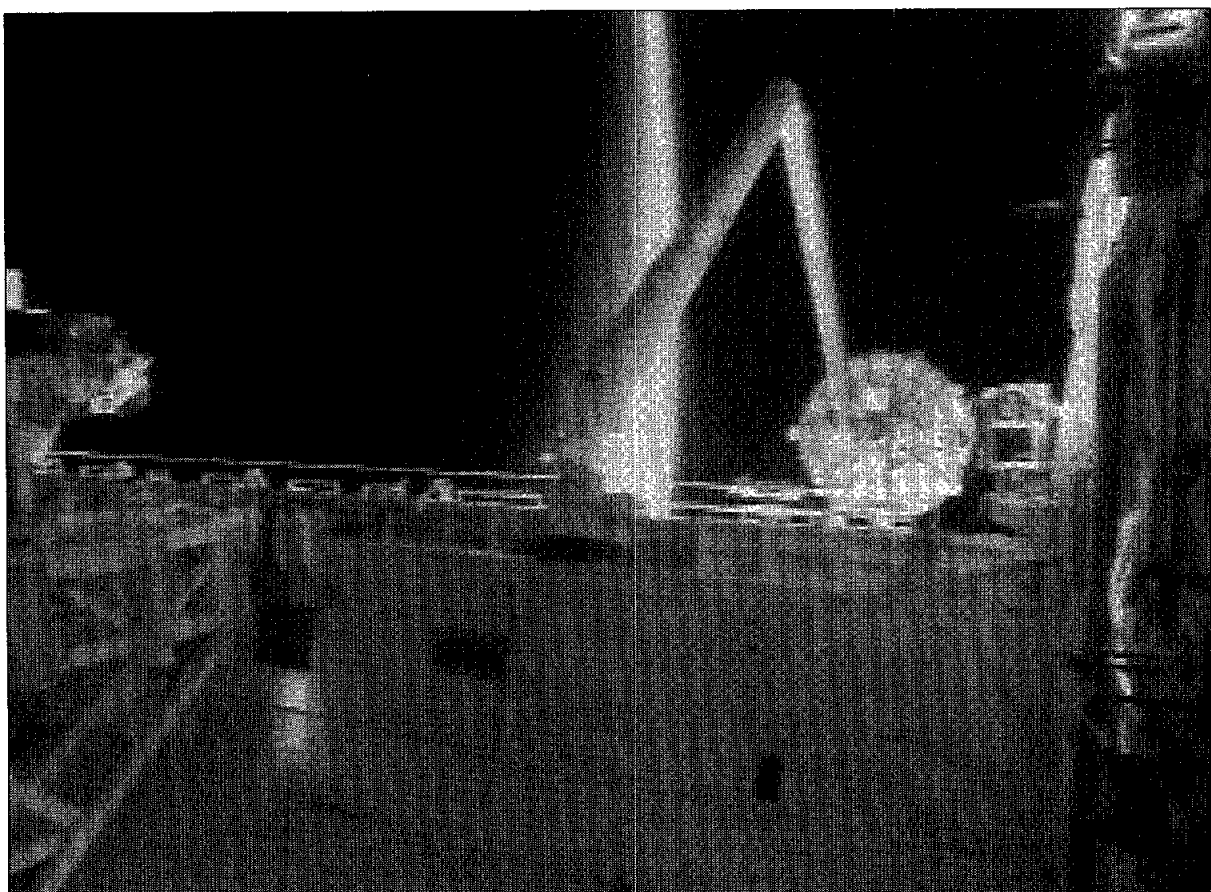


# Space News Roundup

Vol. 34

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No. 37



**Using the Space Shuttle Endeavour's robot arm, Mission Specialist Jim Newman prepares to deploy the Wake Shield Facility for three days of space vacuum epitaxy thin film growth. University of Houston designers succeeded in growing materials they hope to use in next-age electronics despite communication, attitude control and thermal difficulties.**

## Endeavour's space walkers ready for airlock

The crew of the Space Shuttle Endeavour successfully deployed two free-flying satellites, retrieved one and was poised to retrieve the second Thursday—the first time for such a “double-double” feat.

Endeavour's astronauts successfully deployed the 2-ton Wake Shield Facility satellite Monday morning to begin growing thin films for semiconductor and electrical component use, following up on a Friday deployment and Sunday retrieval of the Spartan-201 solar physics free-flyer.

Astronaut Jim Newman used the ship's robot arm to release the University of Houston-designed Wake Shield Facility at 6:25 a.m. Monday over western Africa at an altitude of almost 250 miles above the Earth. Within seconds of the deploy, the Wake Shield fired a small cold gas nitrogen thruster to maneuver away from Endeavour for the start of the chemical growth of the thin films. It was the first time a deployed satellite had maneuvered itself away from the shuttle, rather than the other way around.

“It looks real good out the window,” Commander Dave Walker told flight controllers in Houston after the thruster firing.

Wake Shield's deployment was delayed for almost two hours to enable flight controllers to troubleshoot a series of communications dropouts between the satellite and its carrier platform in the cargo bay which acts as a radio relay system for data, telemetry and television signals.

Although thin film growth operations went as expected at first, they were suspended several times when Wake Shield overheated and moved out of its planned attitude. Researchers got a bonus day of on-orbit film growth with its molecular

beam epitaxy instruments in an attempt to maximize the satellite's product return.

“We have grown our wafers in that vacuum environment,” said Dr. Alex Ignatiev, director of the UH Space Vacuum Epitaxy Center. “We've had some glitches with the hardware, but I'm used to a laboratory environment where I sit in the lab and push knobs and dials and make things work or not work. And this is much like that.”

Controllers for the Wake Shield Facility believe the extra operations time will allow them to complete almost all of the thin film growth that had been originally planned.

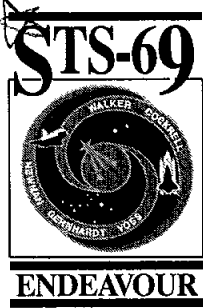
“By allowing them the extra 24 hours, we ought to give them the ability to process all of their samples,” said Mission Operations' Lee Briscoe.

Prior to the heating problems experienced with the attitude control system, three of the planned total of seven film

manufacturing runs already had been completed. For the remainder of operations, cooling periods that lasted as long as eight to 10 hours were required between film manufacturing runs. Due to the slower-than-anticipated thin film operations, some secondary experimental objectives of the satellite, such as operations with the Charging Hazards and Wake Studies and the Shuttle Plume Impingement Experiment, were to be reduced from what was originally planned.

