic: The JSC picnic April 22 at Astroworld. Tickets cost \$20. Includes all attractions and all-you-can eat barbecue dinner.

Loving Feelings: Loving Feelings Concert at 7 p.m. Sept. 30 at the Summit. Tickets cost \$32.50.

Seaworld: Seaworld tickets cost \$23.50 for adults and \$16.25 for children 3-11.

Astroworld: Astroworld early bird tickets cost \$14.70. Season passes cost \$45.50.

Fiesta Texas: Fiesta Texas tickets cost \$20.35 for adults and \$15.80 for children 4-11 and senior citizens over 55.

Moody Gardens: Discount tickets for two of three different attractions: \$9.50

Space Center Houston: Discount tickets, adult, \$8.75; child (3-11), \$7.10.

Metro tickets: Passes, books and single tickets available.

Movie discounts: General Cinema, \$4.75; AMC Theater, \$4; Loew's Theater, \$4.75.

Stamps: Book of 20, \$6.40.

JSC history: *Suddenly, Tomorrow Came: A History of the Johnson Space Center.* Cost is \$11.

Upcoming events: Joseph and the Amazing Technicolor Dreamcoat, Schlitterbahn, Six Flags and Splashtown tickets available soon.

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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. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For more information, call x30304.

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

Weight safety: Required course for employees wishing to use the weight room is offered from 8:30-9:30 p.m. April 11 and April 27. Pre-registration is required. Cost is \$5.

Defensive driving: Course is offered from 8:15 a.m.-3 p.m. Saturday. Next class is April 1. Cost is \$19.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays.

Aikido: Martial arts class meets from 5-7 p.m. Tuesdays and Wednesdays. Cost is \$25 per month. New classes begin the first of each month.

Country dancing: Beginners class meets from 7-9 p.m. Mondays; advanced class meets from 8:30-10 p.m. Mondays. Partners are required. For additional information, contact the Gilruth Center at x33345.

Ballroom dancing: Ballroom dancing classes. Cost is \$60 per couple. For additional information call the Gilruth Center at x33345.

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

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Dates & Data

Today

Alumni league: The NASA Alumni League will hold its annual dinner/ dance beginning at 6 p.m. March 31 at the Gilruth Center. Tickets cost \$7.50 for members, \$15 for nonmembers. For additional information call Al Richmond at 280-7777 or Jerry Craig at 420-2936.

Cafeteria menu: Special: tuna noodle casserole. Total Health: broiled chicken breast. Entrees: deviled crabs, broiled pollock, liver and onions, broiled chicken with peach half, Reuben sandwich. Soup: seafood gumbo. Vegetables: Italian green beans, cauliflower au gratin, steamed rice, vegetable sticks.

Monday

Cafeteria menu: Special: Italian outlet. Total Health: herb flavored steamed pollock. Entrees: barbecue beef spare ribs, steamed pollock, baked chicken. French dip sandwich. Soup: black bean and rice. Vegetables: California mix, okra and tomatoes, vegetable sticks, ranch style beans.

Tuesday

Cafeteria menu: Special: spaghetti with meatballs. Total Health: baked potato. Entrees: stir fry beef, liver and onions, beef cannelloni, ham steak French dip sandwich. Soup: split pea. Vegetables: winter blend mix, seasoned cabbage, breaded squash, lima beans.

Wednesday

Astronomy seminar: The JSC Astronomy Seminar will meet at noon April 5 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For more information, call Al Jackson at 333-7679.

Toastmasters meet: The Space-land Toastmasters will meet at 7 a.m. April 5 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact

Elaine Trainor, x31034.

Cafeteria menu: Special: smoked barbecue link. Total Health: roast porkloin. Entrees: cheese enchiladas, roast pork and dressing, baked chicken, steamed pollock, Reuben sandwich. Soup: seafood gumbo. Vegetables: Italian green beans, Spanish rice, turnip greens, peas and carrots.

Thursday

Cafeteria menu: Special: chicken fried steak. Total Health: roast beef with gravy. Entrees: steamed pollock, lasagna with meat, steamed pollock, catfish, French dip sandwich. Soup: cream of turkey. Vegetables: whole green beans, butter squash, cut corn, black-eyed peas.

Friday

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

April 7

Abstracts due: Abstracts are due April 7 for papers to be presented at the Joint Applications in Instrumentation, Process and Computer Control Symposium. The symposium is scheduled for April 28 at the University of Houston-Clear Lake. Topics include, but are not limited to, advanced control systems, communications, sensing and intelligent systems. For additional information call Kent Byerly at 333-6198.

