



Space News Roundup

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January 11, 1993

No. 1

Endeavour, crew ready for Wednesday launch

By James Hartsfield

Endeavour remains on schedule and the STS-54 crew is eagerly anticipating NASA's first shuttle flight of the year, set to lift off at 7:52 a.m. CST Wednesday.

The crew — Commander John Casper, Pilot Don McMonagle, Mission Specialists Mario Runco, Jr., Greg Harbaugh and Susan Helms — were to leave for Florida on Sunday afternoon in preparation for the launch.

"We're all trained and we're ready to go," said Casper, who characterized the flight as another important stride forward in space exploration that shows the diversity of jobs the shuttle is able to perform.

"Every time you fly the space shuttle, you're making history," he said Thursday. "Some of the flights are more dramatic, but there are a

lot of flights going on where we're making solid strides forward and adding to our body of knowledge about space flight."

Among the primary cargoes for STS-54 are the Tracking and Data Relay Satellite-F, a NASA communications satellite used to track and provide communications with the shuttle and a host of other spacecraft such as the Hubble Space Telescope, the Gamma Ray Observatory, and the future Earth Observing System satellites and Space Station *Freedom*. TDRS-F will be the fifth such satellite to be

put in orbit and will serve as a backup to those already in use. TDRS-F will be ejected from the cargo bay about six hours after liftoff.

Once *Endeavour* has separated from its vicinity, an inertial upper stage solid rocket will boost TDRS-F to its final 22,000-mile high orbit.

Also in the cargo bay will be the Diffuse X-Ray Spectrometer, an instrument that will be remotely operated by controllers and scientists at the Goddard Space Flight Center. DXS will probe the nature of interstellar space by studying X-rays emitted from there.

Another highlight of the flight is planned for the crew's fifth day in orbit when Runco and Harbaugh will perform the first in a series of test space walks planned to be added to shuttle missions in coming years whenever possible. The space

walk tests are designed to better refine training methods for space walks and the capabilities available for construction of Space Station *Freedom* in 1996.

"I think it's a good idea," Runco said. "The body of knowledge we bring back in this regard will help when we build Space Station *Freedom*. You don't want to send people to do a job when they don't have the experience to do the job."

Harbaugh agreed, saying that the experience also will be valuable to flight controllers, space walk planners and crew trainers.

"We want to increase our collective experience level," Harbaugh said.

In *Endeavour's* crew cabin, secondary experiments will study bioprocessing in

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Roundup moves publication day to Mondays

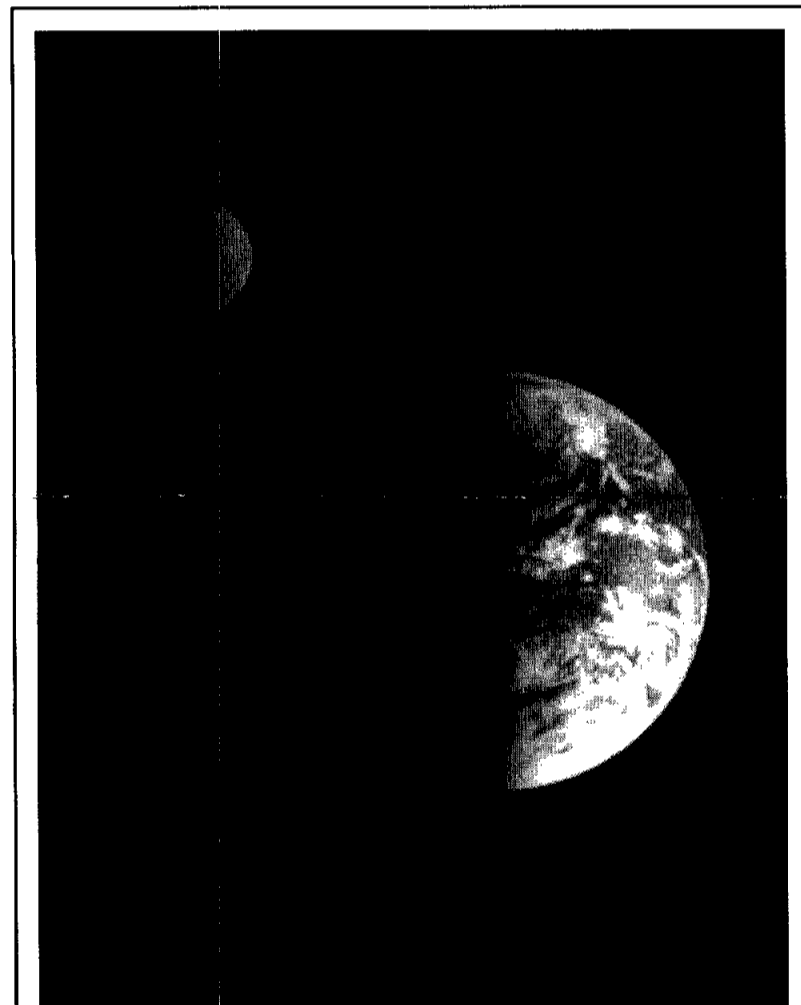
Starting today, JSC employees will be able to begin their week with a copy of the Space News Roundup.

With this issue, distribution of the weekly employee newspaper changes to Mondays instead of Fridays. All on-site employees should receive a copy of the Roundup between Monday morning and Tuesday morning.

The change is the result of a recent decision to move large-format printing jobs such as the Roundup to off-site printers under Government Printing Office contracts. The paper will now be printed in Houston by Falcon Fast Printing.

The change in delivery date will not affect deadlines for stories, Dates and Data calendar items or classified ads. There are, however, plans to change Page 2 in the near future to add a new section of employee information such as new hires, retirements, reassignments and leave donation opportunities. Associated with the change will be a switch from multi-line Swap Shop ads to single-line ads. While this will limit the amount of information that can be included, it will allow ads to run more than once.

The Public Affairs Office, responsible for the content and production of the paper, and the Center Operations Management Services Division, responsible for printing and distribution, continue to strive for a publication that keeps employees well-informed in a timely manner.



592-52043 P-41508 NASA Photo
DIFFERENT VIEWPOINT — Eight days after its Dec. 8 slingshot around the Earth, Galileo looked back and captured this remarkable view of the Moon in orbit about the Earth, taken from a distance of about 3.9 million miles (6.2 million kilometers). This photo was constructed from images taken through the violet, red and infrared filters.

