

National Aeronautics and Space Administration Lyndon B. Johnson Space Center



Ascan survival

The 1995 mission specialist astronaut candidates recently tried their hand at land, water survival. Story on Page 3.



Star connection

NASA's Hubble Space Telescope peers in the heart of double star systems. Story on Page 4.

Space News Roundup

May 26, 1995

Review team proposes changes at NASA

Goldin says leaner agency must maintain space, aeronautics leadership

NASA Administrator Daniel S. Goldin outlined for employees last week a series of sweeping management and organizational changes designed to cut spending an additional \$5 billion by the end of the decade.

Goldin briefed both the news media and agency employees Friday via NASA Television on the results of the zero-base review. JSC Director Dr. Carolyn L. Huntoon followed his employee address with a question and answer session in Teague Auditorium.

"I'm pleased with what I've seen so far," Goldin said. "We've found ways to streamline operations, reduce overlap and significantly cut costs without cutting our world-class space and aeronautics programs. We have much hard

JSC retains human space flight focus

While the zero-base review reflects downsizing and definite roles for each center, JSC's focus remains on human space flight and life sciences, JSC Director Dr. Carolyn L. Huntoon assured employees Friday.

"I feel confident that we can rise to the occasion," she said during a question and answer session that followed NASA Administrator Daniel S. Goldin's address to employees. "I believe you all know the American people have spoken and we have to cut out our overlaps and redundancies."

Under the proposals in the zerobase review, JSC will sharpen its focus on human operations in space, assuming management responsibility for the agency's communications infrastructure; establishing institutes for biomedical and planetary sciences; and streamlining engineering and facilities.

We have perhaps, the best job in the world. I don't think any of us want to give up that job. By working together to do it as effectively as we can and as efficiently as we can, watching everything we do... I think we will continue to fulfill JSC's role," Huntoon said.

Space Shuttle Program Operations Director Brewster Shaw said the shuttle program is prepared with a strategy to operate safely through the end of the decade with reductions of around \$2 billion. But he emphasized that JSC and the

work before us, but I believe a stronger and more efficient NASA will emerge."

The internal review does not propose closing any of the agency's 10 major field centers, or shutting down any major programs. Goldin said he is determined to cut infrastructure at the agency by reducing jobs, facilities, and administrative overhead, rather than terminating core science, aeronautics, and exploration programs. However, Goldin warned that further deep budget cuts now under consideration in Congress would threaten the survival of some NASA centers and major agency programs.

"Reaching the levels in the administration budget was an incredibly difficult task," Goldin said. "The deeper cuts Congress is contemplating simply go too far, and I am committed to fighting them.

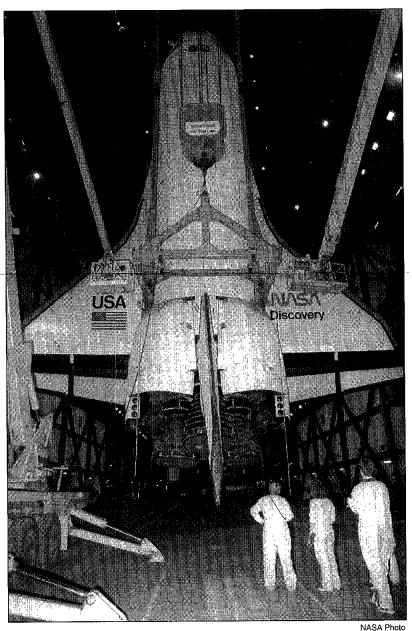
"NASA was already in the process of taking a \$35 billion (31 percent of the 1994 congressional budget baseline) cut over five years when the President asked us to cut an additional \$5 billion. This is an agency (once) designed to operate with a \$22 billion budget annually (by the end of the decade), and we'll be at \$13 billion by the end of the decade under the administration budget," Goldin said.

"The American public wants a leaner, more efficient NASA, and we're prepared to meet that challenge. But they also want and deserve a NASA that maintains our nation's leadership in space exploration, aeronautics, science, and

technology," he said.

The internal review proposes streamlining functions at the NASA centers, so each installation becomes a "center of excellence," concentrating on specific aspects of NASA's mission. At the same time, the proposed changes would reduce overlap and consolidate administrative and program functions across the agency.

Under the review team's findings, NASA's total civil service ceiling would be reduced to approximately 17,500 by the year 2000, a reduction of 4,000 in five years. In addition, the recommendations would eliminate an estimated 25,000 contractor jobs. The actual number and distribution would be determined by future busi-Please see PROPOSALS, Page 4



Inside the Vehicle Assembly Bldg. at Kennedy Space Center, work-

Five Americans, two Russians run through rehearsal

DISCOVERY

Five NASA astronauts and two Russian cosmonauts climbed aboard the Space Shuttle Atlantis at Kennedy Space Center's Launch Pad 39A Thursday and ran through a simulated countdown that will lead to their launch on STS-71, the first flight in which a shuttle will dock to the Russian Space Station Mir.

Commander "Hoot" Gibson, Pilot Charlie Precourt, Mission Specialists

Ellen Baker, Greg Harbaugh and Bonnie Dunbar, and the Mir 19 crew, Commander Anatoly Solovyev and Flight Engineer Nikolai Budarin, spent three days at KSC, scheduled to launch June 22. The exact launch date will be set at a flight readiness review by NASA managers on June 2, and will be dependent on the

progress of the work being conducted on Mir by cosmonauts Vladimir Dezhurov, Gennadiy Strekalov and U.S. astronaut Norm Thagard to reconfigure the space station in advance of Atlantis' arrival.

