



Fifty JSC employees share their careers and inspire young girls to follow their dreams. Photos on Page 3.



The latest in computer technology draws large crowds at the annual Computer Expo. Photo on Page 4.

Space News Roundup

Vol. 33

May 13, 1994

No. 19



Photo courtesy Walt Disney Television

ARRR, ARRR, ARRR — STS-61 Mission Specialist Tom Akers shows Tim Allen the unique tools required to accomplish the Hubble Space Telescope servicing mission during the taping of Allen's 'Home Improvement' television show. On the show, which airs at 8 p.m. Wednesday on ABC, crew members will make an appearance on 'Tool Time,' a fictional cable show hosted by Allen's character, Tim Taylor. From left, are Pilot Ken Bowersox, Mission Specialist Story Musgrave, Allen, Akers, Commander Dick Covey, Mission Specialist Jeff Hoffman and Richard Karn, who plays 'Tool Time's' Al Borland. Mission Specialist Claude Nicollier is not pictured, and Kathy Thornton was not able to make the trip.

'Glass cockpit' displays going into shuttles

By James Hartsfield

Within five years, shuttle astronauts will be looking at modern liquid crystal displays of the horizon, airspeed and altitude, as the old mechanical ball and tape indicators and cathode ray tubes are relegated to history.

NASA announced Wednesday that work to install Multifunction Electronic Display Subsystems in each of the four space shuttles will begin under the terms of a contract modification awarded to Rockwell International Space Systems in Downey, Calif.

The MEDS consists of color active, matrix liquid crystal displays that will replace some of the current electromechanical flight instruments and meters in the shuttle cockpit. Installation and first flight of the equipment is set for 1998.

Similar technology, commonly referred to as "glass cockpit" instrumentation, already is in use in commercial aircraft.

The MEDS will be among the

first United States-manufactured liquid crystal flat panel displays to be used in aerospace.

The displays will provide state-of-the-art interfaces between the flight crew and the orbiter's flight control computers.

They will provide computer-generated information on altitude, airspeed, heading, vehicle attitude, and other aspects of flight control and will replace the current cathode ray tube displays in the cockpit.

The contract, valued at \$80.58 million, covers the production of MEDS equipment to be installed in shuttle trainers and avionics laboratories at JSC, as well as fabrication, assembly, acceptance testing, packaging and delivery of the MEDS hardware.

The majority of the prime contract effort will be performed at the Rockwell facility in Downey. The majority of subcontract effort will be performed at the Honeywell Inc., facility in Phoenix, Ariz.

Deadline to apply for SES program approaches

The deadline for applications to participate in this year's NASA's Senior Executive Service Candidate Development Program is May 31.

The program will provide a series of developmental experiences for candidates with at least one year's experience at or above the GS/GM 14-15 level who have a high potential for assuming executive responsibilities. Seven JSC managers

were selected to participate in the first class in 1993.

The experiences, to be completed over 12- to 18-months, will include formal courses and seminars, work assignments, and individual mentoring from current SES members.

Each of the candidates will work with a designated SES mentor to prepare an individual development

plan designed to strengthen their executive management skills. They will spend at least 120 days in a developmental work assignment, gaining experience in another area of JSC, at another center or other federal agency. They also will spend a minimum of 80 hours participating in formal OPM-approved training.

Completing the program does not

guarantee appointment to the SES. NASA will continue to have multiple paths of entry in the SES, and all career SES positions will continue to be competed through the SES vacancy announcement process as they have in the past.

The candidates will be chosen on the basis of experience, education, training, accomplishments and managerial skills related to five cri-

teria specified by the Office of Personnel Management and an assessment of potential skill requirements for the next one to two years.

Applications should be delivered to Bldg. 45, Rm. 110G, or sent to the Senior Executive Service Coordinator at AH7, marked Attn: SESCDP-94. For more information, call Curtis Collins at x33002.

Technology transfer seminar gathers entrepreneurs, scientists, engineers

The Johnson Technology Commercialization Center will host its third quarterly technology transfer seminar Tuesday.

The seminar brings together entrepreneurs, scientists and engineers to help build high-growth business ventures based on space-derived technologies. Featured speakers and topics for the event include Jill Fabricant providing an

update on NASA Technology Commercialization Centers; Hank Davis discussing "NASA's New Technology Transfer and Commercialization Program;" Milton Rosenau discussing "Market Pull or Technology Push — What Works Best?;" and Keith Fullenweider of Vinson & Elkins will speak on "Legal Issues in Starting a Company."

The seminar will be held from 4:30-7 p.m. at 2200 Space Park Drive. There is no cost to attend the seminar, but reservations are suggested as seating will be limited.

JTCC is a partnership between NASA and the IC2 Institute at the University of Texas at Austin. The goal of the JTCC is to identify viable NASA technologies and bring them to market through established busi-

nesses or start-up ventures. The JTCC works directly with inventors, scientists and researchers to identify the technologies that are best suited for commercialization and provides an avenue for start-up companies to build a business based on NASA technologies.

The seminar is hosted by JSC, the NASA JTCC, the IC2 Institute at the University of Texas at Austin,

and Vinson and Elkins. Sponsors for the event include the Greater Houston Partnership, Texas Product Development Center at the University of Houston Small Business Development Center, and the Clear Lake Area Economic Development Foundation.

For additional information, or for reservations, contact the JTCC at 335-1250.

Columbia on target for mid-July launch

By James Hartsfield

The International Microgravity Lab-2 was secured in Columbia's cargo bay at Kennedy Space Center this week and the main engines were installed, keeping the preparations for STS-65 on track for an early July launch.

Columbia is in KSC's Bay 2 processing hangar, and it will remain there until early June, when it will be moved to the Vehicle Assembly Bldg. to be mated with the STS-65 solid rockets and fuel tank. Ongoing work on the maiden shuttle includes checks of the IML-2 electrical connections, tests of the drinking water system, installation of the Spacelab tunnel and installation of the sleep

stations used during around-the-clock crew operations.

Elsewhere, Endeavour is in the Bay 1 hangar at KSC being refurbished following its recent flight on STS-59 carrying the Space Radar Lab-1. Work this week included the removal of three windows for maintenance, the polishing of remaining windows and the removal of the inboard landing gear tires.