April 12

Astronomy seminar: The JSC Astronomy Seminar will meet at noon April 12 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For more information, call Al Jackson at 333-7679.

Toastmasters meet: The Space-land Toastmasters will meet at 7

a.m. April 12 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Elaine Trainor, x31034.

PSI meets: The Clear Lake/NASA Area Chapter of Professional Secretaries International meets at 5:30 p.m. April 12 at the Holiday Inn on NASA Road 1. For more information, contact Elaine Kemp x30556.

April 19

Astronomy seminar: The JSC Astronomy Seminar will meet at noon April 19 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For additional information, call Al Jackson at 333-7679.

Toastmasters meet: The Space-land Toastmasters will meet at 7 a.m. April 19 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Elaine Trainor, x31034.

April 26

Astronomy seminar: The JSC Astronomy Seminar will meet at noon April 26 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For more information, call Al Jackson at 333-7679.

Toastmasters meet: The Space-land Toastmasters will meet at 7 a.m. April 26 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Elaine Trainor, x31034.

May 3

Astronomy seminar: The JSC Astronomy Seminar will meet at noon May 3 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For additional information, call Al Jackson at 333-7679.

Toastmasters meet: The Space-land Toastmasters will meet at 7 a.m. May 3 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Elaine Trainor, x31034.

Swap Shop

Property

Sale: 3-2-2A, new carpet, paint kitchen, CF, deck, assumable \$393/mo; possible trade for equity, \$65k. 992-3662 or 286-3161.

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

Sale: Waterfront .5 acre lot on Dickinson Bayou, new bulkhead, beautiful trees, \$85k. x31370.

Sale: Egret Bay condo, 2-1-2CP, 2 storage closets, FPL, fans, W/D, appliances, new carpet/tile/roof, contempo, \$45k. x41036 or 333-4577.

Lease/Option: Webster, 3-2-5-2, FPL, wet bar, formal DR. 332-6409.

Lease: Clear Lake Shores, 2-1 cottage, furn, \$1k/mo, unfurn \$800/mo. Corcoran, x33005 or 334-7531.

Sale: LC, 3-2-2, brick, C/A, fans, owner finance w/\$5k down, \$54 total. 286-1934.

Sale: Baywind II condo, 1-1, new carpet/paint, W/D, fridge, D/W, FPL, near pool, \$23k. 486-8047.

Sale: LC, 3-2-2, remodeled kitchen, large yard, quiet neighborhood, \$71k. x37176 or 554-2487.

Sale: Friendswood, Heritage Park, 3-2-2, new A/C, new paint/roof. x38074 or 480-8099.

Sale: San Leon mobile home, 3-2, gas stove, parked at a park, \$10k cash only. 554-2156.

Rent: Arkansas cottage on Blue Mt Lake, FPL, \$250/wk, \$50/dly. Corcoran, x33005 or 334-7531.

Rent/Sale: Boat slip on Clear Lake w/roof & motorized boat hoist for pwr boats, \$125/mo. 474-4922.

Sale: 11.5+ acs, 669.72' on FM 270 extension fenced, \$300k. 554-4316.

Sale: Townhouse, 2-1.5, security, club grounds, magnificent view. Connie, 482-3872.

Cars & Trucks

'93 MX-6, green w/taupe inter, 5 spd, loaded, AM/FM/cass, alarm, sunroof, ex cond, 27k mi, \$15.6k. 486-2414.

'80 Corvette, PS/PW/PD, 350 auto, needs carpet, \$6.5k firm. Steve, 947-3270.

'87 Chevy Nova, auto, new tires/timing belt/battery, ex cond, \$2,650. Ian, x34853.

'92 Mitsubishi Eclipse GS, 5 spd, pwr, DOHC, alarm, CD changer, blk w/silver ground effects, ex cond, \$10.8k/obo. Lonnie, x46820 or 482-0547.

'86 Nissan Sentra, 5 spd, A/C, 2 dr, light blue, 95k mi, \$1.8k. Ian, x34853.

'87 Chevy Nova, auto, new tire/timing belt/battery & more, ex cond, \$2,650. Ian, x34853.

'85 Chevy Chevette, P/S, good work car, 4 dr, it blue, \$900/obo. Tracy, x30557 or 699-3610.