Solovyev and Budarin will replace Dezhurov, Strekalov and Thagard aboard Mir after Atlantis' docking. The three current cosmonauts aboard the station will return home aboard Atlantis, leaving Solovyev and Budarin to continue their flight, which is expected to last until late August. Solovyev and Budarin

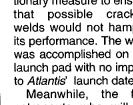
returned to JSC on May 15 for the final weeks of shuttle training leading up to launch. The training has concentrated on launch and landing procedures and specific roles they will play during the final phase of Atlantis' approach to the Mir.

Technicians at KSC removed and replaced a high-pressure fuel turbopump from one of Atlantis' three main engines this week as a precau-

tionary measure to ensure that possible cracked welds would not hamper its performance. The work was accomplished on the launch pad with no impact to Atlantis' launch date.

Meanwhile, the five astronauts who will be launched June 8 on the 100th U.S. human space light aboard Discovery continue preparations for

the start of the STS-70 mission. Commander Tom Henricks, Pilot Kevin Kregel and Mission Specialists Don Thomas, Nancy Currie and Mary Ellen Weber will fly to KSC on June 5, as their countdown begins for liftoff at 8:26 a.m. CDT June 8 on an eight-day mission to deploy the sixth Tracking and Data Relay Satellite for NASA's global communications network and to conduct a variety of secondary experiments. If it launches June 8. Discovery would



ers carry out the meticulous process of lifting *Discover* agency must maintain their focus to its external tank and solid rocket boosters prior to the STS-70 Please see DETAILS, Page 4 shuttle's rollout to the launch pad earlier this month.

Spektr launches on time; crew ready for new science module

Three space walks are done and two remain to ready the Russian Space Station Mir for the arrival of a new science module, and the shuttle Atlantis.

Working more efficiently than on the two previous excursions outside the orbital laboratory, cosmonauts Vladimir Dezhurov and Gennady Strekalov completed reinstallation of one solar array and partially retracted another in a 5 hour, 15 minute space walk with assistance from their fellow crew member astronaut Norman Thagard working inside the station.

The space walk began on schedule Sunday and ended shortly after midnight Monday. The unscheduled space walk was inserted in the crew's timeline to complete work not finished on previous space walks.

Throughout all space walks, Thagard's role is to relay information to his crewmates from the ground and provide them with instructions while out of radio contact.



The first task for the crew was to install a solar array on the Kvant module that had been moved from the Kristall module during a space walk. With time running short, the crew secured the array near its new

location and waited until the third space walk to install it, attach the proper cables and await Thagard's computer commands to deploy the electricity-generating solar panel at its new location. Once deployment was initiated, Dezhurov and Strekalov moved back to the Kristall module to assist with the retraction of its other solar array.

THAGARD

The partial retraction will allow additional power generation while ensuring proper clearances next week when, using a small mechanical arm, the Kristall module is moved

to its new location to await the arrival of the Spektr science module. A Progress resupply vessel was undocked Please see SPEKTR, Page 4



return to KSC for a landing on June 16 at about 6:30 a.m. CDT.

New directory lists every E-mail user

Need to E-mail someone at Marshall or another NASA center? Now employees have access to Email addresses for all NASA centers.

Responding to NASA Administrator Daniel S. Goldin's request to be able to send electronic mail to any NASA employee by knowing just the employee's name and NASA center, all NASA centers have implemented an on-line electronic mail directory called the X.500 directory.

Like an electronic phone book, X.500 provides a way to find electronic-mail addresses for NASA employees. X.500 can also prevent lost mail when an employee's Email system or post office changes. Anyone at JSC with E-mail can use the X.500 directory. JSC's directory Please see X.500, Page 4 Today

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.

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

- Loving Feelings Concert: 7 p.m. Sept. 30 at the Summit. Tickets cost \$32.50. Schlitterbahn: Tickets cost \$17.80 for adults and \$15.30 for children 3-11.
- Seaworld: Tickets cost \$23.50 for adults and \$16.25 for children 3 -11. Astroworld: Early bird tickets must be purchased by May 31. Cost is \$14.70.

Splashtown: Tickets cost \$11.05.

Six Flags: Tickets cost \$23.70 for a one day pass, \$31.75 for two day pass and \$20.30 supersaver not valid on weekends in June July and August.

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

- Moody Gardens: Discount tickets for two of three different attractions: \$9.50 Space Center Houston: Discount tickets, adult, \$8.75; child (3-11), \$7.10. Metro tickets: Passes, books and single tickets available.
- Movie discounts: General Cinema, \$4.75; AMC Theater, \$4; Sony Loew's Theater, \$4.75.
- Stamps: Book of 20, \$6.40.

Page 2

JSC

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

Upcoming events: Country and Western Dance July 29 at the Gilruth. Tickets cost \$12. Ringling Bros Circus July 22 at the Summit.

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 7 a.m.-9 p.m. Monday-Friday; and 8 a.m.-4 p.m. Saturdays. Dependents must be between 16 and 23 years old.

Weight safety: Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. June 14 and June 29. 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 10. Cost is \$19.

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

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

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

Sailing class: NASA Sailing Club will hold classes from 9 a.m.-noon Saturdays from May-June. For more information call Richard Hoover at 996-7716.

Intercenter run T-shirts: Employees who paid their \$2 for T-shirts may pick them up at the Gilruth.

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.

JSC

wap Shop

Property

Rent: Condo, Seawall, ocean front, 1BR, furnished, wkly/monthly, 24 hr security, heated pool. x30737

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

Rent: Winter Park, Colorado, 2-2, furnished, sleeps 6. Lil, 488-4453.

Sale: 3 acres off 517 near Alvin, mobile okay, \$9k/obo. 409-925-2421.