JSC workers get raise in spite of funding shortfall

By Kelly Humphries

The part of JSC's budget that funds its most valuable resource — its people — will receive about \$2.3 million less than the center requested for fiscal year 1993, according to the latest word from NASA Headquarters.

And while that shortfall is less than was anticipated a year ago, the total of \$252.475 million in research and program management funding still poses a significant challenge for the center, Human Resources Director Harvey Hartman said this week.

The shortfall won't affect a 3.7 percent pay increase for all general schedule employees, which President Bush authorized Dec. 30. The Office of Personnel Management also has authorized a 3.7 percent increase for employees paid under special salary rate schedules. The increases are effective Jan. 10, and employees will see them in their Feb. 2 paychecks.

The Human Resources Office is implementing a plan that absorbs the shortfall equitably, protects most of the center's permanent full-time hiring and keeps supporting programs such as overtime, training, promotions, temporary and student programs and awards viable and healthy, Hartman said.

"What we're trying to do is cover as many of our requirements as we can and make sure that our most important ones receive the highest priority," Hartman said.

The biggest impact will be in the area of overtime, Hartman said. Managers will be asked to control their overtime at a level of 28 percent below their projected requirements and to curtail spending on Sunday and holiday pay as much as possible. Even so, JSC will be among the agency leaders in overtime pay.

In the area of permanent hiring, JSC has delayed hiring rather than reducing ceilings. But plans still call for more hires than losses before the end of the year. Hiring costs will be managed by establishing a target of 70 percent of those to be hired fresh out of school. JSC also will minimize the movement of people from one geographic location to another since each move costs \$60-70,000.

Promotions also will be affected across the board. Six-month accelerated promotions for newly hired technical interns have been phased out. These short-time promotions were established several years ago to meet the demands of the marketplace, demands that have almost reversed in today's job market.

Please see **FUNDING**, Page 4

Antarctic telerobotic effort called unqualified success

The technology demonstration aspect of NASA's cooperative effort to send the eight-legged Dante robot into an Antarctic volcano was a success even though a broken fiber optic cable cut short the descent, project officials said this week.

Dante began its descent into Mt. Erebus on Jan. 1. But it was able to travel only 21 feet into the crater before the fiber-optic cable linking it to a control station a mile away was severed. Officials said there was no replacement cable at the U.S. McMurdo Station on the Antarctic coast, and no way to complete the mission before the sea around the station began to freeze.

David Lavery, the NASA telerobotic program manager, said the team has retrieved the robot and is packing it into its shipping crates. The team was scheduled to have departed the National Science Foundation's South Pole logistics station for

Christchurch, New Zealand, on Friday.

"There is obvious disappointment over what is a component failure, but we're proud of what we've accomplished," Lavery said. "We've gone farther than anyone said was possible and much farther than anyone said we would get."

"The mission is an unqualified success in terms of the telerobotic aspects," he added. "The robot works. The prototypes are worthy contenders for inclusion in any further planetary exploration. The aspects of sending autonomous robots on planetary exploration mission have been proven as well."

Dante didn't complete its science objective to explore the physical and chemical features of the volcano.

Carnegie-Mellon University and the New Mexico Institute of Mining and Technology were partners with NASA and the NSF.



NASA Photo
AT THE PAD — The crew of STS-54 stands in front of the Space Shuttle *Endeavour* and Launch Pad 39B at Kennedy Space Center during the terminal countdown demonstration test. From left are: Mission Specialists Greg Harbaugh and Susan Helms, Pilot Don McMonagle, Commander John Casper and Mission Mario Runco.

Tuesday open house Center Operations invites employees to tour Bldg. 4S

The Center Operations Directorate will host an open house for JSC employees who wish to visit the new Bldg. 4 South from 9 a.m. to 3 p.m. Tuesday.

"This open house provides an opportunity for JSC employees to view this new facility," said Center Operations Director Ken Gilbreath. "We are extremely proud of the efforts our people have made over the last three years to make this structure a reality."

"It will be a model for future construction here at the center in terms of energy efficiency, construction material durability, and space utilization in the application of systems furniture," Gilbreath added.

The open house will be limited to the fourth floor due to construction closeout and furniture assembly activities.

JSC

Ticket Window

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

Houston Livestock Show and Rodeo Carnival Ride Tickets — Forty ticket sheet available for \$12, half price. Order tickets until Feb. 1. Tickets available for pick up in mid-January.

Space Center Houston — Discount tickets: adult, \$7.50; child (3-11) \$4.50; commemorative: \$8.75.

Metro tickets — Passes, books and single tickets available.

Movie discounts — General Cinema, \$4; AMC Theater, \$3.75; Loews Theater, \$4.

Entertainment '93 and Gold C coupon books, stamps, Walt Disney Club memberships also available.

JSC

Gilruth Center News

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

Defensive driving — Course is offered from 8 a.m.-4:30 p.m. Feb. 6. Cost is \$19.

Weight Safety — Required course for employees wishing to use the Gilruth weight room is offered from 8-9:30 p.m. Jan. 21. Pre-registration is required; cost is \$5.

Aerobics — High/low-impact classes meet 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 \$32 for eight weeks.

Bench aerobics — Class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$32 for eight weeks; participants must provide their own benches.

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

Ballroom dance — Beginning class will meet from 7-8:15 p.m. Thursdays beginning Jan. 7. Beginning-intermediate and intermediate classes will meet from 8:15-9:30 p.m. Mondays. Cost is \$20 per couple.

Fitness program — Health Related Fitness Program includes medical examination screening, 12-week individually prescribed exercise program. Call Larry Weir, x30301. Intercenter Run Shirts are still available at Gilruth.

JSC

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

Property

Sale: Dickinson, 4-3-2D, study, game rm, screened porch, lg kit w/Jennaire kit, new ceramic tile, util rm, trees, \$129.9K. Coy, x39282 or 335-0641.

Rent: Univ Trace condo, 1 BR, study, W/D, fans, all elec, cable, upstairs, balcony, avail immediately. 488-2946.

Sale: Friendswood, 4-3-5-3D, 3478 sq ft, located on 5.7 ac, another 5.3 ac avail, \$365K. x39250 or 996-8471.

Rent/Sale: Baywind II condo, 2-2-2, split design, fans, dishwasher, range, refrig, W/D, FPL. \$520/mo or \$38K. Bill, x39376 or 487-4537.

Sale: Bayou Vista lot, Westbay, bulkhead, \$4.5K. 339-1957.

Sale: LC, 3-1-5-1, lg corner lot, boat storage, shed, ex cond, \$59.9K. 554-6234.