'91 Toyota Camry, 52k mi, AM/FM/cass, auto, air, cruise, ex cond, \$8.7k. 326-4316.

'86 Pontiac Fiero 2M4, gold, auto, AM/FM, 80k mi, good cond, runs great, \$2k. David, x34700.

'86 Pontiac 6000 LE, very good cond, \$2.8k. Phil, x30220 or 337-4168.

'92 Mazda B2200 LE-5 pkg, auto, tint, ex cond, 31k mi, factory warranty, Barry, x38410 or 286-5139.

'86 Honda Accord LXI, 2 dr hatchback, 5 spd, A/C, cruise, tilt, good cond, \$3k/obo. Pam, 334-6922.

'66 Buick Electra 225, 2 dr, great cond, \$2.5k/obo. Danny, 244-7367.

'88 Olds Cutler, 86k mi, auto, air, cruise, blue, \$3.6k. John Erickson, x44342 or 488-1901.

'86 Dodge Ram van, 1 ton, 89k mi, blue/wht w/blu

interior, flip-up table, seats fold to make bed. \$4k. Laura, x31903 or 334-2342.

'82 Mercedes 300D, 4 dr, ex cond, silver, sunroof, blue interior, \$6.2k. Laura, x31903 or 334-2342.

'91 Chevy Suburban, 45k mi, loaded, pwr M/W/L, rear A/C, very clean. Darryl, 839-1507.

'82 Porsche 356B, rebuilt recently, bright red, \$13k/obo. Halser, 332-9044.

'91 Taurus, pwr, 54k mi, garaged, non-smoker, Don, x39237 or 331-4059.

'85 Nissan 300 ZX Turbo, t-tops, 78k mi, red, sharp, \$4.5k. Bill, x49721 or 286-1460.

'90 Ford Tempo, 5 spd, 4 dr, stereo, P/S, P/L, tilt, 60k mi, \$3,950. 333-3925.

'87 Honda Accord LX, auto, A/C, stereo, locks, cruise, P/W, \$4,850. 488-7771.

'82 Ford PU F-100, w/bed cover, approx 80k mi, A/C, auto, AM/FM, good cond, \$3,775. Tony, x35966.

Travel trailer, 25' Avion, good cond, \$3k. 554-6138.

Cycles

'93 GSXR 750, blk/prp/pnk, Vance & Hines SS2R exhaust, Shoei Blaze helmet. \$6.5k. Tom, 488-1385.

'83 Honda CR60R mini motocross cycle, clean, spark arrestor for trail riding, \$800. 992-0938.

'83 Yamaha Venture, 1200cc Touring m/c, 37k mi, runs great, \$1.8k. 282-6618 or 286-5043.

Boats & Planes

'92 Baymaster 18'6" 115 Hp Johnson, detach lounge trailer, ex cond, Motorguide salt water trolling motor, fish finder/depth sounder, \$10k/obo. Steve, x47698 or 482-3696.

'81 Catalina 25, 7.5 Evinrude O/B, bimini, head, pop-top, \$7.5. 334-6615.

Original "Windsurfer" board complete w/teak boom collectors item, \$150. Ross, x38848.

Hobie Cat 16', sailboat, trailer, mesh trampoline, dbl trap, extras, \$1,150. 996-5739.

Lazer sailboat with trailer, \$500. 482-1301.

Good bay fishing boat, 18', 85 hp Evinrude w/15 hp Johnson kicker, galvanized trailer, \$2.2k/obo. 332-9044.

'92 Seadoo XP w/cover, hvy dty trailer, vest, accessories, \$5.8k/obo. 333-6610 or 554-8191.

Bass Tracker 17' boat, bimini top, fish finders, extras, ex cond, \$7.9. 534-3046.

Power tilt & trim, outboard motor, new in box, new \$600 sell \$300. Becker, 282-2794 or 944-5118.

Audiovisual & Computers

Citizen printer, "CSX-140" w/GSX color option, \$225. Magdi Yassa, 333-4760 or 486-0788.

ZEOS 386SX 20 MHz w/240MB HD, 4 MB RAM, FAX/modem, 3.5" & 5.25" FD, Windows 3.1 & DOS 6.2, 14" VGA monitor, Microsoft mouse, \$699. 532-2147.

Paradox for Windows, \$30; Visual C++ book w/CD ROM, \$40; Paradox book w/software examples, \$60; Space Quest V, \$30; printer board, \$15. 282-3570 or 474-3820.