Rent: Bayglenn, 2010 sq ft, 3-2.5-2, study/ gameroom, formals, family room, hardwood entry, large play yard, water softener, \$1,250 + dep. 280-9722

Sale/Lease: Dove Meadows, Dickinson/League City, 4/3-2-2, large backyard, \$86k. 337-1470. Rent: 1-1-1CP condo off El dorado, W/D,

kitchen appliances, upstairs, w/private entrance, balcony, immediate occupancy, \$390/mo + \$300 dep, ref required. Richard, x31488 or 286-6915.

Rent: Condo on Clear Lake, 2-1-1CP, marina, 24 hr security, \$650/mo incl utilities. x30246 or 480-5583

Sale: Baywind II, 2-2.5, 2-story, W/D, refrig w/ice maker, FPL, corner unit, \$43,950. Charli, 488-1802 or Sue, 339-3464.

daily, \$25k. Bill, x48665 or 332-3044. '91 Honda CRX Si, 45k mi, w/full bra, ex cond, \$6.5k Steve or Denisa, 431-1078.

'91 Mazda Navajo, white, pwr windows/locks, security system, 5 spd, 4 WD, sunroof, 55k mi, Sharoni, 474-9155. '88 Ford Mustang LX, It grey/It grey, 5 spd, 4 cyl, pwr windows/locks, 60k mi, good cond, \$3.5k.

333-9577 '90 Pontiac Grand Am, 2 dr, std, A/C, cassette

stereo, good student/work car, \$2k. x38835 or 482-5531 '90 Nissan Pathfinder XE, 4 dr, 4 WD, V6, auto,

AM/FM/cass, alarm, ex cond, \$13.5k/firm. 997-1905

'80 Corvette, white/silver, red leather, T-tops, AM/FM/cass, pwr windows, A/C, 75k mi, make offer. 992-9081.

'92 Ford Explorer, emerald green, ex cond, garaged, low miles, \$15.8k. 280-8155.

'88 Oldsmobile Delta 88 Royale, dark grey, power, 85k mi, ex cond, \$3.3k/obo, x47959.

Travel trailer, 25' Avion, good cond, \$2,850. '79-'85 Mazda RX7 BBS rims w/tires, set of 4, 195/60 HR 14, \$275/firm. Jack, x45061 or 996-

'63 Jaguar XKE Roadster, needs paint, driven 997-2280.

Audiovisual & Computers

Citizen printer, "CSX-140" w/GSX color option, \$199. Magdi Yassa, 333-4760 or 486-0788. 286 computer, 1 MB RAM, 40 MB HD, 5.24 FD,

monitor, keyboard, \$175. 996-5739. Panasonic Omnivision 4 head VHS VCR mode, PV4303, w/remote & manuals, \$135. 333-7495 or

482-9116 Excel 3.0 software for Mac, complete kit, \$20; Image Assistant software for Mac, color image editing, new \$400 sell \$20. 486-8716.

TT systems caller ID, displays telephone number/time/date, \$30. 771-0955.

Sony video Walkman, 8mm VCR w/play & record, includes 4" color TV built-in, battery & charger, \$00. 488-4382.

Mitsubishi CX-4 VHS-C Camcorder w/extra access, \$425; NES w/3 games, \$85; HP41CV w/math PAC, \$50. 334-3941.

DX 80386-33 w/387, 420 MB HD, 1.44 MB HD, 10 MB RAM, 24 bit 1MB SVGA card, 14" NEC II multisync SVGA monitor, 3 button mouse, \$650 obo; EGA monitor & Super EGA card, \$60. Terry, x36351.

GF cou dual-wave noise nhone number memory, charge indicator light, redial, on/off ringer switch, desk/wall mountable, \$50. x30859.

Dates & Data

Cartoon exhibit: The Fine Toon Cartoon Art Gallery will host "Peanuts: The Space Station" exhibit from May 26-June 14. For more information call 522-6499.

Cafeteria menu: Special: baked chicken. Total Health: roast beef au jus. Entrees: deviled crab, baked chicken, beef cannelloni, steamed pollock, Reuben sandwich. Soup: seafood gumbo. Vegetables: seasoned carrots, peas, breaded okra, steamed cauliflower.

Monday

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

Tuesday

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

Wednesday

Astronomy seminar: The JSC Astronomy Seminar will meet at noon May 31 in Bldg. 31, Rm. 129. Paul Maley will discuss "Solar Eclipse in the Amazon." For more information, call AI Jackson at 333-7679.

Toastmasters meet: The Spaceland Toastmasters will meet at 7 a.m. May 31 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Elaine Trainor, x31034.

Cycle club: The Space City Cycle Club will meet for a 25-mile ride beginning at 6 p.m. May 31 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: Mexican dinner. Total Health: ground turkey tacos. Entrees: beef cannelloni, turkey tacos, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: peas and carrots, ranch beans, mustard greens, Spanish rice.

Thursday

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

ABWA meet: The Clear Lake Area Chapter of the American Business Women's Association will meet at 5:30 p.m. June 2 at Space Center Houston's Silver Moon Cafe. For more information call Nancy Hutchins at x34006.

Cafeteria menu: Special: baked meatloaf. Total Health: baked potato. Entrees: chicken fajitias, ham steak, pork and beef eggrolls, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: stewed tomatoes. seasoned spinach, cut corn, macaroni and cheese.

June 7

996-0152.

Astronomy seminar: The JSC Astronomy Seminar will meet at noon June 7 in Bldg. 31, Rm. 129. A open discussion meeting is planned. For additional information, call AI Jackson at 333-7679.