In the VAB, the solid rockets for Endeavour's next mission, STS-68 in August also carrying the radar lab, already are being assembled.

Meanwhile, Discovery is in the Bay 3 hangar being readied for a September flight on shuttle mission

Please see ATLANTIS, Page 4



JSC Photo by Andrew Patnesky

STS-65 crew members from left, Commander Bob Cabana, Pilot Jim Halsell, Payload Commander Rick Hieb, Mission Specialists Carl Walz, Leroy Chiao, and Don Thomas, and Japanese Payload Specialist Chiako Mukai, await instructions between emergency egress training sessions in Bldg. 9. The seven-member crew is set for a July launch on board Columbia with the International Microgravity Laboratory-2.

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.

Astroworld Early Bird: Tickets available for one-day admission for 1994 season. Cost is \$16.75 per person. Tickets must be purchased by May 31.

Home Tour: Tickets available for the Galveston Home Tour May 14, or 15. Cost is \$13.75
Karate Championships: Tickets available for the May 14 National Karate Championships at the Astroarena. Cost is \$12.50 for general admission, \$20 for ringside.

Seaworld of Texas: Discount tickets: adult \$20.95; child (3-11), \$14.25.

Fiesta Texas: Discount tickets: adult \$18.95; child (4-11) and seniors (55+), \$14.25.
Moody Gardens: Discount tickets for two of three different attractions: \$9.50

Space Center Houston: Discount tickets: adult, \$7.95; child (3-11), \$4.75; commemorative, \$9.55.

Metro tickets: Passes, books and single tickets available.

Movie discounts: General Cinema, \$4.75; AMC Theater, \$4; Loew's Theater, \$4.50.
Stamps: Book of 20, \$5.80

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

Upcoming Events: 7-day Caribbean cruise Oct. 29-Nov. 5. A video preview will be held at 5 p.m. May 11 in Rm. 216 at the Gilruth Center. For additional information, contact x34037.

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. 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 6:30-9 p.m. Monday-Friday; 9-11 a.m., 1-3 p.m. and 6:30-9 p.m. Wednesdays; 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 8-9:30 p.m. May 18. Pre-registration is required. Cost is \$5.

Defensive driving—Course is offered from 8:15 a.m.-3 p.m. Saturday. Next class is June 11. Cost is \$19.

Country dance—Country & western dance lessons begin June 6 at the Gilruth Center. Beginners class meets from 7-9 p.m.; Advanced class meets from 8:30-10 p.m. Partners are required. For additional information, contact the Gilruth, x33345.

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 and 6:15-8:15 p.m. Wednesdays. Black Belt class from 6-8 p.m. Fridays, requires instructor permission. Cost is \$25 per month. New classes begin the first of each month.

Sailing Club—Sailing lessons are planned for May and June. For information, contact Richard Hoover at x31360 or 996-7716.

Golf lessons—Lessons for all levels. Cost is \$90 for six weeks. For additional information, contact x33345.

Softball tournament—Softball tournament will be held May 21 and 22. Cost to register is \$100 per team. Registration deadline is 7 p.m. May 18.

Basketball tournament—Three-on-three basketball tournament is June 4. Cost to register is \$40 per team. For additional information, call 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

Astronaut speaks — Astronaut Koichi Wakata will present "To Be An Astronaut" at 7 p.m. May 13 in Teague Auditorium as part of Asian Pacific American Heritage Month activities. There is no cost to attend. For additional information, contact Kamlesh Lulla, x35159 or Pam Adams, x33761.

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

Self-defense workshop — The Gilruth Center will present a self-defense workshop for women from 5-6 p.m. May 16 in Rm. 206. Admission is free, but reservations are suggested. For additional information, contact the Gilruth Center at x30304.

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

IEEE meets — The Galveston Bay

Section of the Institute of Electrical and Electronics Engineers will host a videoconference on "Revolutionary Concepts in Human/Computer Interaction" beginning at 11 a.m. May 18 in the Gilruth Center. For registration and other information, contact Frankie Hap, 333-6064.

Aerospace symposium — The 28th annual Aerospace Mechanisms Symposium will be held May 18-20 at Lewis Research Center. For additional information, contact Ed Boesiger, (408) 743-2377.

IEEE seminar — The Galveston Bay Section of the Institute of Electrical and Electronic Engineers will host a videoconference on "Revolutionary Concepts in Human/Computer Interaction" at 11 a.m. May 18 at the Gilruth Center. Attendance is limited. For additional information, contact Zafar Taqui, 333-6544 or Frankie Hap, 333-6064.

Astronomy seminar — The JSC Astronomy Seminar will meet at noon May 18 in Bldg. 31, Rm. 129. For more information, call Al Jackson, 333-7679.

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

AIAA meets — The Houston section of the American Institute of Aeronautics and Astronautics presents its 19th annual technical symposium from 8 a.m.-5 p.m. at the University of Houston - Clear Lake. The symposium theme is "Uniting the World Through Aerospace." Cost to attend is \$2 for members, \$3 for non-members. For additional information, contact Dudley Nelson, 333-7054.

Russian speakers—Practice Russian language skills from 11 a.m.-1 p.m. May 19 in the Bldg. 3 cafeteria. For more information, call Jack Bacon, x38725, or Amy Mendez, x38066.

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

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.

May 24

Blood drive — McDonnell-Douglas will host a blood drive from 8-11:30 a.m. at 16055 Space Center Blvd. For additional information, contact Teresa Esquivel, 212-5036.

May 25

Astronomy seminar — The JSC Astronomy Seminar will meet at noon May 25 in Bldg. 31, Rm. 129. Al Jackson will speak on "Comet Shoemaker/Levy Hits Jupiter in July." For additional information, call Al Jackson, 333-7679.

May 26

Russian speakers — Practice Russian language skills from 11 a.m.-1 p.m. May 26 in the Bldg. 3 cafeteria. For additional information, call Jack Bacon, x38725, or Amy Mendez, x38066.

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

Lease: Heritage Park, 3-2-2A, FPL, fans, dishwasher, microwave, ref, w/D, avail 7/1, \$850/mo. x46315 or 280-0031.