Apple IIe, 128 KB RAM w/2 FD, mono green monitor, Image Writer printer, manuals & software, will finance, \$295. 280-9621.

B/W video camera, great for desktop publishing, \$95; Picture-in-Picture video box for TV 7 VCR, \$100. 282-3570 or 474-3820.

Quicken for Windows special edition, \$20; WordPerfect Works V2.0 for CD ROM, \$25; Cosmic Rings Screen saver, \$5. x37130 or 334-4124.

Mac II, 8 MB RAM, 130 MB HD, color monitor, mouse, \$700; 286 computer, 1 MB RAM, 40 MB HD, extras, \$200. 996-5739.

Refurbished toner cartridges for HP Laser Jets I-III, Apple Laser Writer I-II, OMS & NEC printers, org \$70 sell \$30/ea. Jim, 335-2539 or 474-2368.

Brother Word processor, #WP2200, spreadsheets, framing function, grammar check, \$135. 554-6138.

SVGA 14" monitor, \$175; Sharp 19" color TV, works great, \$100. 482-6060.

Thompson vocal-eliminator, VE-1, strips lead vocals from CD's & records, new \$500 sell \$200. 332-8435 or 6487096.

Oscilloscope, Tektronix 7603, 3 plug-ins, 6 probes & cart, \$575; FlashPoint II pin mouse, \$30/obo. x45507 or 486-5745.

IBM Pc software Myst on CD ROM, \$20; Ultima VII The Black Gate, \$5; Kiplingers Simply Money, \$5. Chad, 482-9263.

Mac SE computer, 4 MB RAM, 20 MB Apple HD, mouse, kybd, \$475. 488-7771.

Musical Instruments

Peavey guitar amplifier "Classic"; 2-12" spkrs, reverb, tremolo, chorus, footswitch, 4 channels, ex cond, will finance, \$395. 280-9621.

Shane electric guitar w/case, chord, & Peavey Decade amp, \$200. Ross, x38848.

Pets & Livestock

Quiet home & TLC for 5 yr old short hair Torti cat, female, spayed. x37176 or 554-2487.

Young male cat, neutered, black & tan. x34606.

Rottweiler puppies, AKC reg, Sire & Dam both family dogs, \$350/ea. Linda, 484-0987.

Black Lab mix, 3 yrs, female, good with kids, smart. 286-0930 or 280-2415.

German Shepherd/Lab mix, male, 1 yr, beige/blk, \$100/obo. 482-6535.

Free Golden Retriever mix, puppy, 4 mos, healthy. Melanie, x47294 or 280-0473.

Parakeets, blue, gold, green, white, 2 males, 2 females w/cage & seeds, \$40. Pete, x31694 or 481-8361.

Free Rottweiler/Australian Healer mix, 1 yr. 282-4595 or 482-7562.

Mini Schnauzer, male, salt/pepper, AKC, \$175. 332-2375.

Free cat, neutered, declawed, accessories. x49012.

Mini schnauzers, 6 wks, \$225. 409-948-6548.

Household

Love seat, brown velour, contemporary style. x40250 or 941-3262.

Kz sz mat/box springs, Sterns & Foster pillow top, ex cond, \$50. Don, x38039 or 333-1751.

Sleeper sofa, good cond, it earth tones, new \$500 sell \$250/obo. Lem, x30609 or 280-0290.

Cargo bunk beds, honey pine, w/side rails, ladder/mattress, will finance, \$695. 280-9621.

Full/Qn sz bed/frame, dresser/mirror/nite stand, \$450; sofa/loveseat, leather, \$750; solid oak rocking chair, \$85. Kim, 996-0152.

Kitchen Aid portable dishwasher, ex cond, \$200. 286-4379.

Persian rug "Flying Carpet" new, hand made wool, 9'x5', "Gouchan" geometric design, obo. 280-8408.

Waterbed, super single mattress/heater, no frame, \$50/obo. Jim, x47350.

Refrig, GE 21.7 cu ft, no-frost, icemaker, wht, \$925; microwave, Goldstar turn table w/probe, 750 watt, 2.5 cu ft, wht, \$145; DRM table & 4 chairs, wood w/fold out leaves, 2 inserts/seat 8, \$225; qn sz mat/boxsprings, \$60/obos. x45507 or 486-5745.

White double oven, older, \$50; white stove top, \$75. Melanie, x47294 or 280-0473.