Toastmasters meet: The Spaceland Toastmasters will meet at 7 a.m. June 7 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Elaine Trainor, x31034.

Cycle club: The Space City Cycle Club will meet for a 25-mile ride beginning at 6 p.m. June 7 at the University of Houston Clear Lake soccer field. For more information on this ride and weekend rides call Mike Prendergast at x45164.

May 26, 1995

June 8

SSQ meets: The Society for Software Quality Houston Chapter will meet at 5:30 p.m. June 8 at the Ramada Kings Inn, Ballroom at 1301 NASA Road 1. Robert Pelle will discuss "People Management Maturity- Keys to Motivating Productivity." Advanced tickets cost \$10 for members and \$14 for nonmembers. For reservations or information call Dot Cimarron at 335-5888 or Leon Swartz at 282-8136.

Airplane club meets: The MSC Radio Control Airplane Club will meet at 7:30 p.m. June 8 at the Clear Lake Park Community Bldg. For additional information call Bill Langdoc at x35970.

June 14

SSFF meets: The Space Station Future Fighters will hold a joint meeting with the National Space Society at noon June 14 at the Freeman Memorial Library at 16602 Diana. Individuals interest in either organization are encouraged to attend. For information call David Cochran at 335-0185

PSI meets: The Clear Lake/NASA Area Chapter of Professional Secretaries International meets at 5:30 p.m. June 14 at the Holiday Inn on NASA Road. For additional information, contact Elaine Kemp x30556.

MAES meets: The Society of Mexican American Engineers and Scientists will meet at 11:30 a.m. June 14 in the executive dining room in the Bldg. 3 cafeteria. For more information call Michael Ruiz at x38169.

Queen size bed w/Sealy Posturepedic mattress, hdbd, matching chest of drawers & dresser/mirror, \$500; medium sofa bed & recliner rocker, \$200 or \$650/all. Beverly, 481-1530. Jenny Lind crib & changing table, good cond,

- \$50 ea. Karen, 946-5339. Jenny Lind baby bed, \$50; Serta twin box
- springs, \$25; baby strollers. Rob, x38245. Microwave oven. Sears Kenmore, temp probe, defrost, ex cond, \$70. 488-4382.

Queen size sleeper sofa w/matching Ottoman, beige/purple, \$600; large peach color sofa, good shape, \$200. Roger, x41166 or 326-2147.

Bassett queen size solid pine four poster bed, new \$700 sell \$400. Vanessa, 282- 4563.

RCA color TV, solid wood console, 27", stereo sound, new \$950 sell \$650. 244-7129.

Hand-made solid walnut stereo cabinet w/drawer & adj shelf, 48"Hx20"Wx17.75", \$120; 2 shelf TV stand on rollers, 19"Hx28"Wx5.5", \$25. x35447 or 474-3255

Large blue leather couch, ex cond. 326-2307. Coffee table, oval, ball-in-claw curved leg, mahogany w/in-lay banding, ex cond, \$250; ginger jar style lamps, 2, white/peach w/shades, ex cond. 50 ea. x34656 or 480-7127

996-0152.

Hvy duty 5" vise, \$70; 1"SS ball valve & 1" brass gate valve, \$25/ea; circuit breaker box w/breakers, \$30; '66 - '78, repair manuals, \$8/ea; auto transformer 0-140 VAC 10 amps, \$50; Icom speaker/ mike #1C-HM9, \$35; Icom w/T 2 AT, \$50; electric motors .75 hp - 1 hp 115 Vac, 3 Phase squirrel cage blower fans, 3 spd, \$50 & \$70. 921-7212.

'93 Troy built tiller, 8 hp Tucumseh, rear tines, '93 10 hp Troy built mulcher/shredder, ex cond. Fran. 333-6277 or 339-3562.

Southwest Airlines Friends Fly Free partner to travel to Dallas on weekends. Matt, x47014 or 486-7417.

Concert tickets, 2, Anita Baker, Barry White & Maze at Superdome, New Orleans, July 3rd, \$90/both. Carolyn, x35562 or 286-9305.

Complete 6' sliding glass door, \$50; 2-32" interior doors, \$10 ea; 2-255-R-15 tires, low mi, \$15 ea. 332-2453. Wedding gown Ivory, beaded, long train, sz

Large dogloo, doghouse, \$40. 333-7495 or

Patio furniture, loveseat glider & 2 chairs,

11/12. \$600. x35338.

482-9116

Lease: waterview condo, 2-2-2, parking for boat, private boat launch, W/D, FPL, microwave, fans, security gate, avail 6/1, \$650. x35268 or 326-4915

Sale: Canyon Lake, Village West, elevated, 3-2, .25 acre, satellite, gazebo, waterfall, \$130k. 210-899-3447

Sale: Webster condo, 2-2-2CP, FPL, ceiling fans, mini blinds, new dishwasher, refrig, W/D conn, \$39k. x47513 or 280-0285.

Lease: Clear Lake Shores, 2-1CP, study, W/D conn, \$750/mo. 538-1849.

Cars & Trucks

'90 Dodge custom van, built-ins, ice, chest, TV, oak accents, loaded, low mileage, extended warranty, \$12k. Diane, 244- 7129.

'84 Mazda RX-7 Turbo, 103k mi, runs great, extras. \$5.7k. Jason, x37253 or 326-5612.

'88 Mazda 626 LX, loaded, moonroof, 5 spd, white ext, burgundy int, ex cond, well maintained, \$6k. Jeff, 335-2637 or 286-6785.

'83 Subaru GI wagon, AM/FM/cass, pwr, cruise, ex int, runs good, new battery/tires. \$900 obo. 334-4313.