Sale: Lake Livingston, 2 BR w/loft, 1.5 bath, FPL, satellite dish, 2 wooded acres, \$39.9K. John x36926 or 409-377-2947.

Sale: Dickson Bayou, 4-2-5-2, pool, sec sys, 2-story, .738 acre, 100 yr old trees, \$229K. x34354 or 337-1640.

Lease: El Lago, 3-2-2, 1500 sq ft, fans, refrig, gar opener, fenced, no pets, water pd, \$750/mo + dep & util. 326-2239.

Sale: CL, 3-2-2, game rm w/8' pool table, glassed to 34' swimming pool, den, formal dining/living rm, \$104K. 488-4117.

Sale: Heritage Park Village, 4-2-5-2, formal, den, 2350 sq ft, 9300 sq ft corner lot, 3 yrs old, assume, no approval, \$15K equity. 283-1820 or 996-6705.

Lease: El Dorado Trace condo, 1 BR, 2 balconies, all appl, W/D, FPL, alarm, fans, no pets, \$425/mo + dep. Mark, x30131 or 488-0056.

Rent: Heights, 3 rm eff, full kitchen/bath, cov parking, \$300/mo. Mike, 283-5890 or 868-5132.

Sale: Baywind I condo, 2-2, split floor plan, FPL, new AC. Jim, x33821 or 554-4357.

Rent: Baywind II condo, 1-1, W/D, refrig w/cemaker, new paint, dishwasher. Steve, 244-7474 or 486-8047.

Sale: Pearland, Dixie Hollow subdivision, lot, medium density, all util. x39530.

Sale: CL Shores, 3-2-3, new flooring/paint/appl, boatslip, low \$120's; 2-1-1, cent A/H, decks, \$625/mo. 538-1849.

Sale: Heritage Park, 3-2-2A, fenced, miniblinds, cul-de-sac, ex cond, \$61.5K. 326-5216.

Rent: Galv condo, furn, sleeps 6, Seawall & 61st, pools, cable, wkly/wknd/daily. Magdi Yassa, 333-4760 or 486-0788.

Rent/Sale: CL, 2-2 condo, W/D, furn or unfurnished. Kathy, 532-4628.

Sale: Pearland, 4-2-2D, quiet neighborhood. 992-1798 or 244-5121.

Sale/Lease: Meadowgreen, 3-2-2, cul-de-sac, formal, den, wetbar, sec. sys, \$1100/mo or \$114.9K, no approval assumption. x34296 or 486-7475.

Sale: Shoreacres, 4-2-2, pool, wooded lot, trees, \$89.9K. 333-7615 or 470-2592.

Sale: Lake Travis lot, all util, pool, golf course, tennis, marina, \$9.5K. Nasser, x33685 or 334-1032.

Cars & Trucks

'86.5 4x4 King Cab Nissan PU, blk,

AM/FM/cass, tint, ex cond, \$6.5K; '59 Chevy PU for parts or restoration; '87 Nissan Maxima SE, loaded, \$6.5K. 334-2335.

'87 Honda Accord LXi, 4 DR, Sedan, AC, stereo, 4WD, 65K mi, std trans, \$6.9K. 480-0527.

'90 Mazda Protege, 4 DR, PW/PL, 1800 cc motor, manual trans, elec sunroof, assume loan at JSC Credit Union, \$298/mo or \$7.5K. x32949.

'88 Chevy Astrovan, miniblinds, 4 captains chairs, bench seat, good cond, \$6.5K. 482-2450.

'78 Volvo 264GL, 6 cyl, auto, under 100K mi, 1 owner, new tires, brakes, runs good, \$1.7K OBO. Gary, 480-9716 or 283-5781.

'82 Ford F150 PU, rebuilt drive train, auto, AC, V8 eng, AM/FM/cass, \$2650. x38971 or 532-2320.

'67 Ghia VW, rebuilt, \$1.8K OBO. Jack, x31213 or 488-4019.

'78 Porsche 928, brwn w/leather int, auto, ex cond, 75K mi, \$8.5 OBO. Bill, x39980.

'86 Pontiac Grand Am, V6, auot, 4 DR, tilt, cruise, new AC compressor, \$3.3K OBO. Jeri, 333-7552.

'85 Chevy Astrovan CL, 86K mi, 4 captain chairs, AM/FM/cass, PW/PL, \$4950 OBO. 283-4439 or 480-0287.

'67 Dodge Dart, wht, 6 cyl, good cond. Fred, 944-3523.

'87 Honda Accord LX, gray w/gray int, loaded, 95.5K mi, \$5.3K. Barbara, x30194.

'85.5 Porsche 944, 5 spd, AM/FM/cass, AC, sunroof, tint, alarm, new tires, 74K mi, ex cond, \$8.1K. 480-4833.

'66 Chevy PU, SWB, 350 auto, fleet side, lots of chrome, \$1K. 554-4365.

'73 Chevy Malibu, work or school car, \$500 OBO. Mike, x36142 or 538-4103.

'91 Camaro, RS, wht, stereo/cass, \$8.5K OBO. 487-2383.

'76 GMC PU, 115K mi, fiberglass shell, \$1.8K. 337-4319.

'66 Custom VW squareback, new rebuilt eng, custom int, tint, lowered alum wheels. 992-1907.

'86 Nissan Stanza Wagon, lots of storage, new tires, \$3K. Steve, x34593.

'84 Chevrolet Caprice, 4 DR, PW, AC, AM/FM/cass, good cond, \$2.4K. Alan, 472-7526.

'84 BMW 633CSI, records, 90K mi, runs good, \$8K. x33640.

'84 Nissan 300Z, 2+2, slate color, auto, AC, new tires, \$3550. 488-7771.

'89 Honda CRX, red, 5 spd, AM/FM/cass, AC, alloy wheels, tint, new tires, bra, cover, under 25K mi, \$7.95K negotiable. Dan, 488-9602 or 486-5219.

'86 Mazda RX7-GXL, blue, sunroof, 4 seats, 54Kmi, \$6.4K. 280-9478.

'84 Cadillac Sedan DeVille, good cond, \$3.9K. 479-1004.

'85 Ford Van, new paint, captains chairs, auto, ex cond. 472-6323.

'87 Chevy, Z24, 2 DR, V6, new tires, good cond. Kathy, x30355 or 338-2705.

'89 Toyota Supra, all pwr, anti-lock brakes, loaded, 52K highway miles, \$12.5K OBO. 486-4997.