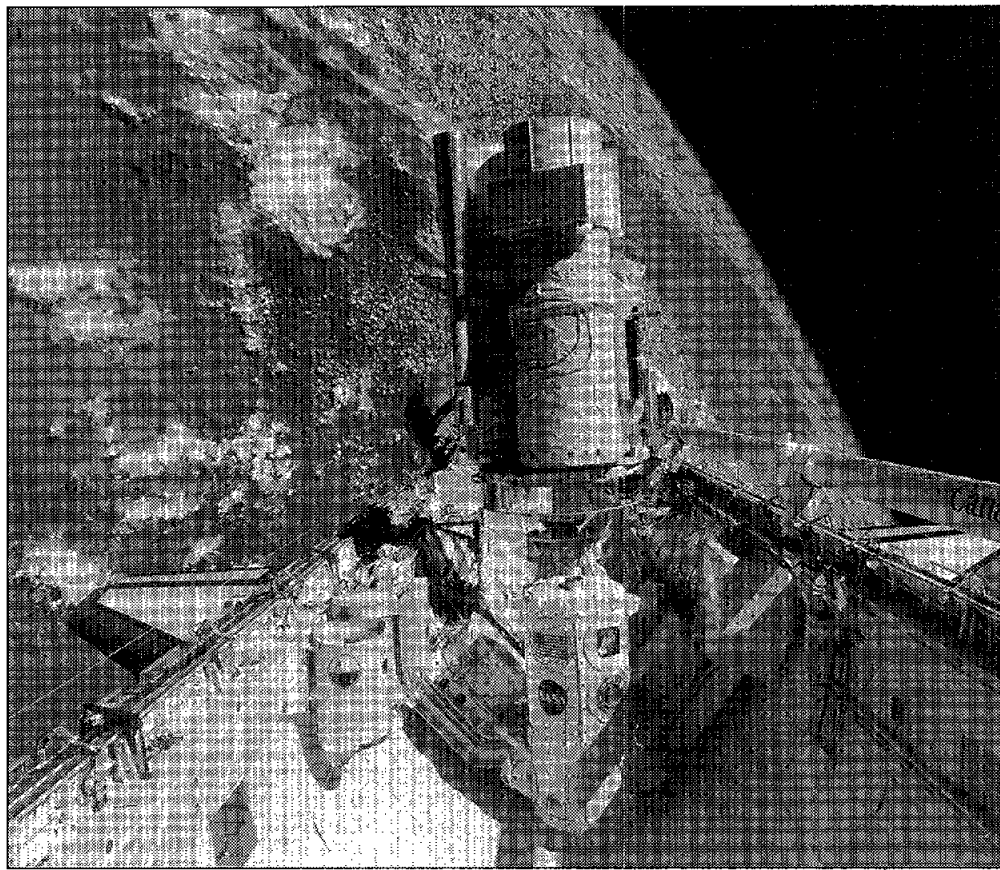
Antique oak armoires, \$295 & \$495; oak shaker bed, \$150; oak kitchen cabinet w/enamel, \$300; oak sideboard/buffet, \$300. x36276 or 332-4751.

A-frame Futon w/arm rest, lt ash w/creme matt cover & add'l print matt cover, \$200. 486-1679.

White wicker day bed, great cond, \$199. 474-9779.

Roll top desk & chair, solid wood, med sz, ex cond, \$350/obo. 474-9779.

Sears Kenmore W/D, 80 series hvy dty, \$



Amazing Astro-2

STS-67 sets record for longest shuttle flight as crew collects treasure trove of astronomy data



A star-studded STS-67 mission touched down last week with a new duration record of 16 days, 15 hours, eight minutes and completing 6.9 million statute miles. The trio of Astro-2 telescopes collected more than 200 observations of celestial objects.

"From my point of view, this mission has been nothing short of absolutely spectacular," said Hopkins Ultraviolet Telescope Principal Investigator Dr. Arthur Davidsen. "It's been 17 years since we began thinking about doing far ultraviolet spectroscopy with HUT as a complement to what we can do with the Hubble Space Telescope and this is a dream come true."

Through it all the crew collected in-flight photos to share. From left to right, top to bottom:

- 1) The cargo bay camera captures the Astro-2 telescope with a backdrop of the deserts in Namibia on the African continent.
- 2) The traditional in-flight crew portrait features, in front from left:

Payload Commander Tammy Jernigan, Commander Steve Oswald and Pilot Bill Gregory; and at rear, from left, Mission Specialist Wendy Lawrence, Payload Specialists Ron Parise and Sam Durrance, and Mission Specialist John Grunsfeld.