Sale/Lease: 3-2-3, Friendswood, FML/LR & DR, appli, over sz corner lot, \$69.9k. Gary, x31059 or 480-9716.

Sale: Friendswood, 4-2.5-2+, 2137 sq ft, FPL, jacuzzi, formal dining, ceiling fans, sec sys, \$105.9k. 992-1466.

Sale: 10 acres, Hill Country, 409-925-8770.

Sale: Waterview home, 2-story duplex, appli, \$89.5. John Postell, 559-1574.

Rent: Arkansas cottage, Blue Mt Lake, furn, 4 acres, \$250/wkly/\$50/dly. x33005 or 334-7531.

Rent: Cancun, Mexico, 2 BDR, equipped, 5/28-6/03, \$100/dly. Jeff, x38630.

Sale: Bay Forest patio home, 3-2-2, upgrades, \$150k. x33075.

Sale/Lease: Bay Wind I condo, 1-1-1, ceiling fans, appli, \$25k or \$410/mo. Bill, 332-3649.

Rent: Galveston Beach house, dly/wkly, sleeps 10. James, x36666 or 487-5730.

Sale: Lake Livingston, 2 lots, \$5k, James, x36666 or 487-5730.

Sale: The Landing, condo, 2-1, W/D, appli, \$49.5k. 326-3449.

Sale: Sagement, 3-2-2, both formals, approx 1800 sq ft. Ben, 481-1439.

Rent: Colorado home, furn, sleeps 6, no smoking/pets, dly/wkly/mo. Bob, x30825 or 998-7372.

Sale: Heritage Park, 3-2-, cov deck, storage, \$69.9k. x40213 or 332-7092.

Sale: 5 days, 4 nights, for 2, Freeport Bahamas, \$150. Pete, x38486 or 338-1819.

Sale: Fairmont Park, duplex, ea unit, 2-2, utility, fenced appli, ex cond, \$87k. 474-5610.

Sale: Lake Livingston, 30 x 70 lot, paved roads, util avail, \$3k OBO. Walt, 422-6369.

Sale: Shirley Creek area, 4.6 ac, private roads, util, \$3.5k per ac OBO. 479-1375.

Sale/Lease: Nassau Bay, 4-2-2, 1840 sq ft, FPL, avail 5/15, \$850/mo or \$105.k. 488-4493.

Rent: Galveston beach house, dly/wkly, cent air, furnished. Ed Shumlak, x37686 or 326-4795.

Sale: Galveston beach house, 3-2, cent air/hl, furn. Ed Shumlak, x37686 or 326-4795.

Cars & Trucks

'82 Camaro, A/C, auto, 2.8L V6, AM/FM/cass, brn/beige, ex cond, \$2k OBO. 991-5280.

'84 Mercury Brougham SW, PS/PB, A/C, AM/FM tape, \$1.7k. L.D., x48767 or 480-5681.

'78 Porche 928, brn w/leather int, auto, ex cond, 75k mi, \$8.5k. Bill, 244-8889.

'88 Honda Prelude, A/C, AM/FM tape, 5 spd, sunroof, 63k mi, PS/PB, ex cond, \$6750. L.D., x48767 or 480-5681.

'86 Olds Cutlass Ciera Brougham, 4 dr, A/C, PS/PB, AM/FM/tape, V6, ex cond, \$3k. 488-1187.

'87 Nissan PU, std, 70k mi, \$1.7k OBO. 326-4453.

'80 Chevy Dually, 4 WD, 38.5-16.5LT, \$3.5k OBO. 479-1375.

'94 Camaro, silver plum, take up notes. x30402 or 998-2100.

'80 Chevy SWB PU, V8, auto, sunroof, \$1.9k. Jim, 483-9712 or 338-2332.

'89 Chevy Astro Mini-van, 132k mi, green w/gold trim runs great, \$6.5 OBO. Ignacia, 471-1620.

'85 Volvo 740 Turbo, 4 dr, auto, sunroof, pwr drs/windows, \$4.5k. x483-5296 or 992-3004.

'82 Mustang 5.0L, 8k mi, T-Tops, extras, \$2.5k OBO. Chris, 337-5410.

'81 Ford F-150 Supercab XLT Lariat, 302 V8, camper, \$4k OBO. 333-3127.

'88 Chevy Suburban Silverado, ex cond, \$9.5k. 482-7546.

'91 Honda CRX, 5 spd, A/C, AM/FM/cass, ex cond, \$8.995. Dale, x38212 or 481-0046.

'91 GT Mustang, ex cond. 283-6972 or 765-8453.

'70 Ford pick up truck, \$1.3k OBO. 483-9920

'85 Mustang convertible, blue/tan top, V6, powered, \$3995. 332-2229.

Boats & Planes

Chaparral 187, 140 hp Merc I/O, SS prop, elec, ex cond, \$5.7k. x37954 or 481-1605.

Aluminum 12 ft boat, 5 hp, trailer, \$675. 333-3127.

'91 Cajun 18.5 bay boat, '93 135 hp, Mercury PT/T, Motorguide trolling motor, \$10.5k. Gary, x37069 or 534-3080.

Crestliner 14' Family Classic, Chrysler O/B, 45 hp, trailer, \$750 OBO. x31936.

'90 Hunter 30' aux sloop, A/C Roller Furning, full batten main, digital knot/depth w/ind, auto pilot, Bimini, ex cond, \$49.5k. 980-7481.

Cycles

Girl's 26", Shimano 3000 GT Open Rd, 10 speed bike, \$50. Ray, x33954 or 487-4889.

'84 Suzuki GS1100GK Touring bike, ex cond, 24k mi, \$2.3k. Jim, x38210 or 996-7546.

Caveleto Centurion, 10 spd touring bike, Panier, 27" frame, \$80. Wayne, x38791 or 326-5518.

Ladies 10 spd bike, racing style, \$50 neg. 282-3697 or 484-6827.

Diamond Back Mt. 2 bikes, 16" & 18" ex cond, new \$400 ea sell \$400/both. 244-7090 or 986-6641.

'82 Honda Goldwing, ex cond, \$3.5k. 486-9760.

Diamond Back Super Viper boy's bike, \$75 OBO. x35435 or 280-9274.