Once Wake Shield operations were restored, Payload Commander Jim Voss and Mission Specialist Mike Gernhardt conducted a thorough checkout of the space suits they will don Saturday for the second shuttle space walk of the year. The 6-hour space walk is designed to test thermal improvements to the

Please see SPARTAN, Page 4



## JSC eyes possible furlough

Director explains situation, answers questions

With the real possibility that the federal government may be facing an emergency shutdown and furlough at the beginning of fiscal year 1996 in mind, JSC's top managers are devising plans on how to react.

And, in an effort to keep employees informed, Acting JSC Director George Abbey this week issued a centerwide letter explaining the current situation and the possible repercussions of a forced work stoppage.

“As you probably know, discussions between the Administration and Congressional leadership have not yet resulted in a budget agreement,” Abbey wrote. “If an agreement is not reached by Oct. 1, 1995, the Agency will not have the funds necessary to operate at the beginning of the new fiscal year.

“Although I am hopeful that Agency operations will not be suspended, we must plan for the possibility. If we are forced to suspend Agency operations, most of our people would be furloughed until an agreement is reached,” he explained.

In the coming weeks, Human Resources Office representatives will be conducting furlough briefings. There's also a Human Resources “hotline” at x30616.

The following is a list of commonly asked questions and answers:

**Q:** What is a furlough?  
**A:** A furlough places employees in a temporary, nonduty, nonpay status because of lack of work or funds. In October, the federal government faces a potential furlough due to a

lack of funds caused by a lapse in appropriations. This will occur if Congress does not pass either the NASA budget or a continuing resolution by Oct. 1. Another possibility for a furlough will occur in November when Congress decides whether to raise the national debt ceiling. Because the Agency has no control over these decisions, these two situations would be considered emergency shut-down furloughs.

**Q:** How long could a furlough last?  
**A:** It's unclear how long it would take for Congress and the President to agree on the budget. In the past, emergency furloughs have lasted one day or less, and employees have been paid retroactively for work  
 Please see FURLOUGH, Page 4

## Access requirements get tougher

### Utility tunnels get safety refit

JSC's utility tunnels will be renovated and upgraded starting in the next few weeks to address work safety, health and convenience issues.

Phase I of the Utility Tunnel Structure and Systems Rehabilitation Project will begin in the next few weeks, said Bill Roeh, chief of Center Operations' Plant Engineering Division.

Barricades, warning signs, signal workers or special administrative control programs must be complied with to avoid potential hazards, Roeh said. Construction tape and barricades will be placed across all paths and entrances to work areas. No one may cross any barriers or barricades without permission.

In addition, last month the procedure for entering the tunnels was modified, said Dennis Perrin, Lead Mechanical Operations Office. Although it is being implemented during the tunnel construction project, controlled access will continue permanently after completion of the rehabilitation project.

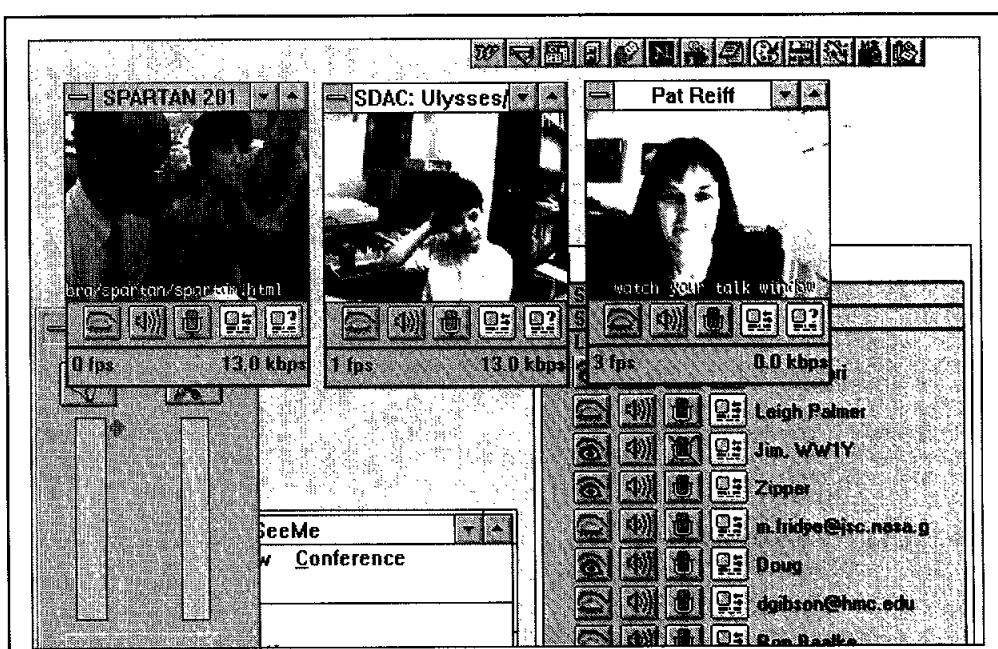
Before anyone may enter the utility tunnel system, they must send a request to the Mechanical Operations Office/JJ2, which will

approve or deny the entry based on the status and location of contractor Gardner Zemke's construction location in the tunnel. Locations are updated weekly and will be constantly changing.

Once entry into the tunnel system is approved, workers will report to the Bldg. 24 Operations Control Center each day to obtain a tunnel entry badge. This badge must be worn any time workers are in the tunnel and must be turned in to Bldg. 24 at the end of each work shift. Entry into the tunnel then can be made from any tunnel entrance on site, but any employee found in the tunnel without authorization and an entry badge will be subject to disciplinary action.

Any person entering the tunnel must have completed the JSC Confined Space Entry class and have a signed and approved Confined Space Entry procedure and permit for the work being conducted. In addition, all entrants must wear a hard hat, safety glasses, gloves, a flashlight, and industrial work shoes.

For additional questions regarding this project, please contact Greg LeStourgeon, x33444, or Sean Keprta, x45931.



**CU-SEE-SPARTAN—Solar physicists at JSC in support of the Spartan-201 mission took part in live, two-way question and answer sessions Friday and Saturday through the Internet using Cornell University-developed C-U-SeeMe software. This screen capture shows, upper left, Dr. Madhulika “Lika” Guhathakurta of Catholic University of America, and Dr. Leonard Strachan of the Harvard-Smithsonian Center for Astrophysics, interacting with, center, the Solar Data Analysis Center at Goddard Space Flight Center, and right, Pat Reiff, professor of space physics and astronomy at Rice University. JSC's Information Systems Directorate supported the effort.**

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.