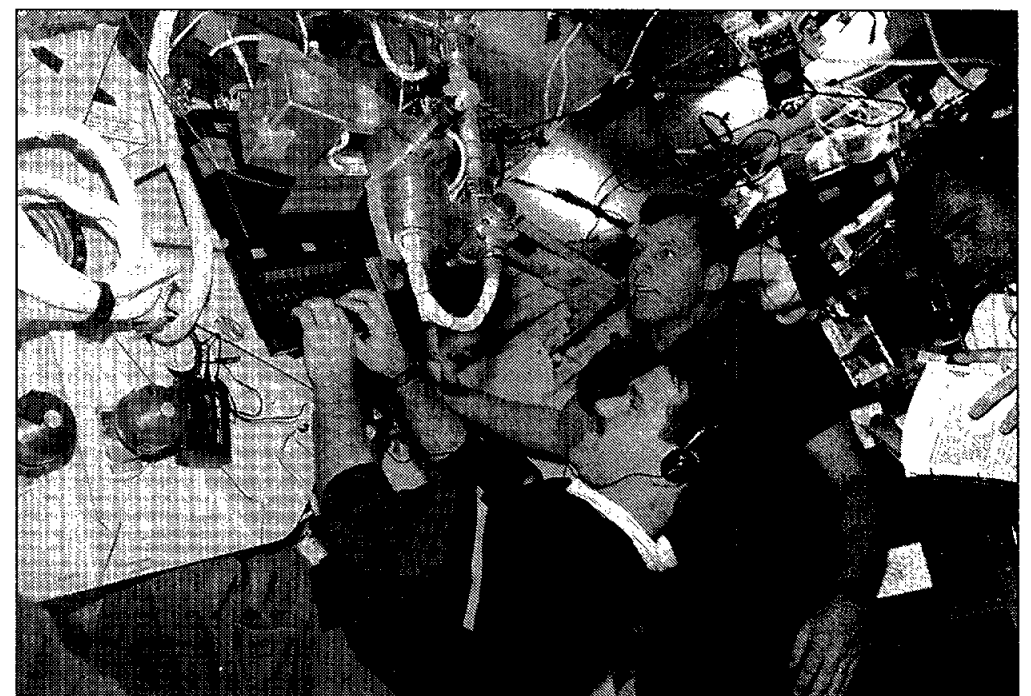
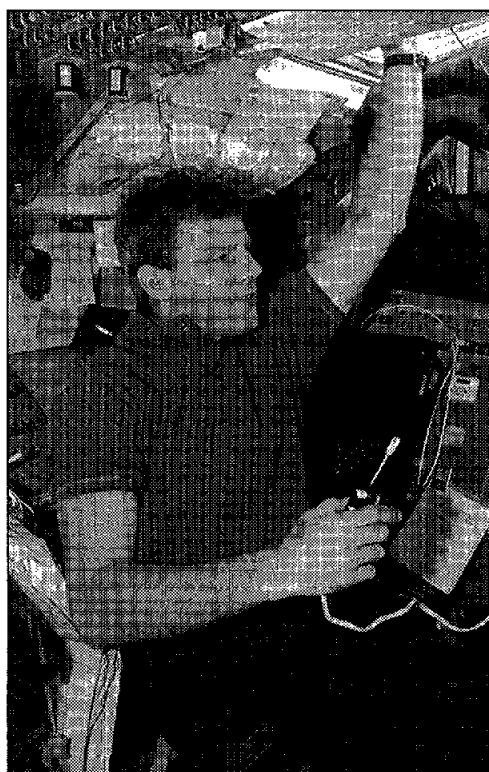
3) Oswald talks with ground controllers on the flight deck.

4) Lawrence monitors protein crystal growth experiments on *Endeavour's* middeck.

5) Gregory works with the Commercial Materials Dispersion Apparatus Instruments Associates experiment. The CMIX-03 is a way to explore the benefits of microgravity in the development of drugs for treatment of cancer and infectious diseases.

6) Durrance and Jernigan study the Rolodex-style checklist to prepare for Astro-2 observations.