Audiovisual & Computers

IBM compatible, NEC-286 computer, 640k

RAM, 44MB HD, 2 FDs, color monitor, kybrd, software, \$400. Earl Rubenstein, 480-1998.

PC-386DX w/2 meg RAM, 70MB HD, 1200 baud modem, amber monochrome monitor, 5.25" FD, 24 pin Panasonic dot matrix printer, \$400. Kirsten, 283-9236 or 480-3838.

IBM AT, 1MB/20MB HD, 5.25" FD, color monitor, \$375; 386DX-16 3MB/71MB HD, 5.25 & 3.5 FD, VGA, IBM color monitor, Windows, \$675. Kelly, x36818 or 488-8194.

Trade new fax modem, 19,200 bps V.32 terbo for old Macintosh or Powerbook OBO. Tony, x47401 or 482-4156.

Sony CD player, CDP-C211 model, 5 disk carousel, random, Shuffle play modes, \$80. 326-5518.

Atari 1040 ST, Word Proc, spreadsheet, \$150 OBO. x41089 or 480-8335.

Internal 2400 bps fax/modem w/Bitcom software, \$20. Charlie, 488-4412.

Photographic

Canon 35-70 200mm Autofocus lens for EOS camera, \$30. Charlie, 488-4412.

Musical

'90 violin, model 13c, 3/4, body from Germany, Glasser bow, case, & music stand, \$500. 488-5517.

Royce 5 pc drum set w/access, ex cond, \$300; Baldwin spinet piano, ex cond, \$1,150. Mark, 333-6539.

Upright acoustic bass, ex cond, \$500. 286-2713.

Baldwin upright piano, ex cond, \$900. Kathleen, 244-7471 or 538-1547.

Pets & Livestock

EMU chicks & breeders. 482-0874.

AKC reg Siberian Husky, female, \$100 OBO. 991-5280.

AKC reg Norwegian Elkhounds puppies, shots, \$250-\$300. Don, x45907 or 331-2985.

Free 8 yr old black lab mix, dog house included. Elizabeth, x37270 or 488-3089.

AKC full blooded Bassett hound, tan & white, 7 mo, \$150. Michele, x33369.

Free female black Labrador, 7yrs. reg. Kathleen, 244-7471 or 538-1547.

Household

Dining room table/6 chairs, new \$700, sell \$350 OBO; Panasonic dual cass stereo w/spkrs/cabinet, ex cond, \$150 OBO; Eureka upright vacuum cleaner, \$55 OBO. 992-1466.

Couch, brown/gold stripe, \$50; end table, pecan, \$25; 2 floor lamps, gold w/white shades, \$10 & \$15. Ray, x33954 or 487-4889.

Twin bed box spring, \$20; round, formica kitchen table w/2 leaves, metal legs, \$25. Kirsten, 283-9236 or 480-3838.

White metal tubular bunk bed, bottom is full sz, top is twin sz, \$350 OBO; electric dbl oven/stove, \$50 OBO; X-lg high power microwave, \$75 OBO. Tony, 482-4156.

King size waterbed, 12 drwr & heater, no mattress, \$130 OBO. Greg, 488-7260.

Dresser w/mirrors attached, desk, \$25 ea.

333-6456 or 480-8682.

Sanyo 19" color TV, \$110. x36091 or 333-4955.

Kenmore W/D, beige, \$200. x34159 or 280-4551.

GE white W/D, dryer may need heating element, washer, \$125; dryer, \$25 firm. Jerry, x38922.

Wanted

Want roommate to share custom home, Friendswood, non-smoker, male preferred. 333-6045 or 992-1338.

Want wood bookcase approx 3' x 6', cheap. x35092 or 944-2391.

Want vanpool riders, West Loop Park & Ride to NASA/contractors. Richard, x37557.

Want female roommate to share 3-2-2, non-smoking/no pets, Meadow Bend, LC, \$350/mo +1/3 utilities. Gloria, x31891 or 538-2283.

Want '91 Hallmark "Enterprise" ornament, 1st in this series. Tim, 488-2386.

Want Slate, 8' pool table. Dwight Potter, x48111 or 286-3410.

Want drum kit, beginner's, minimum of 1 bass, snare, one Tom, Hi-hat & symbols. John, x35899.

Want roommate, 3-2.5-2 house, Fuqua/Kings Point, \$325/mo + 1/2 util. George, x34819 or 944-9761.

Want male roommate, 3-2-2, CLC, non-smoking, \$425/mo bills pd. Jim, 486-2463.

Want NASA publication SP4201 "This New Ocean" or any "SP" publication. Ron, 333-6952 or 482-1385.

Want inexpensive car or truck. 771-0955.

Want piano or keyboard. Karen, x37389 or 992-3783.

Want roommate to share 3 BR house, LC, non-smoker, \$250/mo +1/2 util. Dora, 332-2220.

Want housemate, Bay Glen, CLC, 3-2-2, non-smoking, \$300

Unlimited potential

JSC shares the future



Fifty girls aged 9 to 15 joined the JSC workforce for a day on April 28 as they participated in the second annual "Take Our Daughters to Work" day.

The day began at 8:30 a.m. when the girls, along with parents and sponsors, were greeted by JSC Director Dr. Carolyn Huntoon in Teague Auditorium. Huntoon praised the participants for their involvement and encouraged the girls to believe in themselves and their capabilities.

"Before all of you were born, it was very unusual to see a woman performing a technical or management job," Huntoon said. "But many things have changed for the better over the years, and now both women and men enjoy many of the same kinds of opportunities."

"The lesson you can learn from this is simple: anything is possible. You can do anything you want with your life. All you have to do is believe in yourself, work hard, and keep trying. Don't ever give up, and never lose faith in just how wonderful a person you are," Huntoon said. "And from there, the sky's the limit."

Several presentations by other JSC employees highlighted the contributions of women to the center. Gail Horiuchi, a materials science engineer discussed how engineers select the right materials for the right applications explaining that it would be impractical to make structures from saran wrap or clothing from steel. Jeanne Crews of the Space and Life Sciences Directorate discussed her work in the hypervelocity impact test facility and explained to the girls how they try to protect spacecraft from high speed impact from orbital debris.