**University of Houston vs. Baylor football:** Oct. 14, Astrodome, \$8.

**University of Houston vs. University of Texas football:** Nov. 11, Astrodome, \$15.50.

**Sea World:** Tickets cost \$23.50 for adults and \$16.25 for children 3-11.

**Splashdown:** Tickets cost \$11.05.

**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; Sony 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.

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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.

**Women's self defense:** Martial Arts training for women only from 5-6 p.m. Tuesdays and Wednesdays. Cost is \$25 a month.

**Weight safety:** Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. Sept. 28. Pre-registration is required. Cost is \$5.

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

**Aerobics:** High/low impact class meets from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32.

**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.

**Ballroom dancing:** 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

**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 cutlet. 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

**Space Business Roundtable:** Dr. Hum Mandell of the Texas Aerospace Commission in Austin will discuss "Current Commercial Initiative of the Texas Aerospace Commission" at 11:30 a.m. Sept. 19 at the Nassau Bay Hilton on NASA Road 1. The luncheon is \$12 for members, and \$15 for nonmembers. Call Phyllis Thompson at 333-2209 for more information or reservations.

**NMA class:** The Texas Gulf Coast Council of the National Management Association is hosting a 10-hour "Financial Strategies for Successful Retirement" seminar at two locations and dates. The first class of three sessions will be from 6-9 p.m. Sept. 12, 19 and 26 at the Gilruth Center. The second set of sessions will be from 6-9 p.m. Sept. 20, 27 and Oct. 4 at the RSOC MIC, 600 Gemini. Cost is \$50 per couple for NMA members and \$75 per couple for nonmembers. Call 280-0444 for more information.

**NAT meets:** The National Technical Association will meet at 6:30 p.m. Sept. 19 at Texas Southern University School of Technology Rm. 316. For more information call Carrington Stewart at x31404.

**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

**Toastmasters meet:** The Space-land Toastmasters will meet at 7 a.m. Sept. 20 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Elaine Trainor, x31034.

**Astronomy seminar:** The JSC Astronomy Seminar will meet at noon Sept. 20 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For more information, call Al Jackson at 333-7679.

**Cycle club:** The Space City Cycle Club will meet for a 25-mile ride beginning at 6 p.m. Sept. 20 at the University of Houston Clear Lake soccer field. For more information on this ride and weekend rides call Mike Prendergast at x45164.

**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.

## Sept. 26

**Photo club meets:** The Bay Area Photo Club will meet at 7:30 p.m. Sept. 26 at the Faith Covenant Church. For more information call Kelly Prendergast at x37655.

## Sept. 27

**NMA meets:** The National Management Association will meet at 5 p.m. Sept. 27 at the Gilruth Center. For additional information call Kathy Kaminiski at x38706.

## Sept. 28

**Radio club meets:** The JSC Amateur Radio Club will meet at noon Sept. 28 in Bldg. 16 Rm. 253. For more information call Larry Dietrich at x39198.

**NASACOM meets:** The NASA Commodore's User's Group will meet at 7:30 p.m. Sept. 28 at the Clear Lake Park Bldg. For more information call Glenda Souliere at x31764.

**Blood drive:** Barrios will host a blood drive from 8-11 a.m. Sept. 28 at 1331 Gemini. For additional information, call Tom Hanson at x47473.

## Oct. 9

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

# 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 AP2, or deliver them to the deposit box outside Rm. 181 in Bldg 2. No phone or fax ads accepted.

## Property

Sale: Pasadena, 3-2-2, brick, landscaped, FPL, sec alarm, sprinkler sys, Jacuzzi, ceiling fans & mini blinds, lg fenced yd, assumable loan. x36324 or 477-1478.

Sale: League City, 3 BDR, 3 acs, barn, pond, lots of trees, \$150.k. 554-6138.

Sale: Clear Lake Forest, 4-2-5-2, glass walled den w/hi ceiling, FPL, formals, family room, new roof & paint/carpet/paper. Webb, 333-5300 or 326-2307.

Rent: Egret Bay Villas, 1-1-2CP, ceiling fans, FPL, #465/mo. dan, 333-3600.

Sale: El Lago, 4BDR, lg game room, lg lot, hardwood floors, tile, kitchen floors, deck, spa, island FPL, \$125k. 326-2093 or 333-6821.

Sale: Holly House town house, near Texas Medical Center, 2-2.5-2, 1648 sq ft, security guard + alarm sys, avail immed. Jack H. Cohen, 488-3171.

Sale/Lease: Condo "The Cloister", 2-2, FPL, W/D. 339-0904.

Sale: Bay lot, Bermuda Beach in Galveston, lot 9 sect 4 on Reynolds Rd. \$24.9k obo. 485-0189.

Sale: Townhome near Galleria, 2-2.5-2, ex cond, wall appli. 498-7343.

Sale/Rent: Freeway Manor, 3-1.5-1, new central air w/ gas heat, new carpet, DW, roof and garage door, ceiling fans, \$550/mo + dep or \$38k to buy. Bill, 332-3649.

Rent: Arkansas Cottage on Blue Mountain Lake, huge stone FPL, screened porch, \$250/wkly or \$50/dly. x33005 or 334-7531.

Rent: Beach house, Crystal Beach, Galveston Co, lg deck, 4-2, sleeps 12, \$225/wknd/\$400 wkly. 486-1888.

Rent: South Lake Tahoe cabin, 3-2, modern kitchen, W/D, TV/VCR, sleeps 8, close to casinos, \$70/nightly except holidays. x41065 or 326-2866.

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

## Cars & Trucks

'88 Jeep Wrangler, 83k mi, 6 cyl, 5 spd, A/C, new soft top, ex cond, \$7.5k. 334-7143.

'66 Mustang, 289, 4 spd, dual exhaust, good cond, \$3.5k. 331-9255.

'89 VW Jetta GL, Wolfsburg Ed, blue, 56k mi, 1 owner, ex cond, \$5.2k. Tom, x33651 or

280-8084.

'74 VW thing, white, new engine/battery, good tires, 2.5k obo. Dick, 335-6842 or 286-4444.

'87 Ford Mustang convert, 4 cyl, auto, 100k mi, cruise, AM/FM/cass, blue/white inter, \$4k obo. Cindy, 480-8116.

'91 Chevy S10, std, 5 spd, 4 cyl, A/C, AM/FM/cass, 47k mi, \$6k. x37149 or 409-925-2291.

'91 CRX, red, 5 spd, 5 star rims, clean, A/C, radio. Kyle, 996-1264.

'86 Mazda RX7, has '89 motor, rebuilt rear end, new tires, needs transmission, best offer. Jeff, 532-4191.