'91 Peugeot 405s, loaded, leather seats, moonroof, 34K mi., warr, \$13K. 554-4799.

'73 Datsun 240Z, runs good, \$600. Gary Johnson, x34136 or 488-0353.

'90 Geo Metro, 2 DR hatchback, 5 spd, AC, AM/FM, rear defogger/wiper, \$4.5K OBO. x31139 or 486-1444.

'90 Nissan 240 SX, wht coupe, auto, AC, good cond, 38K mi, nonsmoking, \$10K OBO. 480-4431.

'85 Daytona Turbo Z, AC, AM/FM/cass, PW/PL, cruise, 82K mi, \$1795. 282-4742 or 486-5312.

'86.5 Custom King Cab Nissan PU, burgandy, wht custom wheels, tires, alarm,

JSC

Dates & Data

Today

Cafeteria menu — Special: beef and macaroni. Entrees: ham steak, Parmesan steak. Soup: chicken and rice. Vegetables: green beans, carrots, au gratin potatoes.

Tuesday

Cafeteria menu — Special: Mexican dinner. Entrees: potato baked chicken, barbecue spare ribs. Soup: tomato. Vegetables: squash, ranch beans, Spanish rice, broccoli.

Wednesday

Picnic committee meets — The 1993 JSC Picnic Committee will hold its kick-off meeting at 4:15 p.m. Jan. 13 in the Gilruth Center lounge. Plans for the May 1 picnic will be discussed and committee chairs will be elected. Volunteers are encouraged to attend. For more information, call Melody Nation at x33152.

Toastmasters meet — The Spaceland Toastmasters Club will meet at 7:15 a.m. Jan. 13 in the Bldg. 3 cafeteria. For more information, call Darrell Boyd at x36803.

Cafeteria menu — Special: baked meatloaf with Creole sauce. Entrees: baked scrod, liver and onions, ham steak. Soup: seafood gumbo. Vegetables: beets,

Brussels sprouts, green beans, whipped potatoes.

Thursday

SSQ meets — The Society for Software Quality will meet at 5:30 p.m. Jan. 14 at the Days Inn on NASA Road 1. Ted VanDuyn, vice president of research and Development for BMC Software, will discuss "User Involvement in the Software Development Process." For more information, call Felix Balderas at x31945.

Cafeteria menu — Special: smothered steak with dressing. Entrees: chicken and dumplings, corned beef with cabbage. Soup: beef and barley. Vegetables: spinach, cabbage, cauliflower au gratin, parsley potatoes.

Friday

UNIX group meets — The JSC UNIX Systems Administration Group will meet at 2 p.m. Jan. 15 in Bldg. 12, Rm. 254. Jim Molini will discuss "UNIX Worms, Viruses and Other Critters." For more information, call Mark Hutchison at x30738.

Cafeteria menu — Special: tuna and salmon croquette. Entrees: pork chop with yam rosette, Creole baked cod. Soup: seafood gumbo. Vegetables: Brussels sprouts, green beans, buttered corn, whipped potatoes.

Jan. 18

Cafeteria menu — Special: Italian outlet. Entrees: braised beef ribs, chicken a la king, enchiladas with chili. Soup: cream of broccoli. Vegetables: navy beans, Brussels sprouts, whipped potatoes.

Jan. 28

AIAA meets — The American Institute of Aeronautics and Astronautics Houston Section will meet at 5:30 p.m. Jan. 28 at the Gilruth Center. Robert Thompson, vice president of Houston Operations for McDonnell Douglas Aerospace, will discuss "Key Decisions in Aerospace History." Dinner cost is \$9 for members, \$10 for non-members and \$8 for students. Deadline for dinner reservations is noon Jan. 24; call x31350, 333-6064, 283-4214 or 282-3160.

Feb. 15

Call for papers — The 1993 Conference on Intelligent Computer-Aided Training and Virtual Environment Technology has issued a call for abstracts due by Feb. 15. JSC will co-sponsor ICAT/VET '93 with the U.S. Army Training and Doctrine Command. Send abstracts of up to 250 words to R. Bowen Loftin, PT4. For exhibits information, call Don Myers, 283-3821. For registration information, call x39071.

Swap Shop

loaded. 482-9305.

'91 T-Bird super coupe, wht, leater, all pwr, ABS, JBL sound, warr, roof, 9K mi, \$18K OBO. 286-3981.

'79 Ford Van, E150, 351W eng, auto, eng needs work, \$250. Nagy, x38630.

'90 Prowler 35' travel trlr, loaded, stereo, microwave, AC, tv antenna, roll out awning. 244-5525.

Boats & Planes

Wind Wing 6.7 windsurfing sail, good cond, \$100. Mike, 283-5890 or 868-5132.

Half interest in IFR P-35 Beech Bonanza, \$15K. Steve, 244-9625.

17' Starcraft motorboat w/7.5 Mercury motor w/trlr, \$300. 482-2282.

'90 16' Kenner fishing boat, center console, 88 hp Johnson motor, 22 gal. fuel tank, all carpet, \$7.2K. 470-2592.

'82 20' Bayliner 2070, 120 hp I/O, 10 hp Honda, full cabin, furuno, Sportsman trlr, \$6.5K OBO. 286-3981.

Cycles

Boys bicycle, 10 spd, \$20. Dave, 333-4852.

Women's 10 spd bicycle, Fuji Royale II, \$100 OBO. Lisa, 480-3859.

Trek 1400 Alum. w/Shimano 105 components, cycle computer, clipless pedals w/shoes, was \$700, now \$500. x30355 or 338-2705.

Audiovisual & Computers

Panasonic printer, extra ribbons, \$95. Dave, 333-4852.

Pioneer 45 w stereo rec, cass deck, Realistic 10 band equalizer, Infinity bookshelf spkrs, \$330; Minolta X-370, manual, w/28mm lens, zoom lens 60-300, flash, bag, \$250. x33571 or 337-5583.

Commodore 64, color monitor, FD, printer, desk, games, sw, joysticks, Compute Gazette magazines, \$300. x37786 or 482-3742.

Atari computer sys, modem, FD, printer, sw, stand, \$100. Steve, x34657.

Packard Bell 286, 30 MB HD, 5.25 and 3.5 FD, VGA, Hewlett Packard IIP laser printer, \$600/ea, \$1.1K both. Kevin, x36650 or 482-2405.