'85 Olds Calais, 5 spd, A/C, 4 cylinder, 146k mi, 991-0821

'68 Mustang, 2 dr HT, good mech cond, AT, PS, needs body & interior work, \$2,850 obo, Scott, 282-5455 or 554-2206

'90 Toyota Tercel, red, 2 dr, sedan, 5 spd, AM/ FM/cass, A/C, 65k mi, \$4.8k. 538-6012.

'89 Dodge Aries, 2 dr, P/S, P/B, radio, A/C, 49k mi, red w/red interior, ex cond, \$2.8k, 337-2466.

'87 Ford Tempo, auto, runs & looks good, 4WD option, \$2k obo. x45926.

5815.

Cvcles

'72 Honda CB750, 27k mi, new tires/chain, new sprockets, helmets, shop manual, extras. Eddie or Susan, 534-3649.

'86 Kawasaki Ninja 1000 R, 17k mi, red/black. ex cond, new rear tire, chain/sprocket, \$3.3k. x37363.

'92 Yamaha 4 W/D, shaft drive-for 12 yrs & older, \$1.5k. x39138 or 474-5260.

Boats & Planes

'91 Yamaha Wave Runner, galvanized trailer & cover, \$2.7k; Sunfish sailboat complete, \$450; electric trolling motor, \$15, 332-2453.

Laser 2 sailboat w/trailer, spinnaker rigged, trap, vests, \$1.1k obo. x41095 or 486-8185.

'88 Invader, 210 cuddy cabin, I/O 200Hp Merc, galvanized trailer, loaded great condition. 997-6141.

Sailboat, 14', 2-man, fiberolass, red/white, aluminum mast, no trailer, good condition, \$350. x39138 or 474-5260.

Surfboards, 8' Postmodern, \$300; 6' Meeks, \$100: 6'7" G&S, \$30, 334-3941.

Mercrusier marine engine, 302 cu in V8, 188 Hp, complete w/manifolds, ex cond, \$800. 474-4893.

Galaxy 19' I/O cuddy cabin, portholes, bow sprit, Mercruiser drive, 305 cu in V8, 198 Hp, Tandem trailer, ex cond, \$4,950, 474-4893. O'Brien Elite windsurfer, beginner/intermediate board, everything included, \$375. Brian, 326-5626.

Boat trailer for 14' V-bottom or John boat, \$95.

HP41-CV calculator w/math module, best offer; Myst CD ROM game for Macintosh computers, strategy guide, obo. Ron, x48200.

Macintosh LCII w/stylewriter printer, Word, Excel, & computer stand, \$1,250. Bob, 333-3703, x118

Musical Instruments

Violin, Lewis brand, student sized .75 w/case, ex cond, \$375. x34656 or 480-7127,

Pets & Livestock

AKC registered miniature Dachshund, 3 male/3 female, 6 wks, \$250/male, \$300/female. x39138 or 474-5260.

Free to good home, large Alaskan Malamute. Elileen, 474-7347.

Goat triplets, mixed, Nubia/Pygmy/Spanish cross, born 4/5, \$50, x30514 or 339-2129.

Personal

My family and I send our heartfelt thanks to our NASA community for all of the donation/pravers we received when our house burned down. You have made a very difficult experience a lot easier. Amber J. Bender.

Household

Super twin size waterbed w/heater, solid wood frame w/bookcase, 12 drawers, \$60. Chuck, 532-3503

Ivory man made leather sofa/loveseat, \$650.

King size oak waterbed w/semi motionless mattress, 6 drawers, headboard w/mirror & shelves, \$250 obo. 280-0285.

Wanted

Want personnel to join VPSI Vanpool departing Meyerland Park & Ride lot at 7:05 a.m. for JSC, on-site personnel working the 8 a.m. - 4:30 p.m. shift, Travis Moebes, x45765 or Don Pipkins, x35346.

Want personnel to join vanpool, departing Southwest parking lot at 6:50 a.m. for JSC & offsite locations, 7:30 - 4:00 p.m. shift. Susan Gaynor, 282-5447 or Ed, x36124.

Want clean, safe garage apt or private living area, CL area, have sm dog, no furn needed. Becki, 944-3523.

Want carpooler from Garden Villas/Hobby airport area. 641-4941.

Want small animal cages. Bill, 483-5520 or Cindy, 282-4122.

Want roommate, 4-2-2, W/D, Oakbrook West, \$310/mo. Paul. x36172 or 286-0822.

Want carpooler from I-10 west, 290 north area to Clear Lake area, working hours between 7 a.m. to 4 p.m. Racquel, x34167 or Bob, x35207.

Miscellaneous

Sonv Home stereo CD player, dual cass, surround sound, \$600; cast iron wt set, 220 lbs, \$100; Stairmaster, \$75. Eddie Pompa, x38813 or 489-7778.

President & First Lady membership, monthly dues, \$6.5, paid thru 4/96, \$600 obo. Leigh, 246-3193.

Evenflo Ultra 3 position recliner car seat, \$80.

refurbished obo. x47665 or 471-2934.

w/cushions, \$100. 282-3215 or 480-9448.

Roley GMT master recent

LL Bean sleeping bag, tall mummy, new \$120 sell \$40; Coleman gas lantern w/carry case, \$15; Coleman gas stove, 2-burner, \$10. 480-2646.

Newly rebuilt 350 auto trans & hvy duty starter out of 350 diesel, drive shaft, 60 amp alt; 20' Sport net; PC parts, monitors, KB's. 337-1470.

'84 Olympic First day cover stamp set, ex cond, in org collector's case, \$75. 486-8716.