'87 Toyota 4 Runner, fully loaded, turbo, maintenance records avail, \$9.7k. 488-2956.

'71 Volkswagen Van, new engine, looks & runs great, \$2.3k obo. x30123 or 326-2650.

'79 Buick LaSabre, good work car, \$800. 482-5621.

'80 Mercedes 450SLC, auto, silver, P/W, A/C, sunroof, new tires, fine cond, \$9.5 obo. x49810 or 474-2896.

'84 Mazda RX-7 GSL-SE, black/red, AM/FM/cass, 5 spd, A/C, ex cond, \$2,950. 582-0415.

'78 Dodge Custom van, everything works, \$1,295. 326-2758.

'88 Daihatsu Charade, 3 dr, A/C, radio/cass, 59k mi, ex cond, 1 owner, \$2k. 488-1682.

'89 Jeep Cherokee Ltd, 4 dr sedan, leather interior, 4W drive, 6 cyl, custom wheels, good shape. 339-0328.

'89 Olds/88 Delta Brougham, 4dr, all pwr, cruise, radio/tape A/C, 76.6k mi, V6, good cond. 339-0328.

'50 Chevy PU truck 3100 series, 4 spd, floor shift, runs well. Jim, 474-7747.

'87 Honda Accord Lxi, 2 dr, silver, cass, 5 spd, all pwr, A/C, ex cond, 1.5k mi, \$4k. Jack, 996-8900.

'90 Chevrolet Suburban, Texas Stagecoach conversion, TV, radar, alarm sys, extras, ex cond, \$11.5k. Linda, x31352 or 409-945-3501.

'82 Saab 900, 200k mi, good engine, \$600 obo. x33282 or 480-9806.

Motor home, 30' class "A" clean 454 Chev, 27k mi, new tires/A/C & strip heat, 5 kW generator. 538-1873.

## Cycles

'86 Honda Magna, 700 cc, low mi, ex cond, \$3k. 488-6526.

## Boats & Planes

Hobbie 18' Catamaran, sails, trailer, harnesses, \$950 obo. 474-4742.

Sailboat, 22', fiberglass, 5hp outboard, 2 jib sails, potty, free lessons, \$2.2k. x37441 or 339-2834.

'77 Clipper Marine, 26' sailboat w/trailer, 7.5 hp OB, new batt/compass/swing keel & 130% Genoa Sails, pop-up cabin roof, \$5k obo. Rebecca, 476-5006.

'92 Sea Ray 170 Bowrider w/galvanized trailer, 3.0 liter I.O, extras, \$9.9k. 482-7019.

'89 Vip fish & ski boat, garage kept, I/O, 2.3 L Ford motor w/Cobra Outdrive, new Bimini top, access, \$5k. Paul, 992-1678 or 945-729.

## Audiovisual & Computers

TI-6400 computer, kids-teens S/W. Fred, 944-3523.

Citizen printer, "CSX-140" w/GSX color option, \$199. Magdi Yassa, x333-4760 or 486-0788.

Radius color video card for Mac SE/30 PDS slot, \$65; Focus Ether LAN SC SCSI to Ethernet Macintosh adapter. \$100. 480-3424.

NEC computer, 286 w/NEC EGA monitor, 40 Mb HD, 5.75 FD, internal modem, S/W & games, \$200 obo. x37066 or 286-4255.

AIWA #AXR-004 stereo audio/video recvr, 100W x2, 50W x4, 30W x2 rear, Dolby surround, 5 audio-2video inputs, 7-band equalizer, full functional index, DSL, 20dB mute, unified remote control, \$120 obo. Steve, 554-4140.

Pickup sound system, speaker boxes, 50W amp, CD player, \$250 obo. Jeff, 280-9576.

Atari 520 ST w/monitor, disk drive & a dot matrix printer, \$150. Jeff, x30469 or 482-5393.

486DX2/66 w/256 cache & Intel processor, 8Mb RAM, 540Mb HD, VLB IDE-I/O card, 1Mb VLB video card, 14" SVGA, .28DP, 1.44 & 1.2 Mb floppy drives, mid-tower case, 101 keyboard, Microsoft mouse & preloaded S/W, \$1k. 332-4466.

Magna planner SMG-3 speakers, 5'x2'x2", great sound, \$700/pr. 488-1682.

Macintosh Classic, 2Mb RAM, 40Mb HD, w/PHP DeskWriter printer, Microsoft Word 5.1 & other S/W, ex cond, \$500. David, x39757 or 554-4947.

Zoom 28.8 V34 fax modem, \$115. 332-4466.

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x39932 or 222-2525.

Anyone who witnessed the accident, involving a white Pontiac GrandAm & a lt green station wagon at 2nd & Saturn st, Aug 25, '95, about 4:45 pm call Nell Johnson, x37385.

## Household

G.E. electric, 27", copper-tone built-in wall mount oven, works great, \$50. Linda, 484-0987.

Bassett dbl dresser; 19" color TV; 25" color TV; student desk; stereo. 489-1235.

Twinbeds, 2 sets complete w/frames, good cond, \$75/set. x41965 or 326-2866.

Kenmore gas dryer, looks & runs great, \$100 obo. x30123 or 326-2650.

Coffee table, \$30; end table, \$20; 19" color TV, \$50; 4 pc sectional sofa, \$800 obo. Leonard, 333-5576.

Dining table w/glass top w/6 wood chairs, buffet, \$450. Jeff, 280-9576.

GE Spacemaker, microwave oven, brown, 30"x14.75"x13" under cabinet mounted, 1.35 kW, temp probe, touch controls, ex cond, \$125. 339-0904.

Queen sz SICO win-wall bed w/mattress, \$500. Wendell, x35064.

GE heavy duty gas dryer, lg capacity, comes w/free GE heavy duty washer, 5 cycles w/mini wash, \$135. Tacy, x47453 or 480-5690.

King sz waterbed w/new mattress, comforter, heater, 3 sets of sheets & 4 drawer pedestal, \$250 firm. Todd, x48124 or 532-1510.

Dining room, solid pine, lg oval table w/2 leaves 7 custom pad, 6 chairs, lg lighted china cabinet, ex cond, \$1.9k. Laura, x45907 or 488-0876.

Pastel sofa w/loose back pillows w/stain guard, \$300; matching pine jelly cabinet & microwave cart, \$50 ea; antique wooden rocker, \$40. 554-5492.

Westinghouse W/D, electric, ex cond, \$280/both. A.J. Roy, x47474 or 333-2498.