Following that presentation, shuttle astronaut Kathy Thornton shared her thoughts on the recent Hubble Space Telescope servicing mission with the group. Thornton related the correction of the flaw in the telescope's primary mirror to putting on a pair of glasses for someone with blurred vision.

Joyce Carpenter explained her duties in the Automation and Robotics Division. She explained how robots can be used to expand human capabilities in space and also how robots are used on the ground in power generating plants, in the mining industry and in medicine. Susan Cupples of the Crew and Thermal Systems Division discussed requirements for designing spacesuits for the astronauts. She talked about the harsh environment of space and how a spacesuit protects

astronauts working outside the shuttle.

Vickie Kloeris, manager of the Shuttle Food System talked about selecting, preparing and packaging foods for the shuttle astronauts. She explained how testing is done and how to design packaging so that it works in a microgravity environment.

After hearing about all the opportunities available to them, the girls then took a tour of various JSC laboratories to see for themselves the sort of work their mothers, fathers and friends are doing. They visited the Materials Lab, Space Materials Research Lab, Advanced EVA/EMU Development Lab, the Dexterous Robotics Lab and Integrated Graphics and Operations Analysis Lab, and the Food Systems Engineering Facility.

"Visiting these areas gave the girls the opportunity to relate some of their school work to the business world," said Pam Adams of the Federal Women's Program. "We wanted them to see how important the math and science courses they take today are to their future. Activities such as this may help them keep striving toward their goals."

Photos: Clockwise from top left.

One JSC daughter peers through a microscope as she joins in the fun and experience of the day.

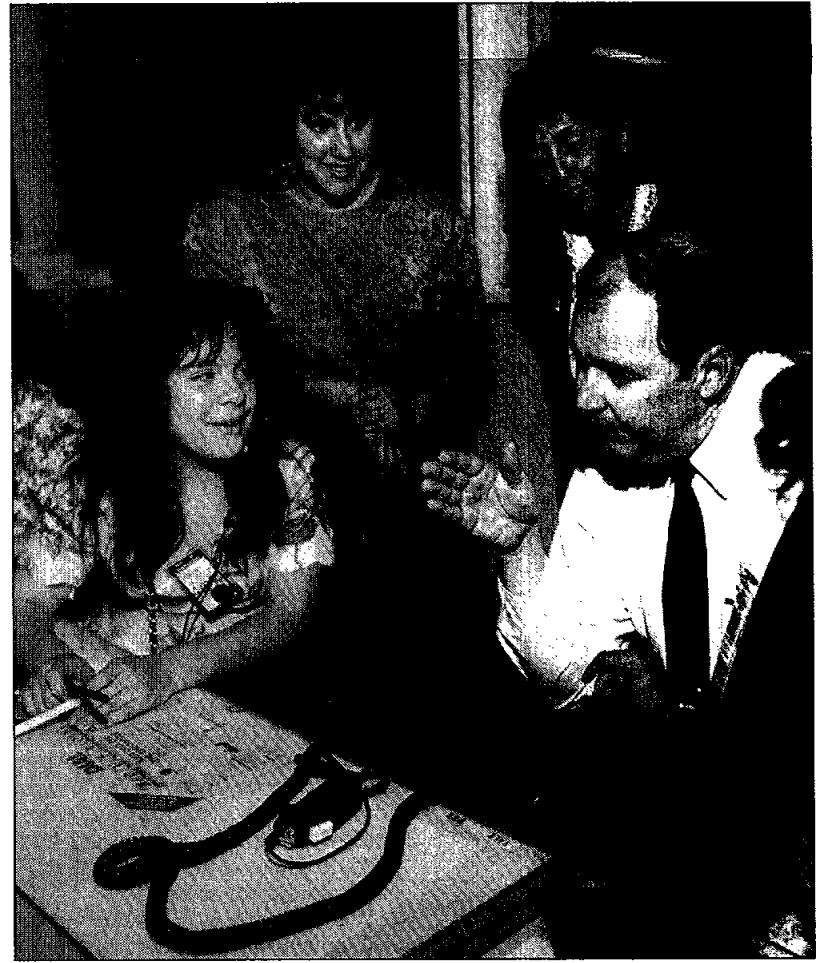
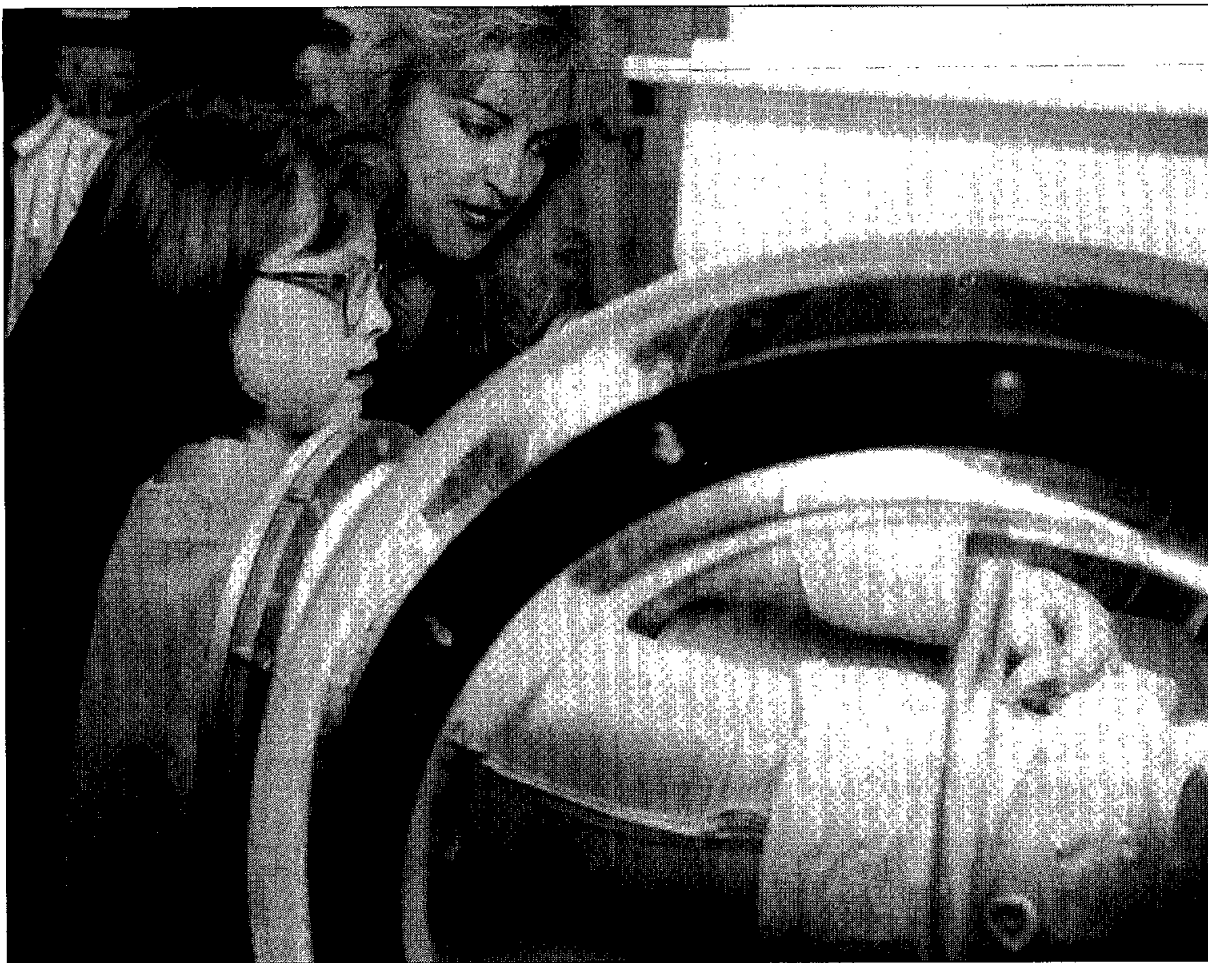
A JSC employee in the Integrated Graphics Operations and Analysis Lab places a virtual reality helmet on one young girl. She is already wearing the wired gloves that will allow her to participate in a virtual reality experience.