Chest of drawers, light finish, \$150; stereo cabinet. 42"x24"x20", light finish, \$40; computer & printer table, B/W, \$20. Roger, x41166 or 326-2147.

Day timers planner w/zipper notebook, full 8.5 x 11 size, desk paper punch, notebook paper punch, fillers thru 9/95, \$60. Eric, x31917.

Remington 700 BDL 30-06 rifle, Leupold Vari-x III scope, super sling, gun guard case, \$850; Yamaha FG-460 12 string guitar w/case, \$400; Super Graphic 4x5 camera, lenses, Access, 4x5 enlarger & full dark room setup. Kevin, 333-3703, x121 or 538-3141.

Lady's 18k gold diamond wedding set w/matching bands, 7 marquis cut diamonds, 1k total wt, appraised, \$3.5k sell \$2k/firm; lady's diamond anniversary band, 9 diamonds, 1k total, diamonds full cut, \$1k. 280-8894.

14k gold dia cut rope necklace, 1.5mm wide, 18" long, \$60; 14k dia cut rope bracelet, 2.5 mm wide, 7" long, \$50. Eric, x31917.

Air compressor, 3.5 hp, 120 psi, 20 gal, \$125; Craftsman 5 drawer tool box w/side cabinet, vice & hvy duty frame, \$150. 291-9654.

Vitamaster treadmill, \$125. 996-9690.

Free 3 Pyracanthia plants, you must dig up. Claire, 488-5307.

Page 3

Ascans Survive 1995 astronaut training

class learn land, water survival techniques

here's more to astronaut training than learning space shuttle systems and procedures, as the mission specialists in the 1995 astronaut candidate class learned recently in its parachute landing and survival techniques classes.

The 13 candidates took a break from the classroom to learn water and land survival techniques at Pensacola Naval Air Station in Florida and parachute landing techniques at Vance Air Force Base in Oklahoma.

Lessons ranged from how to make a tent out of a parachute and prepare beef jerky in the wild to how to keep from breaking an ankle during a parachute landing and how to right yourself when being dragged across the ground by a parachute on a windy day.

The Ascans were joined by flight surgeons who must stay certified in survival training and by student naval aviators to round out the classes.

Top to bottom left to right:

1) From left, Kay Hire, Jim Reilly, Carlos Noriega, Janet Kavandi and a student naval aviator learn how to turn a parachute into a tent at Pensacola Naval Air Station in Elorida

2) Hire learns to construct a fishing net with parachute line.

3) Dave Williams of the Canadian Space Agency tries his hand at water survival spending more than an hour in the water learning to remove the parachute, inflate a raft and signal rescue aircraft.

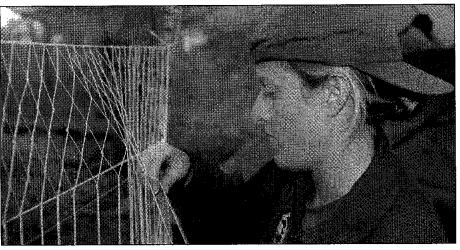
4) Williams, Ed Lu and Takao Doi of the National Space Development Agency of Japan learn the fundamentals of survival eating in the wilderness.

5) The candidates are taken offshore and dropped more than 300 feet to learn how to survive should they have to bail out of an aircraft or spacecraft over the water.

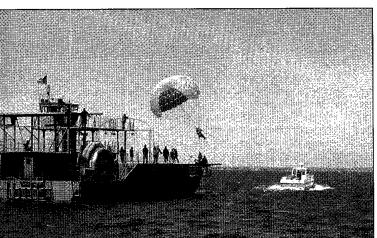
6) Ed Lu gets buckled into the ejection seat trainer at Vance Air Force Base in Oklahoma.

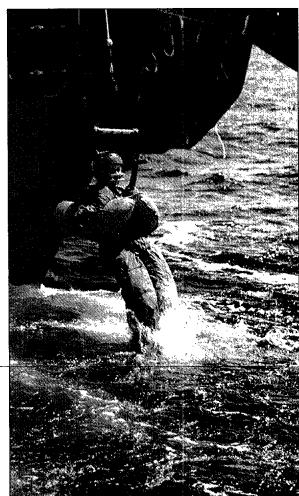
7) Learning how to roll in order to release the parachute in high winds.

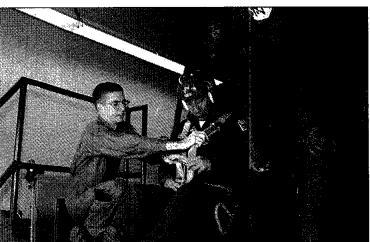
8) Doi, a student naval aviator, Flight Surgeon Joe Ortega, Noriega, Williams, Lu, Reilly, Hire, Flight Surgeon Tom Marshburn, Steve Robinson, Chretien, Kalpana Chawla, Michel Tognini of the French Space Agency and a student naval aviator gather materials to burn in order to signal rescue aircraft.