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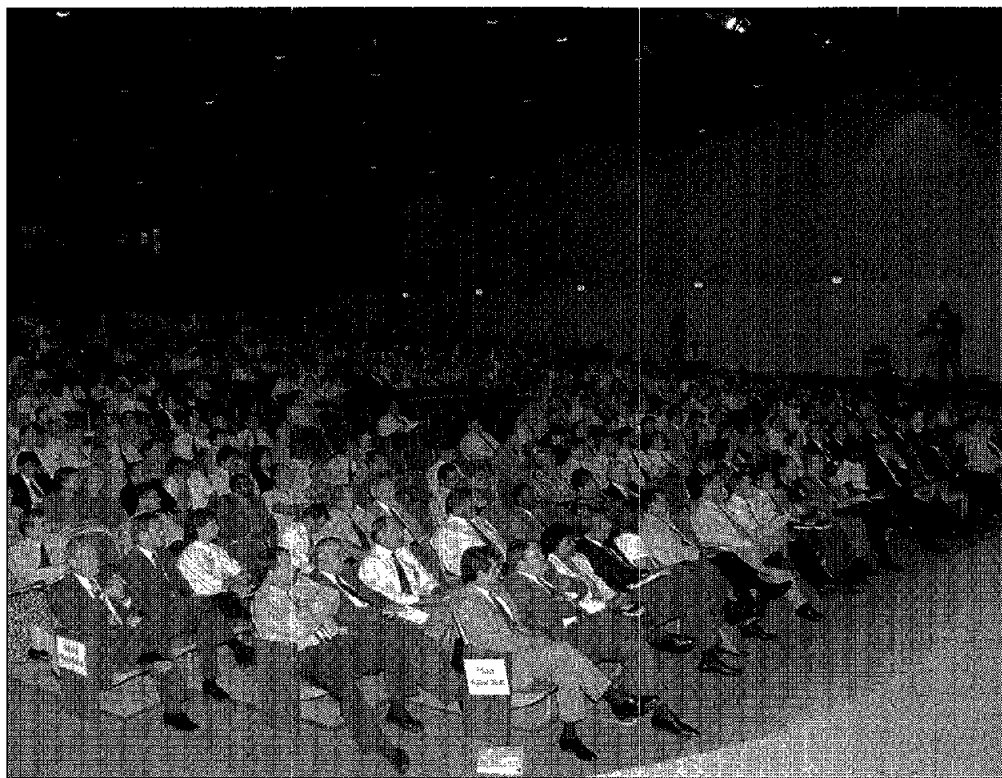
Westinghouse W/D, electric, ex cond, \$280/both. A.J. Roy, x47474 or 333-2498.

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Westinghouse W/D, electric, ex cond, \$280/both. A.J. Roy, x47474 or 333-2498.

Westinghouse W/D, electric, ex cond, \$2





# Awareness Accomplished

## JSC devotes a day to its own safety as government, contractor workers join together toward common goal

By Rindy Carmichael

**O**n Aug. 30, JSC once again accomplished a historically significant event; but this time its mission was safety awareness.

Employees and contractors joined together to participate in the center's first Safety Awareness Day. The day was dedicated to educating employees on the importance of safety in the workplace and motivating them to raise their safety awareness levels. Education and awareness are considered to be the keys to achieving the center's goal of incurring fewer mishaps, fewer injuries, less time off from work due to injury, and a reduced amount of government property damaged or destroyed due to adverse occurrences.



Abbey

Tedious details were worked out arranging speakers, film, video, publicity and mass distribution of materials to more than 15,000 civil servants and contractors. Directors, managers, supervisors, safety representatives and facility managers performed double duty in arranging directorate events.

The day began with top-level civil service and contractor managers attending an informative morning program in Teague Auditorium. The program opened with a taped introduction from

NASA Administrator Daniel Goldin and members of his staff, followed by an introduction for the day's activities by Acting JSC Director George Abbey. In his opening comments, Abbey voiced his dedication to JSC's safety program. "If we are going to be successful with our safety program... we have to have a commitment from the top down—down to the lowest level of employee."



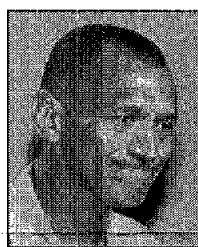
Harlan

Setting the stage for the importance of the day, SR&QA Director Charlie Harlan reminded the audience why it was there. "The purpose of Safety Awareness Day is to remind you that safety is your primary mission." Harlan went on to discuss recent mishaps at JSC that led to the centerwide stand down to review safety programs.

Brigadier General (Select) Charlie Bolden, USMC, gave a motivational talk on the importance of working together safely. Bolden related working safe to the Triple A's—attitude, action and assurance. His sometimes emotional speech clarified his intense feelings on the significance and protection of life and human dignity. In closing, Bolden shared an inspirational poem that generated applause from the entire audience.

Steve Nagel, deputy director of SR&QA, spoke on safety and responsibility, emphasizing that working safely is everyone's responsibility. Other speakers were Bob Gaffney, who provided

information on emergency response, Joel Stolzhus, who spoke on reporting mishaps, and Texas Department of Public Safety Trooper Steve Hargett, who addressed the dangers faced while driving to work. Don McMonagle, from the Astronaut Office, informed the audience of what "being safe" actually entails. He suggested it is taking the time to select the safest path, an extra step that adds value to the effort. Master of ceremonies Rich Dinkel concluded the program with comments on dangers posed at JSC crosswalks and encouraged the audience to remember that, "The programs in

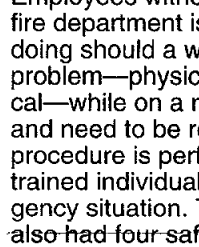


Bolden

which you are about to participate this afternoon are only going to be as good as you, the leaders of the employees of JSC, choose to make them." Afternoon activities varied with each organization. Naming its program "SMILE" (Safety Made Interesting, Lively and Entertaining), Lockheed Martin Engineering & Sciences Co. kicked off the afternoon with a brass band production in the atrium. Employees played games including Unwheel of Fortune and Safety Bingo, collecting points for prizes. Included in employee information packets was an innovative "safety wheel" called a Safety Self-Inspection Guide. By turning the arrow on the wheel to a desired category, individuals

could obtain information on industrial system inspection guidelines.

Johnson Controls World Services, which handles all building maintenance on site, had the Houston Fire Department come out and demonstrate a high angle rescue that involved a ladder truck extending its ladder approximately 80 feet into the air. Employees witnessed what the fire department is capable of doing should a worker have a problem—physical or mechanical—while on a roof repair job and need to be retrieved. This procedure is performed only by trained individuals in an emergency situation. The company also had four safety programs going on as well as various vendors of personal protective equipment holding demonstrations.