Pioneer RT707 reel-reel recorder, \$375 OBO; TI 944A sys computer, books, programs, printer, spare parts, \$225 OBO; Technic spkrs, 90 w, \$50; GE portable VCR, turner/recorder, color camera, \$375 OBO. 943-3685.

Ampeg amp w/spkr cabinet, cabinet has 2-15" spkrs, needs repair on amp, \$100/ea. Mike, 283-5890 or 868-5132.

Turbo Graphics 16 game sys, 3 games, \$85. Greg, 554-6200.

Bell computer 286, 40 MB HD, 1.2 and 1.4 FD, Smart View Window monitor, \$450 or will trade for Rolex watch. Leeland, 723-9922.

Macintosh SE, 20 MB HD, 4 MB memory, \$895. 488-7771.

Zenith laptop minisport computer, 2 MB RAM, modem, 1 FD, serial/parallel, ext drive, video ports, \$125. Speier, 333-2263.

IBM PC-XT clone, 30 MB HD, 5.25 FD, 640K, DOS 3.30, 2400 baud int modem, sw, monitor, printer, game port, \$300. x30712 or 992-3849.

Apple IIc, full system, modem, mouse, ext drive, sw, \$275. 554-4799.

Commodore 64 computer, FD, printer, sw, \$100; alum outside blinds, various sz, \$25/ea. Gary, 283-5724 or 337-4770.

Denon DCD-1100 CD w/remote, \$100. Leonard, 282-4044 or 333-5576.

Pets & Livestock

AKC reg 2.5 yr old male dachsund, \$75. Shirley, 335-1607 or 335-0641.

AKC boxer pups, weaned, \$250. 922-7045 or 474-2660.

Rabbits, minilop, fuzzy lops. Gailo, 554-6200.

AKC chihuahua, wormed, shots, dipped, 3-11 mos. old, \$150. 534-3893.

Free, female, AKC basset hound, papers, 18 mo old, 6 mo old basset-beagle mix, male, indoor dogs. Janet, x35000 or 486-2416.

Half Basenji/half blue heeler pups. x33678 or 489-7494.

Musical Instruments

Yamaha classical guitar, \$300. 283-5465.

Household

Dbl matt, box spring w/brass hdbd, \$125. 486-5239.

Coffee table w/glass top, marble finish, \$130; marble/brass table lamp, \$30. 337-5583.

Antique yellow BR set, full hdbd, dbl dresser, mirror, nite stand, chair, \$375. Lissa, 480-2188 or 282-3094.

Full sz Stearns & Foster matt/box springs, ex cond, \$120; daybed comforter set, 4 pcs, floral print, \$60. 554-5119.

Sleeper sofa, \$25; recliner, \$10; solid wood hdbd, 3 sec full sz w/frame, \$25; O/B motor stand, \$10; 2 sets snow chains, \$10/ea; cradanza, 3 drwr, 1 cabinet, mahogany, \$75; wire mesh for concrete est, 30 ft, \$5. Warren, 332-2453.

41" octagonal lt wood dining table, 4 chairs w/wheels, harvest gold, \$130. x39347 or 480-6436.

25" Sharp color tv, remote, \$100; 100 w stereo, 30" spkrs, remote, \$130. x36438 or 334-0546.

Craftmatic kg adjustable bed, dbl twin, w/vibrator & heat, \$1.5K; Qn waterbed w/bookcase hdbd, no matt, \$75. Jeff, 283-5501 or 286-2060.

Rattan sectional sofa w/coffee table, good cond, 5 pc, \$100. 992-5832.

Wall mirror, 2' h x 3' w, glass in ornate gold leaf frame, \$200; Sprague & Carlton solid maple poster bed frame, dbl sz, \$175; Bernina model 830E sewing machine w/cabinet, \$350; hardwood rocker w/red cushion seat, \$60. Gene, x30182 or 480-9580.

Sears elec dryer, Maytag washer, daybed w/trundle, qn bed. Debra, x37870.

Twin sz waterbed, \$35. x38843 or 332-6153.

Blk leather sofa w/matching arm chair, modern style, ex cond, was \$1.4K, now \$750 OBO. Katie, x33185.

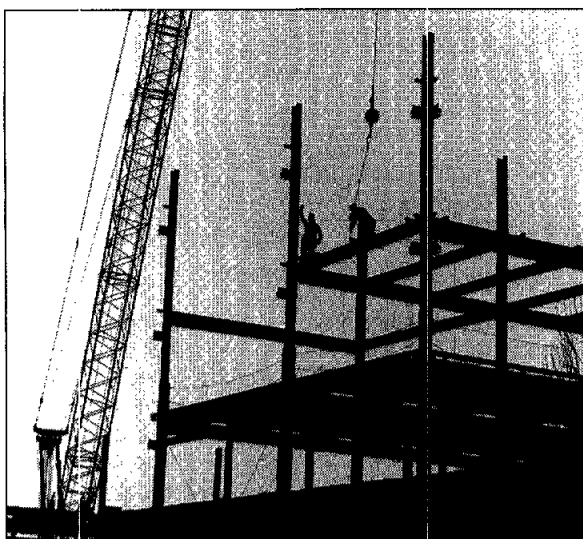
Wht wicker chair w/removable rockers, ex cond, \$40; Gas radiant heater, unvented, 27,000 BTU, ex cond, \$125. Tom, x36309 or 474-9747.

Waterbed matt w/heater, liner, fiber fill, min movement, lifetime warr.

1992: The YEAR in PICTURES

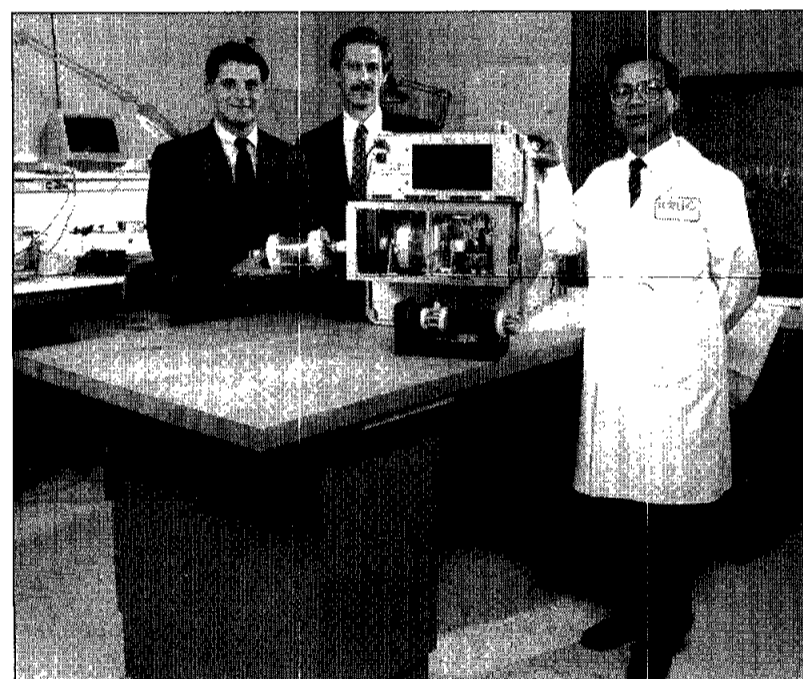
JANUARY →

Steel workers put together the girders on Bldg. 4 South, just one of many building projects that made 1992 one of the biggest construction of facility growth years since the center was first built.