JSC employee Cindy King helps Rebecca Rodriguez experience the work conducted by an astronaut in space. The two experienced how it feels to try to move an object in a weightless environment while wearing the protective spacesuit gloves

Vickie Kloeris explains the different types of space foods used by astronauts throughout the history of the space program. The girls also learned how the different foods are prepared on the ground for shuttle crews to enjoy on orbit.

In the Mission Control Center, Wayne Hale explains the workings of the communications panels to two young girls while other JSC employees look on.

During a tour of one laboratory a "Take Our Daughters to Work" day participant peers through a microscope. □



JSC Photos by Scott Wickes



NASA retires Scout rocket after 34 years of service

Following 34 years of service, NASA's Scout rocket is being retired following its 118th flight.

The final flight of the Solid Controlled Orbital Utility Test launch vehicle took place May 6 from Vandenberg Air Force Base in Lompoc, Calif.

The Scout rocket flew its first mission on July 1, 1960, becoming one of NASA's most successful launch vehicles. The Scout rocket program boasts a reliability record of 98.3 percent over the last 26 years and, since 1976, its launch success rate has been 100 percent. According to project officials, this reliability can be traced to its use of standardized launch and manufacturing procedures and the incorporation of off-the-shelf technology.

Although it is the smallest NASA launch vehicle capable of orbiting satellites, Scout has been a workhorse for the agency.

The Scout program was managed from 1958 through December 1990 by Langley Research Center. Program management was transferred to Goddard Space Flight Center in January 1991.

The last Scout launch carried a Miniature Sensor Technology Integration satellite for the Ballistic Missile Defense Organization. The satellite, designated MSTI-2, will conduct tracking and Earth-observation experiments. The first MSTI satellite was launched on board a Scout vehicle in November 1992.

Scout had its beginnings in 1957. The country needed a relatively inexpensive, quickly produced rocket to launch small research experiments, and Langley engineers were asked to design it. The goal was to provide a launch vehicle capable of performing a variety of probe, re-entry and orbital missions with minimal preparation time.

The concept was completed in 1958, and Chance Vought Aircraft, now Loral Vought Systems, was placed under contract in March 1959 to build the vehicle.

The Scout rocket was America's first solid-fuel launch vehicle capable of orbiting a satellite. The standard vehicle is a solid-propellant, four-stage booster system, approximately 75 feet long with a launch weight of 47,398 pounds.

Unlike most of NASA's larger expendable rockets, the Scout is assembled and the payload is integrated and checked-out in the horizontal position prior to launch. The first-stage motor was based on an earlier version of the Navy's Polaris missile motor. The second-stage motor was developed from the Army's Sergeant surface-to-surface missile, and the third- and fourth-stage motors were adapted by Langley from the Navy's Vanguard

missile.

The first SCOUT was launched from Goddard's Wallops Flight Facility on July 1, 1960. The rocket carried a 193-pound payload as a probe test. On Feb. 16, 1961, Scout became the first solid-fuel rocket to place a payload into orbit. The vehicle carried a 96-pound NASA atmospheric physics payload into orbit without incident.

Two launch sites were added in subsequent years. One, at the Western Test Range at Vandenberg Air Force Base, in 1962, and another on Italy's unique sea-based San Marco platform off the east coast of Kenya, Africa, the site of nine successful equatorial missions since 1967.

Scout's capability grew dramatically over the years. Originally able to place a 131-pound payload in a nominal 345-mile circular orbit, performance was improved, increasing

its capability to put a 458-pound payload into the same orbit. The heaviest satellite ever placed in orbit by the rocket was an Italian payload weighing more than 600 pounds.

The Scout program has made possible important contributions to the knowledge of space, not only for the U. S. but also for a number of foreign nations, including Italy, Great Britain, Germany, France, the Netherlands and the multi-national European Space Agency. These contributions have been in navigation, astronomy, geodesy, meteoroid environment, re-entry materials, biology, spacecraft technology and applications.

To commemorate Scout's contributions to the American space program, a Scout rocket is on display in the Smithsonian Institution's National Air and Space Museum, in Washington, D.C.