Nagel

EV, EG, and parts of ER, divisions of the Engineering Directorate, turned out in high numbers for a program in the Teague Auditorium. According to Marion Pringle, facility manager, this was the "single largest gathering at the center during the day."

Business Management Director Terri Hesse expressed her dedication to the safety program in the directorate's opening activities. During the afternoon, a contest was held for directorate employees to name as many office hazards as they could in

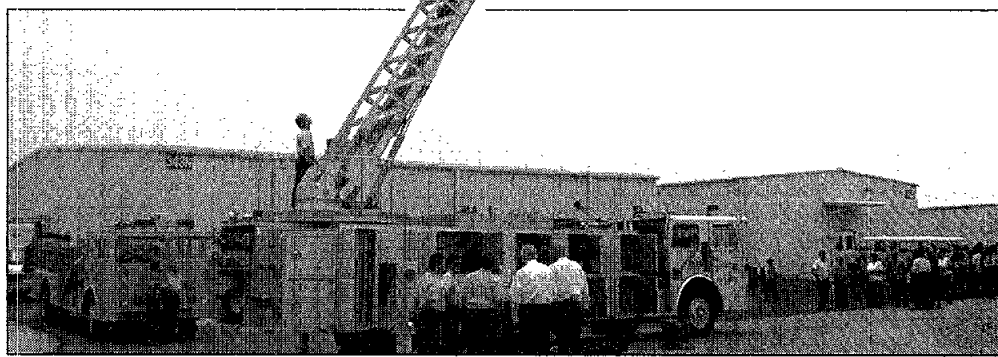
three minutes. The first-place team member received a four-hour time off award, and the second-place winner received the two-hour off award. Overall, the contest generated more than 250 unique hazards. While many of the identified hazards were considered relatively insignificant, the contest, nonetheless, succeeded in motivating employees to think hard about safety issues, thereby raising their awareness levels.

Rockwell Space Operations Co. sponsored a coloring contest prior to Safety Awareness Day. Children of employees colored a safety-oriented picture drawn by an in-house artist. The colored pictures were displayed at information booths set up in the cafeteria. Local vendors and service companies occupied the booths and handed out safety information. Rockwell's 2,000 employees

participated in the afternoon activities, completely depleting the booths' supplies of materials. Among the area participants were Bay Area Schwinn, the National

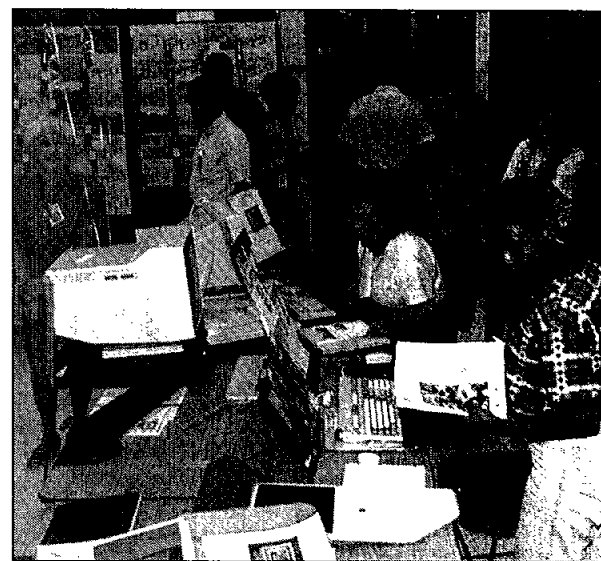
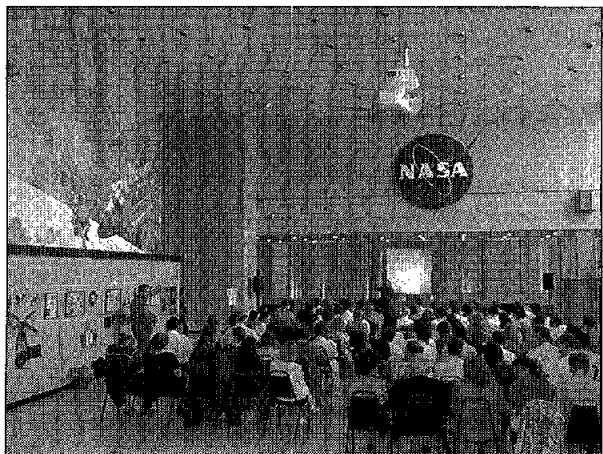
Weather Service, and the Houston Police Department. There also was fire extinguisher training in the back lot as well as a fire drill, supervised by the Webster Fire Marshall, in the Logistics Support Facility.

Safety Awareness Day was a milestone in the history of JSC. Civil servants and contractors worked together as a team, exchanging information and knowledge that will bring them closer to a common goal of providing and maintaining a safe workplace for all JSC employees. As Abbey concluded in his morning speech, the same holds true in day-to-day efforts, "Safety is not an event. It isn't something that you can just put an effort into and then have it end. It really is something that goes on every day, and we have to be sensitive to it every day as we accomplish our activities, and be constantly aware of its importance." □



JSC and its contractor teammates participate in a variety of Safety Awareness Day activities. From left to right, top to bottom:

- 1) Top-level civil service and contractor managers attend an informative morning program in Teague Auditorium;
- 2) Lockheed Martin Engineering & Sciences Co. kicks off afternoon activities with a brass band production;
- 3) Johnson Controls World Services and the Houston Fire Department demonstrate a high-angle rescue, showing employees what is available to workers requiring emergency assistance during roof repair jobs;
- 4) Terri Hesse, JSC's business management director, opens the afternoon session with her views on the importance of working safely; and
- 5) Rockwell Space Operations Co. distributes safety information in the many booths set up for the afternoon activities.



JSC Photos by Benny Benavides

# Spartan retrieval requires 180-degree maneuver

(Continued from Page 1)

bulky spacesuits as well as the tools and techniques which may one day be used in the assembly of the International Space Station.

Mission Specialist Mike Gernhardt released the 2,800-pound Spartan-201 solar physics observatory from the shuttle's robot arm at 10:42 a.m. CDT Friday, and a few minutes later the Spartan spacecraft performed its characteristic 45 degree pirouette maneuver signaling the flight crew and controllers on the ground that its internal attitude control system was functioning properly.