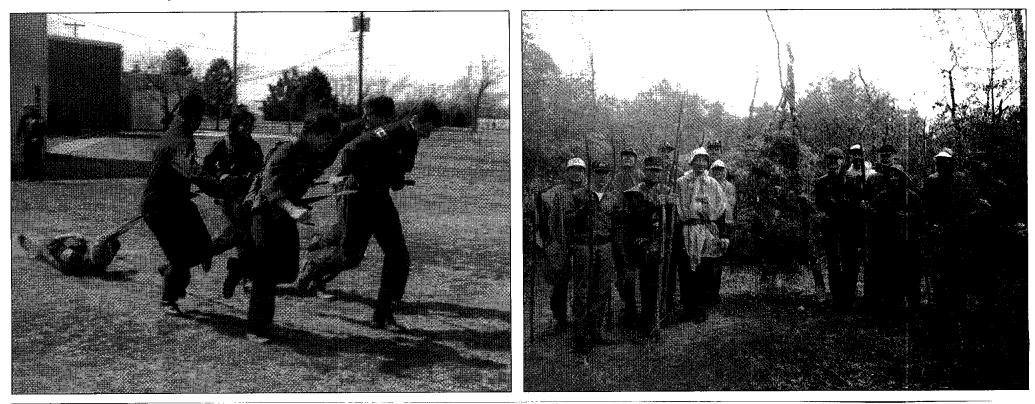








JSC Photos by Jack Jacob



Hubble probes double stars

Peering into the heart of two recently exploded double-star systems, NASA's Hubble Space Telescope has surprised researchers by finding that the white dwarf stars at the heart of the fireworks are cooler and spin more slowly than expected.

"This calls for revision of theory," said Prof. Edward Sion of Villanova University. "Though these extremely faint explosive white dwarfs have been known about for 30 years, Hubble allows astronomers to observe them directly for the first time and provide observational evidence to test theories."

Each dwarf—incredibly dense, burned-out stars that have collapsed to the size of Earth—is in a compact binary system, called a cataclysmic variable, where its companion is a normal star similar to but smaller than the Sun. The stars orbit each other in less than three hours and are so close together the entire binary system would fit inside Earth's Sun. This allows gas to flow from the normal star onto the dwarf where it swirls into a pancake-shaped disk.

Sion and co-investigators studied the two best known cataclysmic variables, VW Hydri, and U Geminorum. Hubble was used to make spectroscopic observations of the dwarf novae just days after their eruption, before another gas disk formed and obscured direct observation of the white dwarf. The biggest surprise is that the spin rates of the white dwarf stars, as measured by Hubble (slightly less than four minutes for U Geminorum, and once a minute for VW Hydri) are so slow there should be violent collisions where the gas disk crashes onto the slower moving white dwarf surface.

Since the predicted x-rays from the hot (several hundred thousand to a million degrees Celsius, or greater) colliding gas has never been observed, astronomers thought that the white dwarf was spinning as fast as the disk, so that contact between the disk and surface was less violent. However, the Hubble results contradict this conclusion.

This illustration is of a of double star called a cataclysmic variable. The system consists of a white dwarf star—a dense, burned-out star that has collapsed and a companion that is a normal star, similar to but smaller than the Sun. The stars are so close together gas flows from the normal star onto the dwarf where it swirls into a pancake-shaped disk.

Gulf Coast civil servants honor JSC workers

Six JSC employees were recognized by the Federal Executive Board and the Federal Business Association during a banquet recently held at the Gilruth Center.

The employees were recognized for their accomplishments and performance at work and in the community through volunteer activities.

Employees from many local federal agencies were nominated and all received a certificate of appreciation.

The six employees nominated for the FBA awards were Joseph Atkinson of the Office of Public Affairs for the length of service category; Paula Fyffe of the Procurement Management Office for the administration category; Santiago Cruz of the Manufacturing, Materials and Process Technology Division for the crafts category; Sharyl Butler of the Avionic Systems Division for the professional/scientific category; Tommy Holloway of the Space Shuttle Program Integration Office for the supervisory category and Cynthia Koch of the Information Services Division was nominated for two categories including clerical/service and outstanding employee.

Koch was chosen over all other gulf coast federal agencies as the winner of the clerical/service award.

Hurricane video to air next week

The Emergency Preparedness Office is sponsoring a hurricane preparedness workshop and will broadcast videos in conjunction with the opening of hurricane season which begins Thursday.

A hurricane workshop is scheduled from 10 a.m.-noon next Friday in Teague Auditorium. The program will include guest speakers from the broadcast media and the National Weather Service, information on JSC's program and on personal disaster survival plans.

All next week, a hurricane preparedness videotape will be broadcast at 9 a.m. on Channel 12 on the (Continued from page 1) st ness decisions made by contractors. N.

"I am committing to you today, we will do everything we can to avoid a RIF (reduction in force)," Gotdin told employees. "But you can help us. You may get an offer to move to another center. I encourage you to embrace it. Be receptive, your support will be a tremendous help to all the NASA employees."

The review team proposals will be assessed through the summer months and then become part of the agency's fiscal year 1997 budget, due to be submitted to the Office of Management and Budget later this year. Goldin began the review last September following guidelines issued by the National Performance Review, a government-wide effort headed by Vice President Al Gore to streamline executive agencies. The NASA study intensified in January in order to meet the President's reduction targets. The guidelines recommended are: · Each field center will have a primary mission to reflect its role in a strategic enterprise as defined in NASA's strategic plan;

• Full program costs, including overhead, will be identified and managed more effectively;

• Only civil servants, Jet Propulsion Laboratory employees, and employees of the new institutes will perform in-house science, research and engineering;

 Aerospace operations, including the space shuttle, will be performed by NASA contractors:

 Outsourcing and commercial services will be maximized; and

• Agency activities and operations will be standardized as much as possible and commercially available products will be used as appropriate.

"The zero-base review is something you can be very proud of," Goldin said. "Change is unsettling. It is not easy for anybody, but we have got to

FEGLI open season to offer living benefit

The Federal Employees' Group Life Insurance Program is offering a "living benefit" program to employees not previously enrolled during a limited open season that began Monday and runs through July 21.