↑ FEBRUARY

Mission Operations Director Gene Kranz dedicated the new Space Station Control Center. The 102,000-square-foot Bldg. 30S will be the home of the operations support team for Space Station Freedom.



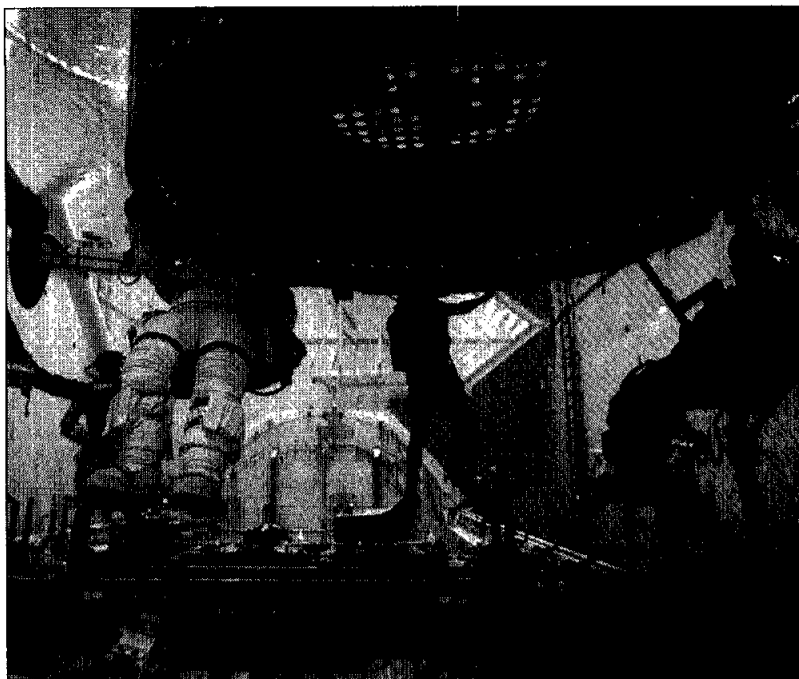
↑ MARCH

Astronaut, doctor and scientist David Wolf and the members of his rotating wall bioreactor team, Ray Schwarz, center, and Tinh Trinh, right, earned the title of NASA Inventors of the Year.



↑ APRIL

The crew and passengers of JSC's KC-135 "vomit comet" zero-g simulating aircraft celebrated flying a record 101 parabolas in one flight, with pilots Ace Beall and A.J. Roy at the controls.

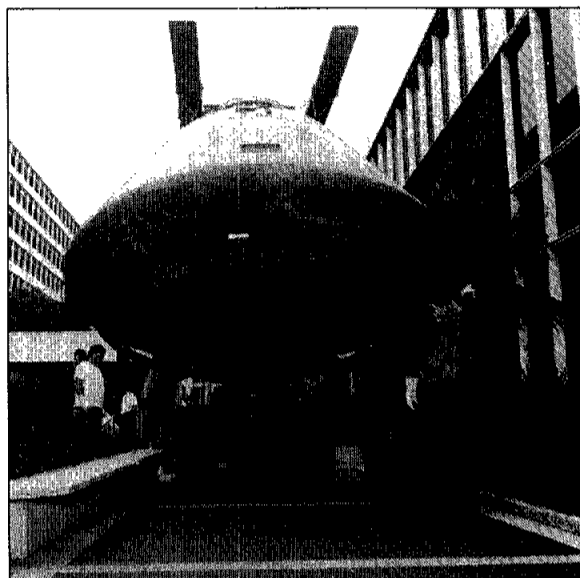


↑ MAY

If at first the shuttle team doesn't succeed, it tries and tries again. Astronauts Story Musgrave, left, and Rich Clifford worked with Jim Voss, not pictured, to test the first three-person shuttle space walk in history in the Bldg. 29 Weightless Environment Training Facility. The tests proved that the three-person EVA was feasible and helped "tiger team" members develop the procedures that ultimately led to a successful capture of the Intersat VI satellite by the STS-49 crew of *Endeavour*.

JUNE →

The move of historic artifacts from JSC's Bldg. 2 Visitor Center to the under-construction Space Center Houston continued with the transfer of the Apollo 17 command module. All of the large spacecraft artifacts except the Lunar Landing Test Vehicle, or "flying bedstead," were transferred from the old Visitor Center.



↑ AUGUST

The Astronaut Class of '92 met the news media in front of the Space Station Freedom mock-ups in Bldg. 9. The class of 15 mission specialists and four pilots included five international mission specialist candidates.



↑ JULY

STS-50 Pilot Ken Bowersox got a warm greeting from his wife, Ann, at welcome home ceremonies held at Ellington Field. The homecoming celebrated the record-setting 13-day, 19 hour, 30-minute shuttle mission.

↓ SEPTEMBER

JSC's 163-foot water tower, also known as Bldg. 40, got a new paint job. The tank, which holds potable water, ended up a cream color.



← OCTOBER

Members of the Texas congressional delegation waved their pieces of the Space Center Houston grand opening ribbon after helping Manned Space Flight Education Foundation President Hal Stall and local dignitaries cut the cord on the \$70 million "experience center," which opened to the public immediately after the ceremony.

← DECEMBER

STS-51D Commander Karol Bobko, left, and Mission Operations Director Gene Kranz congratulated retiring Sen. Jake Garn upon the dedication of Bldg. 5 as the Jake Garn Mission Simulator and Training Facility. Garn, a long-time proponent of NASA's human space programs and former head of the Senate subcommittee that oversees NASA budgets, flew as a payload specialist on STS-51D. □

Security team hangs STS-53 plaque

JSC's security team earned the honor of hanging the STS-53 plaque in Flight Control Room 2 following the recent Department of Defense mission.