7) Grunsfeld, left inputs data on a laptop, while Oswald, center looks on and Gregory, right consults a check list. □



Software used to analyze space shuttle may find medical use

By James Hartsfield

NASA software that was developed to analyze the space shuttle's flying qualities could soon find uses in the medical field as well as in commercial aerospace applications through an agreement between JSC and Universal Research Corp. of Austin.

A Space Act Agreement signed in February sets the stage for the NASA software, originally designed to analyze airflow around the shuttle's surfaces, to become a tool for medical

analysis, such as studying blood flow and air flow in the human body, as well as for aerospace applications.

The agreement is part of NASA's continuing effort to transfer the benefits of public research to the private sector. It formalizes JSC's cooperation with URC to further develop a computational fluid dynamics software tool. The software, originally developed at Ames Research Center, allows airflow around vehicles like the shuttle to be simulated in much greater detail than ever before,

even allowing computers to model the effects of very small protuberances on the surfaces. The software also allows flows within pipes, like those of the shuttle's main engine fuel lines, to be analyzed.

URC plans to further develop the software, making it easier for use in completing such simulations and developing it for medical use in three-dimensional modeling of blood flow and airflow in the human body. Under the agreement, JSC will allow URC limited access to NASA's supercom-

puting facilities to assist in the company's development work.

"This software could become a valuable aid in the design of the next generation of artificial hearts and the diagnostic analysis of sleep apnea," URC President Jack Scheider said. By integrating the software with existing URC technologies, both NASA and the company plan to develop an improved analysis system for future aerospace programs that will be commercially available, Scheider added.

The agreement between JSC and URC was coordinated by the JSC Office of Technology Transfer and Commercialization. The technology transfer office assists businesses interested in commercializing NASA technology, and can sometimes provide copyright or patent licenses to such technology as well as cooperative agreements with JSC.

For more information on technology transfer possibilities, contact the JSC Technology Transfer Office at x38608.

Legislators hear concerns about NASA's future

A town hall meeting with national, state and local legislators will be held from 10 a.m.-noon April 8 at Clear Creek High School.

"The Future of the Space Program" will feature U.S. Reps. Sheila Jackson Lee, D-Texas, and Steve Stockman, R-Texas, both members of the House Science Committee. Texas Aerospace Commission State Reps. Jerry Patterson, R-Pasadena, and Mike Jackson, R-LaPorte, also will be on hand with Houston City Council member Jack Roach.

The purpose of the meeting is to give area aerospace employees and concerned citizens an opportunity to address their concerns regarding the future of the space program. It also will offer the newly elected legislators an opportunity to meet their aerospace constituency.

The meeting is sponsored by Space Station Future Fighters, Clear Lake Republican Club, Muniz Engineering, Jeremy's Bookshelf, Spacecause and the Clear Lake Chapter of the National Space Society.

Clear Lake High School is located at 2305 East Main Street in League City. For more information contact Cynthia Griffin at 488-4075.

MOD open house set for Saturday

The Mission Operations Directorate will hold an open house for MOD civil servants and contractors from noon-6 p.m. Saturday.

Employees are invited to bring their families and cameras for an afternoon that will include videos, facility tours and special entertainment activities for children. Refreshments will be served at the Gilruth Center and art contest winners will be announced. Tours will include flight controller, shuttle mission, space station and weightless environment training facilities. Other tours are available for Mission Control and the weather office.

For more information call Alice Vangilder x32423.

Keynote speakers for AIAA will be Huntoon, Goldin, Hutchison

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Keynote speakers for the opening session include Huntoon, Goldin and Hutchison. Employees should present valid NASA badges at the door.

The public also is welcome to attend Monday evening's special forum event and wine and cheese reception beginning at 5:30 p.m. in the exhibits area. The forum will feature a panel discussion with representatives of the National Institutes of Health, and a presentation by astronaut Harris. Harris will discuss his recent shuttle flight which saw *Discovery* rendezvous with and fly around the orbiting Mir space station.

The exhibits area also will be open to the public from 10 a.m.-3 p.m. Monday and Tuesday. There is no admission charge for exhibits.

Individuals interested in attending the full conference, which includes 12 parallel breakout sessions each afternoon, may register on site. JSC employees are eligible for a \$185 registration fee.

For additional information, contact Jennifer Reins, (202) 646-7463.