"The "living benefit" is a FEGLI policy provision that allows payment of the basic insurance amount to a terminally ill employee or retiree prior to death," said Harvey Hartman, director of Human Resources. "The benefit allows for payment of part or all of the basic insurance amount before death if life expectancy is 9 months or less. The living benefit can be a financial lifeline for employees and their families who incur

The Federal Employees' Group medical or personal care expenses that might diminish their life savings."

> Although this benefit will be available to all FEGLI enrollees, this open season is limited to current employees who are not enrolled in FEGLI. Employees may elect basic insurance only—not optional insurance. A physical exam is not required.

> To enroll, employees must submit a Form 2817, Life Insurance Election, and return it to Employee Services by the end of the open season. Coverage will be effective on the first day of the pay period after receipt of the form. Forms are available in Bldg. 45 Rm. 140. For details call x32681.

TSP open season under way

Open season for enrolling in the Thrift Savings Plan is now under way 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 Employee Services.

FERS employees not making contributions, may still elect to invest all or any portion of their agency automatic contributions in any of the investment funds.

Current investors do not have to wait for open season to move funds between the different fund types. Funds may be moved up to four times per year. To move funds mail a TSP-30 form to the Thrift Board or call the TSP Inquiry Line directly at 504-255-8787. To make a change, callers will need their personal identification number listed on their TSP account statement

For more information, visit Employee Services in Bldg. 45, Rm. 140, or call x32681.

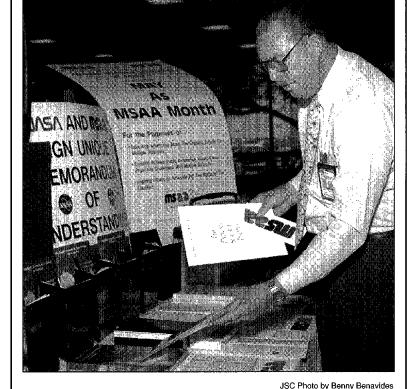
X.500 provides addresses

(Continued from page 1) contains E-mail addresses for onsite personnel.

Like a postal address change after a residence move, X.500 can prevent lost E-mail after users change E-mail systems. All a user needs to do is inform the ISD Help Desk.

X.500 uses a simple, common mail-address or "alias" to identify Email users. Common mail-addresses provide three important benefits. Third, after an E-mail system or post office change, a user needs to do only one address-change notification to the ISD Help Desk instead of many notifications to all of the user's regular E-mail correspondents.

Common mail addresses also have a pitfall. If they are used to send mail to users on the same system, increased network traffic could potentially delay delivery. So when sending E-mail to receivers on the same E-mail system, it's best to use the typical mailing address of that system. For details on using X.500 call the ISD Help Desk at x34800.



COOL SUIT—Coy Martin of the Product and Test Operations

Assurance Branch checks out information on display last week in

the Bldg. 11 cafeteria on how the Multiple Scleriosis Association of

Proposals get summer review

America is using NASA-developed cool suits to help MS patients.

JSC Television Distribution System.

For more information on these events or other emergency preparedness plans, call Bob Gaffney at x34249. refocus ourselves now. We have got to focus on the job at hand. We need to work together to do NASA's extraordinary mission. To expand the frontiers of knowledge in air and space." First, a sender does not need to know the special naming conventions of the receiver's E-mail system. Second, the common mailaddress does not change often.

Spektr to dock Saturday

(Continued from page 1) and discarded Monday evening to make room for the Kristall.

Spektr was launched last Friday at 10:32 p.m. CDT from the Baikonur Cosmodrome in Kazakhstan. Two orbital correction burns occurred as scheduled Saturday evening to fine tune the module's orbit as it spends 10 days slowly phasing toward Mir. Docking at 8:04 p.m. Wednesday will air live on NASA Television.

Spektr is the newest science module built for the Mir complex. Weighing 19.5 metric tons, it is designed to study the Earth's natural resources, the upper layers of the atmosphere and the space surrounding Mir.

It will be used for biomedical experimentation throughout the Mir/ shuttle program and beyond. Spektr

also will provide fuel, consumables and additional electrical power to the station with four solar panels.

Communications between the Mission Control Center in Kaliningrad and the Mir-18 crew will now focus on procedures and timelines for the remaining two space walks. Each is to last less than an hour as the cosmonauts move a passive docking target for the various module movements prior to and just after Spektr arrival. Kristall, Kvant-2 and Spektr will be temporarily shut down so the docking module on that end can be used as an airlock.

The crew will spend the next few days disconnecting cables from the core module into the docking chamber to allow the hatch to be closed for the fourth and fifth space walks.



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Editor	Kelly Humphries
Associate Editor	Karen Schmidt

Details in June budget marks

(Continued from page 1) on the work before them and on paying close attention to detail.

According to the zero-base review, by the year 2000 JSC will be operating with about 500 fewer civil service workers and about 2,750 fewer contractors.

"I am hopeful that we will be able to handle the downsizing in the civil service through attrition. While no one can predict when someone will retire, it is possible to reach these numbers through this process," Huntoon said.

Huntoon said she expects the reductions to show up for the first time in the June budget marks from Headquarters.

"We have to wait and see ... how Headquarters has balanced the agency's budgets for the next five years. Then we will know more and I can talk with you more on how we will spread these cuts," Huntoon said.

The establishment of a life sciences institute is not intended to immediately reduce costs, but will join NASA, industry and academia in a partnership that takes advantages of the unique facilities and resources each has to offer.

"Our role at JSC has not changed," Huntoon said. "I will hold this workforce up against any in the world. We have to make sure we keep the best and the brightest here at JSC. I want to keep the excitement of the space program alive and keep the best coming to JSC."