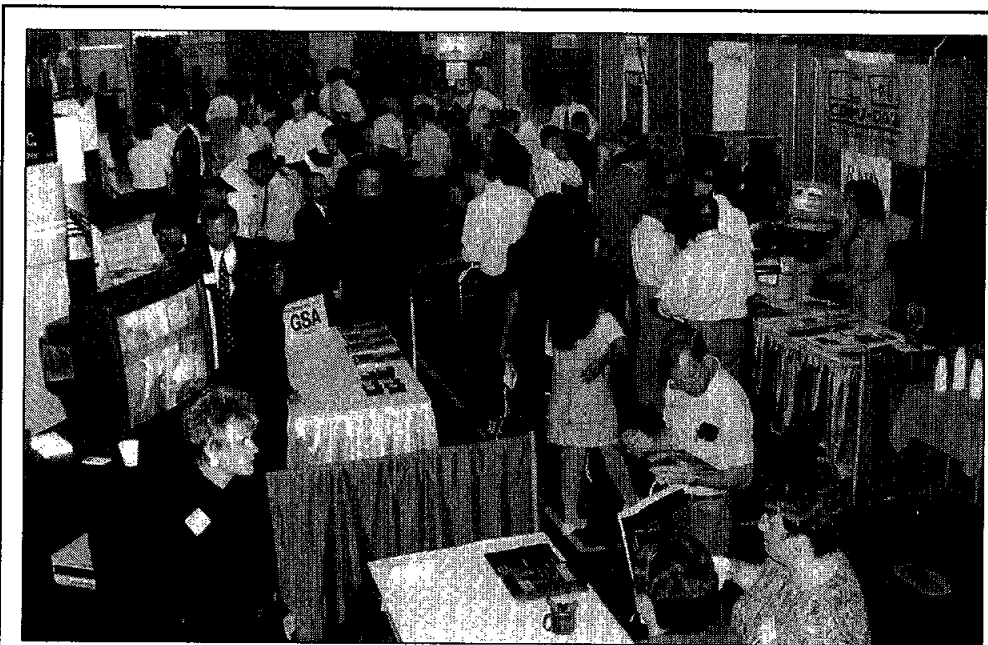
Eight earn recognition for service

Eight JSC employees were honored with Public Service Recognition awards at a May 3 ceremony.

Charles Hoskins, manager of Black Employment Programs was selected as the Outstanding Black Employment Program Manager by the Federal Executive Board.

The Federal Business Association presented awards for employees in several different job categories. LeBarian Stokes was honored in the professional/scientific category; Charlie Bolden in the supervisory category; and Richard Bennett as the outstanding disabled veteran.

JSC employees receiving honorable mention awards during the ceremony were: Paula Fyffe, Honey Avens and Santiago Cruz. John Young received an award for his years of service with NASA.



DATA DUMP — JSC employees crowd into the Gilruth Center gym for last week's Computer Expo '94, hosted by the Information Systems Directorate. Almost 950 visitors signed in during the exposition, taking the opportunity to look at the computer hardware and software being offered by 45 different vendors and participating in 11 seminars and demonstrations.

JSC Photo by Jack Jacob

Munechika joins Asian Pacific heritage activities

JSC's Asian Pacific American Program plans several events in connection with Asian Pacific American Heritage Month in May.

Ken Munechika, director of Ames Research Center, will be the featured speaker at a luncheon beginning at 11:30 a.m. May 26 at the Gilruth. Cost to attend the luncheon is \$7. The lunch will be followed by a "Financial Planning and Management" workshop conducted by Beth Hearn.

That same day, a series of workshops will be held at the Gilruth Center. At 9 a.m. Billy Jefferson will discuss "Small and Disadvantaged Business Opportunities." A workshop of "Community Networking" is planned at 10:30 a.m.

For additional information, contact Kamlesh Lulla, x35159, Pam Adams, x33761, or Viet Truong-Cao, 283-5101.

Mixer set for visitor center

JSC employees and contractors can begin their weekend with music and dancing at Space Center Houston as local radio celebrities host an open mixer at the visitor center tonight.

Space Center Houston will be the site of the MIX 96.5 get together hosted by deejays Larry Moon and Susan Lennon from 5-8:30 p.m. today. There is no charge to attend the event which will feature music by Max-Q and food and drink will be available for purchase. Space Center Houston's laser light show and shuttle-landing "simulators" will be open to guests. The tram tour and movie theaters will be closed.

For additional information, contact Space Center Houston at 244-2105.

Credit Unions seeks committee member

The JSC Federal Credit Union's board of directors has an opening on its supervisory committee.

This is a voluntary, non-pay position. Applications will be accepted through Sunday.

Interested people should call Credit Union President Mike Brown at 488-7070 for a list of the qualifications required and responsibilities.

Open season begins for Thrift Savings Plan

Open season for enrolling in the Thrift Savings Plan begins this week and continues through July 31.

During open season, eligible employees may begin contributing to the plan, change the level of contributions, allocate contributions among different investment funds, terminate participation in the program, or waive enrollment.

The effective date for joining the program or making a change depends upon when the election form is received by the Employee Services Section, AH76, Bldg. 45, Rm. 140.

For additional information on the Thrift Savings Program, contact Employee Services at x32681.

Atlantis set for return to KSC

(Continued from Page 1)

STS-64 with the Lidar in Space Technology Experiment-1.

Work on *Discovery* includes a standard set of inspections and modifications done after every five flights as well as mission preparations. This week, the flash evaporator system electrical connections were tested and the

water spray boilers were serviced and checked. The right orbital maneuvering system also has been installed.

Atlantis remains at the Palmdale, Calif., shuttle factory, nearing the end of an extensive period of modifications and upgrades. *Atlantis* is on schedule to be ferried back to KSC early next month.

JSC employees depart by deadline for buyout eligibility

With the deadline for the government-wide buyout program past, 197 of 201 participating JSC employees left during the weeks before May 3.

The remaining four employees are scheduled to leave by June 1. According to Human Resource representatives, the four employees still at JSC were on a waiting list to participate in the program and were notified in early May that slots had become available when other participants elected not to leave.

The following is a breakdown of JSC employees who elected to voluntarily resign, retire or take an "early out" through the buyout program. They are listed by directorate, with years of service following each employee name.