Mike Corbin and Carol Smith hung the plaque on behalf of the team, which has played a critical role in protecting classified information during DOD missions, said Lead Flight Director Rob Kelso.

The completion of this flight brought to a close two eras of manned space flight, those involving military missions and the third-floor FCR.

"This was the last mission scheduled to be flown out of FCR-2," Kelso said. This FCR has played a major role in manned space flight and has held a special mystique for many years. It was from FCR-2 that Houston first controlled a manned space flight, Gemini IV. The first flight to the Moon, Apollo 8, was controlled from here, as were Apollo 11, 13 and 17. More recently, all of the shuttle DOD flights were directed from FCR-2. STS-53 represents the last shuttle flight in support of major DOD programs."

Security did a magnificent job of developing procedures, plans and capabilities for NASA to support classified missions in spite of the fact that Mission Control was not originally set up to work with such a magnitude of secret information, Kelso said.

In addition, Kelso cited Ground Controllers Bob Reynolds and Ed Klien for readying Mission Control for DOD shuttle missions.

JSC

People

Brandenstein earns AIAA Haley Space Flight Award

Former Chief Astronaut Dan Brandenstein will receive the 1993 Haley Space Flight Award this week during the 31st Aerospace Sciences Meeting and Exhibit at Reno, Nev.

The American Institute of Aeronautics and Astronautics is presenting the award to Brandenstein "for advancing aeronautical technology and space exploration and for outstanding leadership during the maiden flight of the *Endeavour* space shuttle mission."

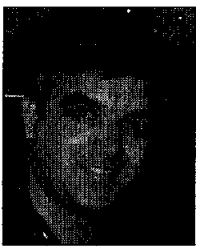
The AIAA noted Brandenstein's 14-year



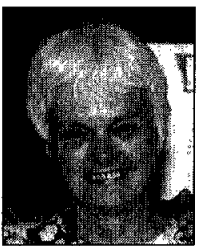
Corbin



Smith



Brandenstein



Gray



McNeely

career as an astronaut at JSC, his four shuttle flights that totaled some 789 hours in space and his part in the innovative capture and reboost of the Intelsat VI satellite during the STS-49 mission.

Gray, McNeely earn top secretary honors

Janice L. Gray and Lynda G. McNeely recently received JSC's "top secretary" award, the Marilyn J. Bocking Award for Secretarial Excellence.

Gray, who is secretary to the assistant director for space shuttle in the Mission Operations Directorate, was cited for her ability to handle the high-pressure atmosphere of the office while ensuring an efficient and harmonious work place.

She was cited especially for her initiative in providing tailored manpower utilization reports using existing computer software, and for preparing and tracking the Flight Operations Integration Group's agendas and action items, which are keys to safe and successful shuttle flights

McNeely, who is a secretary for the Engineering Office at White Sands Test Facility, was lauded for her ability to adapt to a wide range of office tasks.

She has become a key resource for many NASA and contractor personnel on computer software and hardware issues, working with the NASA WSTF Format Standardization Subcommittee to standardize printer definitions, formats and fonts. She also publishes a newsletter with useful hints on software use.

Mission Control viewing room, cafeteria hours

The Mission Control Center viewing room will be open to JSC and contractor badged employees and their families during portions of the six-day STS-54 mission.

Based on a Wednesday launch, employees will be allowed to visit the MCC Thursday, from 11:30 a.m.-2:30 p.m. and 5-7 p.m.; Friday, from 11:30 a.m.-2:30 p.m.; and Sunday, from 1-4 p.m. There will be no viewing opportunities on Saturday because of a planned extravehicular activity or on Monday, a holiday.

Employees must wear their badges and escort family members through the regular public entrance on the northeast side of Bldg. 30. Children under 5 and flash photography will not be permitted.

Viewing hours may be changed or canceled without notice. For the latest schedule, call the Employee Information Service at x36765.

The Bldg. 11 cafeteria will be open from 6:30 a.m.-2 p.m. weekdays, except launch and landing days. The Bldg. 3 cafeteria will be open normal hours from 7 a.m.-2 p.m. weekdays. Neither cafeteria will be open on weekends or the Jan. 18 Martin Luther King Day holiday.

Seventeen JSC workers earn MFA honors

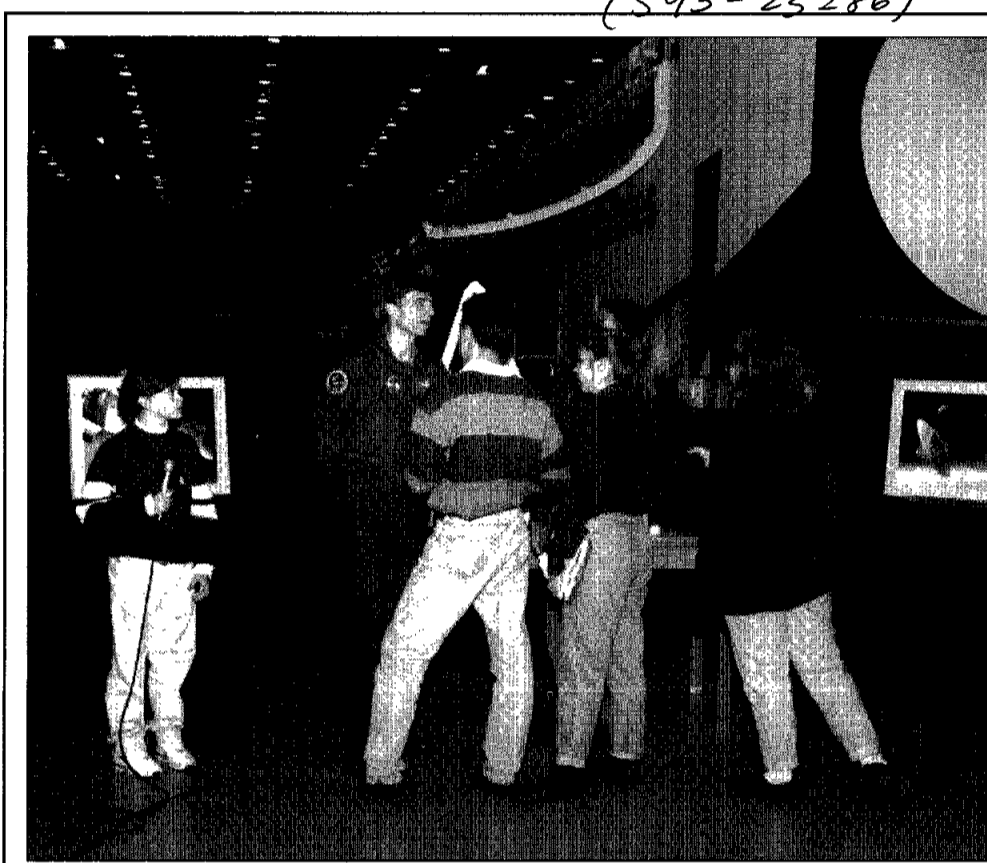
Seventeen JSC civil service employees recently earned Manned Flight Awareness recognition for their outstanding achievements in support of NASA's manned space flight efforts.