Spartan was retrieved at 10:02 a.m. Sunday—38 minutes late

because it was found to be in a different attitude than expected when *Endeavour* made its rendezvous approach. Walker and Cockrell manually flew *Endeavour* in a 180 degree maneuver around Spartan, aligning the shuttle's robot arm with the grapple fixture mounted on the spacecraft. Mike Gernhardt then reached out with the arm and grabbed Spartan, tucking it into the cargo bay.

Preliminary indications were that Spartan had put itself in a "safe" mode, shutting down its power systems which kept it from achieving its anticipated rendezvous attitude. The exact cause of the safing will be determined once Spartan is

returned to Earth, however, payload controllers believe Spartan successfully completed its mission gathering data on the sun's corona and solar winds. The amount of data collected by the satellite will not be known until the probe is returned to Earth.

The JSC-developed EPICS experiment in the shuttle's middeck, designed to test the capability to separate hydrogen and oxygen components in water generated by the shuttle, was powered down Saturday after all three self-contained electrolysis units experienced an automatic shutdown. After reviewing their options for restoring power to at least two of

those units, payload controllers opted to completely power off the experiment.

Astronaut Gernhardt took a few minutes out Saturday morning to discuss the progress of the flight with Scott Carpenter, one of the original Mercury 7 astronauts, who was linked to Gernhardt from an underwater research laboratory off the coast of Key Largo, Fla.

Carpenter and Gernhardt discussed the interdependence of underwater research and outer space exploration. Thirty years ago, Carpenter conducted a similar discussion with fellow Mercury astronaut Gordon Cooper as Cooper flew in space on the

Gemini 5 mission.

*Endeavour* lit up the Florida sky as it hurtled into orbit following an on-time lift off from Kennedy Space Center at 10:09 a.m. CDT Sept. 7. Landing is scheduled for 6:38 a.m. Monday at KSC.

Meanwhile, technicians pressed ahead with efforts to launch *Columbia* in late September on the STS-73/United States Microgravity Laboratory-2 mission.

Repairs to *Columbia's* solid rocket motor nozzle joints are complete and the seven USML-2 astronauts, led by Commander Ken Bowersox, underwent a successful countdown dress rehearsal test at KSC on Tuesday.

## JSC outreach program needs volunteers

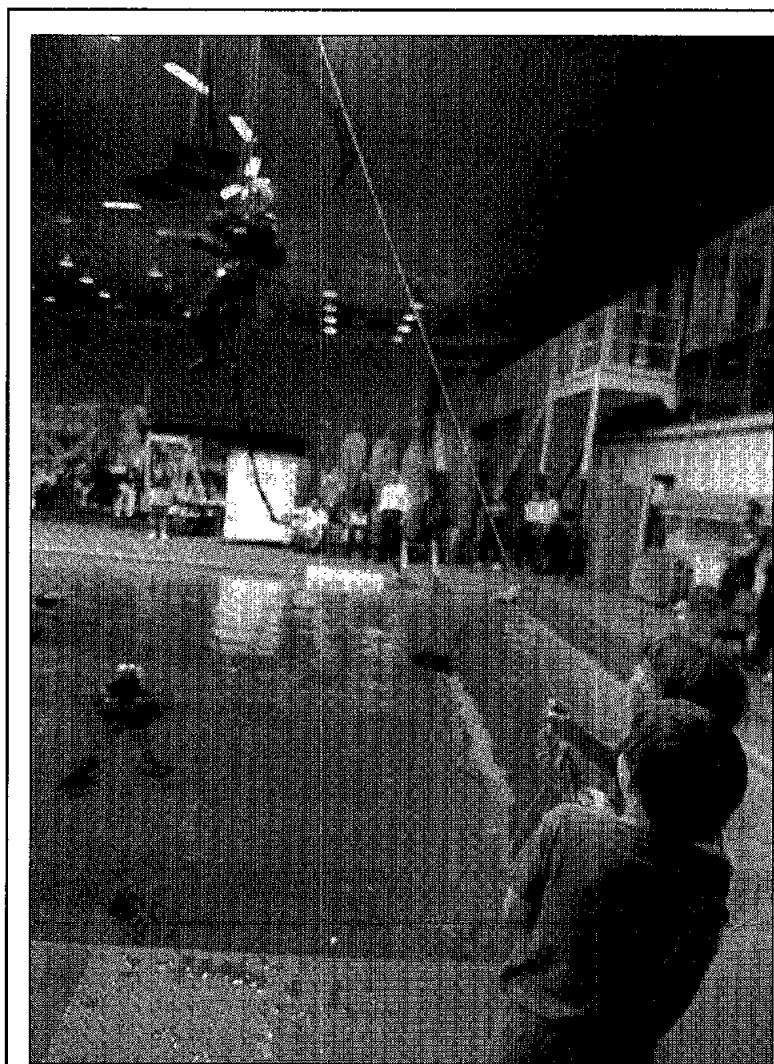
JSC's Education Outreach Program is rapidly expanding its presence into the local education community and once again is seeking the help of dedicated JSC employees to help meet the growing demand for volunteer services.

As an Education Outreach volunteer, employees can help educators reach students by being guest presenters, science fair judges, tutors or mentors in schools that are located within 50 miles of JSC.

Part of NASA's mission is education, and JSC's Education Outreach Program is one of JSC's commitments to the community. The space flight dream has the potential to energize and activate students who may not respond to other motivational tools. JSC's Education Outreach Program can provide those tools to help teachers inspire their students.

Most of the requests from area schools are for guest presenters in classrooms, but there are large seasonal requests for science fair judges, mentors, and hosts at JSC for students to shadow for a day. In addition, each February, JSC observes National Engineers Week by sending volunteers into the schools to give presentations. Time spent participating in an approved Education Outreach Program event is official duty time, and as such, may be charged to a special time code.

For more information about the Education Outreach Program, please contact Mae Mangieri at x32929.



JSC Photo by Andrew Patnesky

**DUNKING DAD—STS-72 Mission Specialist Dan Barry's children, Andrew and Jennifer, prepare to drop their father into the Weightless Environment Training Facility pool during an August bail-out training session. Karin Porter, a Crew Systems training instructor in charge of bail-out training, is just out of frame, making sure that the test is conducted with proper concern for safety. The training is designed to simulate the force of impact the astronaut would experience if parachuting into the ocean.**

## JSC, local university life sciences partners

Houston's Rice University is one of three schools selected Monday to serve as NASA Specialized Centers of Research and Training to increase scientists' understanding of the role that Earth's gravity plays in living things.

Rice, North Carolina State University and Rutgers University were selected to serve as NSCORTs for the next five years. The selections were made on the basis of merit as judged by peer review panels assembled by the American Institute of Biological Sciences. NASA plans to award each of the universities approximately \$1 million a year for five years.