Office of the Director: Jean Tarpley, 35; and Linda Williams, 20. **Public Affairs Office:** Tommie Walton, 41; and Barbara Schwartz, 21. **Human Resources:** John Allen, 33; Wilma Trahan, 31; Jean Taylor, 30; Patricia Moore, 29; Mary Allen, 20; Rose Wilson, 20; and Barbara Fawcett, 13.

Administration Directorate: Leland Bethers, 40; Margaret Henry, 37; Daryl Chilcutt, 37; Norman Cooper, 34; Norman Lamb, 31; Clarence Crawford, 31; Robert Duppstadt, 39; Rex Ritz, 38; Carole Westerfield, 27; Barbara Gundermann, 27; Arleen Keel, 23; Nellie Doughty, 20; Mary Johnston, 19; Vincent Eklund, 17; Betty Lou Rivera, 17; Elsie Dorman, 16; and

Richard March, 8.

Flight Crew Operations Directorate: Alice Martin, 41; Boyce Mayer, 40; Herman Biggs, 35; Dorothy Davis, 34; Louis Guidry, 34; Patricia Garza, 32; Virgie Dur, 32; Thomas Grubbs, 30; and Marilyn Hackett, 23.

Mission Operations Directorate: William Cox, 41; Benjamin Garland, 39; Perry Ealic, 38; Alfred Readiger, 37; Charles Lewis, 36; Richard Benson, 35; Thomas Price, 32; James Saultz, 32; Lyle White, 30; Charles Deiterich, 29; Willard Presley, 29; Maurice Walters, 29; Jasper Smith, 29; Donna Bray, 26; Sharon Jepson, 16; Elizabeth Holewinski, 10; George Rains, 9; and Nellie Carr, 9.

Engineering Directorate: Salvador Villarreal, 43; Kathryn Parker, 38; Judith Wyatt, 37; Richard Nance, 37; Frank Samonski, 37; William Milligan, 36; Bob Hendrix, 36; Robert Plunkett, 34; William McCombs, 34; Earle Crum, 33; Ralph Tauber, 33; Frederic Dawn, 33; Donald Hughes, 33; Donald Eggers, 33; Harvey Curlee, 32; Jerome Kahanek, 32; David Heath, 32; Robert Schwartz, 32; William Stagg, 32; David Dyer, 31; Herbert Estes, 31; Richard Fenner, 31; Phyllis Morton, 31; Howard Green, 31; Joseph Trombley, 31; Douglas Trahan, 31; Louis De Wolf, 31; Gloria Martinez, 31; James O'Kane, 30; Allan Brandli, 30; Charles Thomas, 30; Robert Vaughan, 30; Charles Thomas, 29;

Brian Morris, 29; Dwayne Weary, 29; Peter Poulos, 29; Allen Steiner, 28; Kenneth Westerfield, 27; Walter Ankney, 27; Carol Nash, 27; Wayne Wolz, 26; Glenn Smith, 26; Dallas Evans, 24; Mary Ledoux, 24; Judy Hartenstein, 23; Rhoda Riggan, 22; Reginald Berka, 14; Michael Roberts, 10; and Margaret Grimaldi, 8.

Space Shuttle Program Office: Lottie Greenwood, 29; Marilyn Kimball, 28; Lillian Hudson, 26; Oralia Frailey, 15; and Robert Mitchell, 14.

Center Operations Directorate: Pete Strahl, 52; Everett Shafer, 46; Joyce Priode, 42; Boyce Sterling, 41; Walter Surrency, 37; Richard Courtney, 37; John Roach, 37; Thomas Conger, 35; Milton Aycock, 35; Thomas Howe, 35; Victor Rhoder, 33; James Ward, 33; Charles Lauritzen, 32; Johnny Salinas, 32; Thomas Davis, 30; Marilyn Zinker, 29; Marilyn Kirk-lighter, 29; Lillian Fontenot, 29; James Ellis, 28; Gunter Sabionski, 27; Norma Wells, 27; Amelia Sustaita, 25; Gloria Crowston, 25; Elsie Johnson, 24; Mary O'Rear, 23; Margaret Holmes, 20; John Hermann, 16; Melvin Mears, 11; and Joan Bellonby, 9.

Space Station Projects Office: Donald Bray, 38; John Vincze, 33; Gary Wilson, 27; and Mary Lobb, 13.

Office of the Comptroller: Lyle Kleinjan, 36; Robert Handley, 33; Charles Howard, 31; Eleanor White,

28; Susie Gonzales, 27; Geneva Harper, 22; Betty Holly, 14; and Mary Henry, 13.

Safety, Reliability and Quality Assurance: Thomas Matuszewski, 42; Benjamin Minden, 33; George Fiedler, 32; Gene Schmidt, 31; Gerald Shows, 30; Phyllis Bowcock, 26; and Andrew Mitchell, 6.

Information Systems Directorate: George Roush, 35; Guss Wenzel, 33; Sheridan Berthiaume, 29; Gus Wolf, 29; Barbara McCreery, 16; and Betty Wall, 16.

Space & Life Sciences Directorate: Robert Dyer, 35; Philip Deans, 35; Abel Legendre, 34; Gordan Rysavy, 33; Jackie Bohannon, 33; John Stanley, 32; Jesse Deming, 32; Jesse Kersh, 32; Barry Wolfer, 31; David Pitts, 30; John Trebes, 30; William Phinney, 26; Robert Hahne, 21; Joe Ann Ross, 21; Mary Easley, 15; Jan McCoy, 11; and Bradley Beck, 4.

Space Shuttle Integration and Operations Office: Gerald Kenney, 36; Larry Bell, 35; Jack De Moss, 35; Billie Gibson, 33; Paul Graf, 33; and Laura Louviere, 9.

Orbiter & GFE Projects: Michelle Carbone, 39; Joseph Cook, 39; Mary Smith, 36; David Ewart, 35; John Crockett, 32; Edward Wright, 31; Donna Coennen, 27; Virginia King, 22; Billie Welch, 21; and Joyce Martin, 18.

Space Shuttle Engineering Integration Office: Herman Mobley, 30; and Garner Kimball, 29.

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 Friday by the Public Affairs Office for all space center employees.

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