The honor, one of the highest awards an employee can receive, is given to a select few and entailed a visit to Kennedy Space Center for VIP view of the STS-53 launch.

This flight's honorees were: Gregg Baumer, Safety, Reliability and Quality Assurance; Sharyl Butler, Rob Meyerson and Penny Saunders, Engineering; Curtis Collins, Human Resources; Dennis Davidson, Mission Operations; Bob Giesecke, New Initiatives; Patti Hunter and Bob Lowe, Center Operations; Kyle Kleinjan, Office of the Comptroller; Charles Krpec, Information Systems; Alice Martin, Flight Crew Operations; Pat O'Neill, Orbiter and GFE Projects; Jose Reyes, Administration; Elizabeth Smith, Space Station Projects; Linda Turnbough, Space Shuttle Integration and Operations; and Rachel Windham, Space and Life Sciences.

The JSC honorees were among the 250 honorees from all NASA centers who were welcomed by KSC Director Bob Crippen, Space Shuttle Program Director Tom Utsman and Associate Administrator for Space Flight Jeremiah Pearson.

The next MFA honoree event will coincide with the launch of STS-54 in March.



TOUGH QUESTIONS — Students from Duane Lake Academy and Austin Independent School District, interview Astronaut Ron Sega for Kids TV Express, an award winning education television program in Austin. The group has adopted STS-60 and the Wake Shield Facility experiment for a year-long study project. From left are Forrest Smith, Sega, Jim Hejl, Joy Hawn, Jonathan Reid, Siobhan Hill Connor and Kathy Pyle.

JSC Photo by Robert Markowitz

Thirty JSC workers earn awards of creations, suggestions

Thirty JSC employees recently received NASA Tech Brief, Patent Application, Board and Suggestion Awards from JSC Acting Director Paul J. Weitz.

Recipients of Tech Brief Awards at the Dec. 4 ceremony included:

Michael L. Gernhardt, Conical Interface; Joseph R. Trevathan, Seal-Saver Insertion Tool; Richard J. Bozeman Jr., Accelerometer with Integral Display and Control Functions, Myoelectric Prosthesis Control System, SMART Accelerometer, and Anatomical Position Translator; Leslie S. Hartz, Extravehicular Activity Translation Tool; Robert T. Savely, Christopher J. Culbert, Brian L. Donnell, Huyen-

Anh V. Ly and Gary D. Riley, C Language Integrated Production System Unix Version; Lui Wang, Splicer-Volume 1.0; and Douglas W. Ming, Synthetic Appetites with Micronutrients and Sulfur as Slow-Release Fertilizers for Plant Growth.

Patent Application Awards were presented to:

Linda W. Billica, Fingered Bola Body, Bola with Same and Methods of Use; Victor S. Whitehead, Polarization Perception Device; Richard J. Bozeman Jr., Accelerometer Method and Apparatus for Integral Display and Control Functions; Brian G. Morris, Check Valve with Poppet Damping

Mechanism and Check Valve with Poppet Dashpot/Frictional Damping Mechanism.

A significant number of Board Awards were presented to:

William E. Thornton Jr., Treadmill for Space Flight; David A. Wolf and Clarence F. Sams, Culture Vessel with Large Perfusion Area to Volume Ratio; Rex A. Boyce; Bearing Servicing Tool; William C. Schneider and John B. Kahn, Load Limiting, Energy Absorbing, Lightweight Debris Catcher; Gerald R. Taylor, Portable Dynamic Fundus Instrument; Angelene M. Lee, Sharps Container; Nitza M. Cintron and Lakshmi Putcha, Intranasal Scopolamine Preparation and

Method; Jeanne L. Crews and Burton G. Cour-Palais, Hypervelocity Impact Shield; George B. Roush, Cost Model Software Management Tool; David R. Proctor, Lightweight Device to Stimulate and Monitor Human Vestibular Reflex; Richard J. Bozeman Jr., SMART Accelerometer; Robert O. Shelton, Accelerated Training Method for Back Propagation Networks; and Lui Wang, System and Method for General Purpose Architecture for Intelligent Computer-Aided Training.

A Suggestion Award was presented to Malcolm E. Jones, Delete IMU Calibration at VAFB Launch Orientations.

Funding shortage to be absorbed

(Continued from Page 1)

Further guidelines for promotion to GS-9 and above have been established. These guidelines will establish somewhat longer waiting periods for promotions up to full performance levels. However, organizations will be allowed some exceptions to recognize their top-rated performers. The center will continue to have two senior promotion boards to consider promotions for individual contributions to the GS-15 and GS-15 level, but the number of promotions will be reduced by about one-third.

Temporary support will be available for critical needs and most student programs will continue with

some reductions in supper programs.

Projected reductions in training and development programs and monetary awards were significantly alleviated by forward funding of these programs using fiscal year 1992 money to absorb most of the reductions.

"We're going to continue to monitor our spending in this area and will add back to our programs as much as circumstances permit," Hartman said.

"I'm confident that the center will continue to do everything it can to provide a positive working environment for the JSC staff," Hartman added.

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.

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

EditorKelly Humphries
Associate EditorKari Fluegel

STS-54 crew ready

(Continued from Page 1)

weightlessness, plant growth, fire and the effect of weightlessness on rodents. In addition, the crew will flight test an improved shuttle toilet, or Waste Collection System, planned to have increased dependability, capacity, hygiene and convenience. Also, on the third day in space, the crew will videotape interactive demonstrations of physics principles illustrated by the use of several toys on board to be used as an educational tool by teachers nationwide.

With an on-time launch, *Endeavour* is scheduled to land at 7:34 a.m. central Jan. 19 at KSC.