JSC Photo by Mark Sowa

CONGRESSIONAL EDUCATION—NASA Astronaut John Young, right, special assistant for Engineering Operations and Safety, explains space station activities to Rep. Henry Bonilla, R-Texas, his wife, Deborah Knapp Bonilla, and their daughter, 9-year-old Alicia. The 23rd District congressman recently brought his family, including 6-year-old son, Austin, to JSC for an educational visit.

Discovery fitted for TDRS

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Thagard, Dezhurov and Strelakov are to return to Earth on *Atlantis* with the five NASA crewmembers who will be launched with replacement cosmonauts Anatoly Solovoyev and Nikolai Budarin on STS-71.

Meanwhile, engineers at KSC have replaced several leaky thrusters on *Discovery* in preparation for its launch in a few months on STS-70 to deploy the next NASA Tracking and Data Relay Satellite. TDRS and its inertial upper stage booster rocket are being readied for placement in *Discovery's* cargo bay.

Columbia is in the final stages of its maintenance period at the Rockwell

International facility in Palmdale, Calif. The oldest shuttle in the fleet is scheduled to return to KSC by mid-April to be prepared for its next flight, STS-73 in September, the second flight of the United States International Microgravity Laboratory.

Endeavour, which completed the Astro-2 mission on March 18 with a diverted landing at Edwards Air Force Base, Calif., to complete a record-setting flight, was ferried back to KSC last week atop a 747 carrier jet. *Endeavour* will be launched again in July on the STS-69 mission, whose prime objective is the deployment and retrieval of the Wake Shield Facility.

Hieb leaves NASA to manage AlliedSignal commercial work

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ing and managing the company's commercial space business activities.

"I am excited to have someone of Rick's caliber at AlliedSignal Technical Services Corp.," said Ivan Stern, president of AlliedSignal Technical Services Corp. "His unique experience and talent will help us grow our commercial business."

Hieb's move to AlliedSignal Tech-

nical Services is effective April 3.

Selected as a member of the astronaut class of 1985, Hieb is a veteran of three space shuttle missions—STS-39 in April/May 1991, STS-49 in May 1992 and STS-65 in July 1994.

STS-39 was an unclassified Department of Defense mission aboard *Discovery*, which included the deployment and retrieval of an infra-

red satellite and the conduct of various other experiments.

On STS-49, the maiden flight of *Endeavour*, Hieb was part of a crew sent to retrieve, repair and re-deploy a stranded Intelsat spacecraft. Three space walks were conducted—including the first to ever involve three space walking astronauts—to capture the satellite.

His last mission was as payload

commander on STS-65 aboard *Columbia*. During the 15-day flight, more than 80 experiments focusing on material and life sciences research were conducted in a pressurized Spacelab module.

Prior to becoming an astronaut, Hieb served in Mission Control as an expert in on-orbit procedures development, particularly in rendezvous and proximity operations.

Help available for departing workers

(Continued from Page 1)

Houston area who specialize in technical positions, will offer a full range of services, including career counseling, training in job search skills, assistance with resume preparation and computerized job listings.

The program's first phase, beginning within two weeks, will be workshops designed to teach employees how to define their employment objectives, perform a job search, market themselves and conduct salary negotiations. The second phase, planned to begin shortly after the start of seminars, will be the creation of a Job Assistance Center housing computers, telephones, laser printers, a copier, a fax machine, a library and the career counselors.

The center will be operated by Resource Consultants Inc., one of the leading national firms with experience in outplacement of federal workers to the private sector. RCI is hiring counselors from the Houston area with an in-depth knowledge of the local job market and local employers, especially the technical job market, to staff the center. Databases of local job openings will be developed during the first month of the program. Databases of national and international job openings will be available immediately.

"RCI has said that aggressive employees are usually very successful in their search," Mangieri explained. "The success of an employee depends on the enthusiasm and dedication they put into the

job search and their use of the center. The skills that can be learned in this program are useful for a lifetime and not just for one career move."

RCI has worked in the field of outplacing federal workers for many years, and has had a great deal of experience in assisting with the U.S. Army's downsizing efforts. "The hardest aspect of moving from federal employment to the private sector is translating the kind of experience you have had with the civil service to the types of skills needed by private industry. RCI is an expert at assisting with that translation," Mangieri said.

For more information on CTAP, civil service employees may contact the Human Resources Management Branch at x33008.

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Correction

A story in the March 17 edition of Space News Roundup incorrectly reported that Astronaut Norm Thagard and his Russian crewmates were the 42nd, 43rd and 44th humans to set foot aboard Mir. They were the 41st, 42nd and 43rd.