Rice was designated an NSCORT in gravitational biology. The center director is Larry McIntire, Ph.D., the chair of the university's Institute of Biosciences and Bioengineering. JSC is a partner with Rice.

North Carolina State University in Raleigh was designated an NSCORT in gravitational biology. Eric Davies, Ph.D., head of the botany department, is the director of the new center. Wake Forest University in Winston-Salem is a partner.

Rutgers University in New Brunswick, N.J., was designated an NSCORT in bioregenerative life support. Harry Janes, Ph.D., professor of horticulture and forestry, is the director. Stevens Institute of Technology, Hoboken, N.J., is a partner.

The NSCORT program is an integral part of NASA's research and analysis activities to advance basic knowledge of the role of gravity in living systems and create effective methods for solving specific problems in the space life sciences. This program is established exclusively to support ground research and analysis in various research specialties.

The addition of these universities brings the total number of NASA-funded NSCORTs to eight. The previously selected institutions are:

Lawrence Berkeley Laboratory, Calif., Northwestern University Medical School, Chicago, (funded jointly by National Institutes of Health), Ohio State University (funded jointly by National Science Foundation), University of California, San Diego, University of Texas, Southwestern Medical Center; and University of Giessen, Germany.

## More Russian classes in October

Russian language classes from basic beginners to advance classes will be available again beginning Oct. 9.

The classes will be conducted from 7-9 p.m. four days a week at the Clear Lake United Methodist Church, 16335 El Camino Real.

Cost is \$105 for a 10-week course.

Intermediate classes will be held on Mondays. Beginner classes are held on Tuesday, advanced beginner classes on Wednesday and advanced classes on Thursdays.

For more information call Susan Crippen at x42245.

# Furlough could begin with same-day notice to JSC employees

(Continued from Page 1)

missed. There are indications that this year's potential furlough could last longer. Any predictions at this point would be pure speculation.

**Q:** Will I be paid retroactively for days off?

**A:** In the past, civil service employees have been paid retroactively for workdays lost due to furlough. However, once again, Congress must pass into law authorizations for retroactive payments. It isn't clear right now what Congress will do on this issue if there is a furlough.

**Q:** How much advance notice will I receive?

**A:** In an emergency shut-down furlough, you can be told verbally to go home the same day the furlough begins. Because of the unpredictability, JSC will not know in advance whether a furlough will be necessary, or how long a furlough could last. You are strongly encouraged to plan ahead for a furlough of some duration, both from a work and personal standpoint.

**Q:** Can I take leave or use compensatory time during a furlough?

**A:** Unfortunately not. A furlough day is an unpaid nonwork day. Therefore you cannot substitute (retroactively or otherwise) annual leave, sick leave, credit hours, or compensatory time for absences caused by a furlough.

**Q:** Will the paychecks for the pay period ending Sept. 30 be issued on time?

**A:** JSC time cards will be processed early and forwarded to the Treasury so paychecks can be issued on time.

**Q:** How will a furlough affect my benefits?

**A:** Annual and sick leave—For a furlough of less than 80 hours, there is no impact. However, for a furlough of 80 hours or more, your annual and sick leave credits are reduced by the amount of leave you would have earned during that pay period. Health benefits—Your health benefits coverage and government contributions continue during a furlough. Your premiums will accumulate and be withheld from your pay upon returning to duty. Life insurance—Life insurance coverage continues for 12 consecutive months while you're in a nonpay status without cost to you. Retirement—Furlough time of less than 6 months counts as credit toward your retirement. Within-grade Increases—Within-grade increases would be delayed if you are: Step 2-4 and you are furloughed for two weeks or more; Step 5-7 and you are furloughed for four weeks or more; Step 8-10 and you are furloughed for six weeks or more. Time-in-grade—Furlough time counts toward time-in-grade for promotions.

**Q:** Which employees won't be furloughed?

**A:** Few employees fit this category. The center will identify a small number of emergency personnel who will need to remain to perform services critical to the safety of human life or the protection of property. Only those employees designated as emergency personnel will be exempt from the furlough.

**Q:** Will emergency employees who work during the furlough get paid?

**A:** Yes, but they will not receive a paycheck until after the furlough has ended.

**Q:** Will the Child Care Center be open?

**A:** As long as the center is open and emergency personnel are required to work, the Child Care Center will remain open during a furlough. This is possible because the Child Care Center is funded by tuition from parents rather than by the federal government.

**Q:** Will I be allowed to come to work on a volunteer basis on furlough days?

**A:** Unfortunately, employees may not volunteer to perform their federal duties on a nonpay basis since agencies are precluded by law from accepting volunteer services during a furlough.

**Q:** If furloughed, can I receive unemployment benefits?

**A:** JSC employees are eligible to apply to the state for unemployment compensation after five days of unemployment. However, if NASA pays you retroactively for furlough days, you must repay the state for any unemployment compensation you receive.

**Q:** Can I borrow money out of my Thrift Savings Plan to tide me over during furlough?

**A:** Because you must be in a pay status to borrow from your TSP funds to help with financial hardships, you may only make arrangements to borrow the money after the furlough period.

**Q:** Will emergency funds be available from the JSC Federal Credit Union?

**A:** The credit union has indicated a willingness to work with employees and their needs during this period. Please contact the Credit Union for more information on available financial alternatives such as short-term loans.

**Q:** Should I cancel my health insurance coverage while in a nonpay status to avoid the expense?

**A:** We recommend that you keep your coverage. If you drop your coverage, you cannot re-enroll until the beginning of the next open season in November 1995, with coverage not beginning until Jan. 7, 1996. In addition, canceling your health insurance may affect your right to carry such

coverage into retirement.

**Q:** With most JSC employees on a variable day schedule, how many hours in a day can I be furloughed?

**A:** Whatever your work schedule, a furlough day is equal to 8 hours.

**Q:** Will I be able to choose which days to be furloughed?

**A:** No. Because the federal government does not have any money to operate during an emergency shut-down, all employees not retained for emergency purposes will be furloughed continuously for the same time period.

**Q:** Can I work outside the federal government while on furlough?

**A:** Yes, if the position doesn't involve a conflict of interest with your NASA position. Prior approval may be required for some positions like professional consulting, teaching, speaking, writing, or running a privately owned business. To find out if you need prior approval, please call the Human Resources Policy Office at x31057.

**Q:** While on furlough, how can I find out when I should return to work?

**A:** We are in the process of developing a centerwide employee recall plan. For the latest information, you should keep in touch with your supervisor, listen to news reports, and call the Employee Information Service number at 483-6765.