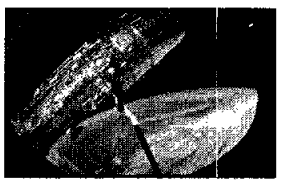
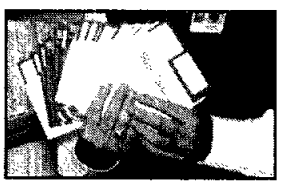
NASA
National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
Houston, Texas



Hubble visitors

NASA recently selected three veteran astronauts, completing the crew to revisit the Hubble Space Telescope. Story on Page 4.



Disk beats paper

The Personnel Management Information System joins the computer age as more than 10 years of data is put on disks. Story on Page 4.

Space News Roundup

Vol. 31 **December 11, 1992** No. 47

Galileo speeds by Earth

In not much more than the blink of an eye, the Galileo spacecraft whizzed by Earth a second time Tuesday morning for a last look at home before speeding on toward Jupiter.

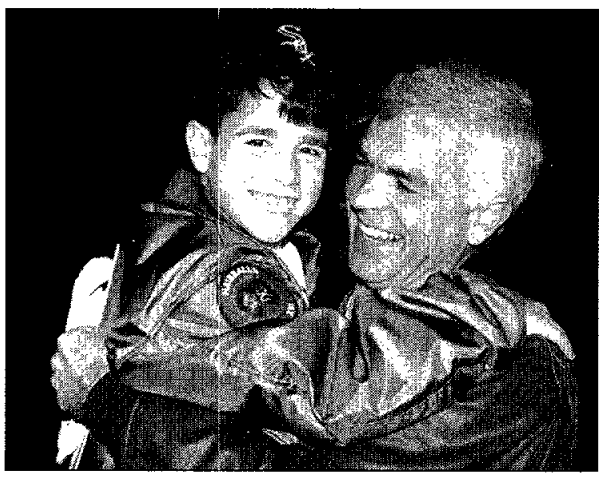
Galileo passed within 165 nautical miles of the South Atlantic Ocean at about 9:09 a.m. Central. Eight minutes later as it flew over Argentina, Galileo passed within 6,140 n.m. of *Discovery* at an altitude of 1,191 n.m. The orbiter was at an altitude of 175 n.m. at the time.

Galileo has been looping through the solar system since it was launched from the Space Shuttle *Atlantis* in October 1989. It first flew past Venus in February 1990, then Earth in December 1990 and the asteroid Gaspra in October 1991.

Each time Galileo passed a celestial body, it used the gravity of the planet or asteroid, to increase its speed. This, the third gravity-assist, added about 8,300 miles per hour to the spacecraft's speed in its solar orbit and changed its direction slightly so its elliptical orbit now will reach to the orbit of Jupiter, about 480 million miles from the sun.

The first orbiter and atmospheric probe for any of the outer planets, Galileo is expected to arrive at Jupiter in December 1995. It will be the first spacecraft to make direct measurements from an instrumented probe within Jupiter's atmosphere and the first to conduct long-term observations of the planet and its magnetosphere and satellites from orbit around Jupiter.

Pleases see **GALILEO**, Page 4



Above: *Discovery*'s drag chute fluttered to the ground in the soft California breezes as the orbiter rolled to a stop on Edward's Runway 22. Throughout the eight-day mission, *Discovery* performed without major system anomaly. Left: Crew members were greeted by family and friends when they returned to Ellington Field Wednesday night. Mission Specialist Michael "Rich" Clifford received a welcoming hug from his son Brandon.

JSC Photo by Bob Walck.

Discovery ends 15th mission in California

By Kari Fluegel

STS-53 came to a close Wednesday, but not until weather in Florida caused a last minute change of plans for *Discovery* and its five-member crew.

The orbiter glided to a stop on the concrete at Edwards Air Force Base at 2:45 p.m. Central. It was diverted landing at the Kennedy Space Center due to cloud cover moving onto the Florida coast.

Crew egress was delayed about two hours while technicians secured a reaction control system jet leak, but after astronauts departed the orbiter, *Discovery*'s crew headed home to Houston.

"It was a good mission," said STS-53 Commander Dave Walker during crew return ceremonies at Ellington Field. "I know for sure that we did something to contribute to the security of the country. I think we did something to advance the cause of science a little bit, and I know for real sure that we had a good time."

Walker also expressed his thanks to the teams, both on the ground and in the air, that contributed to the mission. Those sentiments were echoed by other crew members.

"The space shuttle is just one fantastic vehicle," said Pilot Bob Cabana. "We had a fantastic mission and it

Please see **STS-53**. Page 4

JSC reaches 100 percent of '92 CFC goal

Donating a total of $440,138, JSC employees boosted this year's Combined Federal Campaign grand total to 100 percent of the center's 1992 goal.

According to the final tally, 11 organizations gave more than 100 percent of their 1992 goals. The offices that topped their goals by the most were the Equal Opportunity Programs Office with $2,492 or 290 percent of its goal; the Office of the Director with $4351 or 181 percent of its goal; and the Human Resources Office with $9,949 or 168 percent of its goal.

Employees contributed about $27,00 more than they did in 1991, including 398 employees who gave one hour pay per month, 85 who gave two hours pay per month and 109 who gave over $600.

The Engineering Directorate contributed the largest dollar amount with the $110,895 or 107 percent of its goal. The Mission Operations Directorate gave the next largest amount totaling $85,912 or 118 percent of its goal.

The final figures also show that 2,626 civil service employees participated. The Office of the Director, the Equal Opportunity Program Office and the Legal Office reported 100 percent or more participation.

JSC employees at the White Sands Test Facility contributed $4,311 to the Sun Country CFC and had 81 percent participation.

Winners of the three pairs of airline tickets which were provided by Continental Airlines were Anne Modisette of the Information Systems Service Management Division, Anita Jenkerson of the Space Shuttle Program's Management Integration Office and Lucy Yates of the Administration Directorate's Engineering Procurement Branch.

The CFC officially closed Nov. 10, but contributions have continued to come in, said CFC Coordinator Teresa Sullivan. Anyone still wishing to make donations should contact the JSC Exchange Operations Office at x39168.

Gibson, Shriver named lead astronauts

By Barbara Schwartz

Robert L. "Hoot" Gibson and Loren J. Shriver recently were appointed chief and deputy chief, respectively, of JSC's Astronaut Office.

David C. Leestma named the two replacements for himself and former chief Dan Brandenstein less than a week after his own appointment to direct Flight Crew Operations.

"Many people are not aware of how complex the management functions of the Astronaut Office are," Leestma said. "The highly visible part of our jobs—mission assignments—seem to be the major part of the job. Actually, that is only part of what astronauts do. Between flight assignments astronauts rotate through technical jobs that interface with every other organization on site and often with NASA Headquarters and other centers."

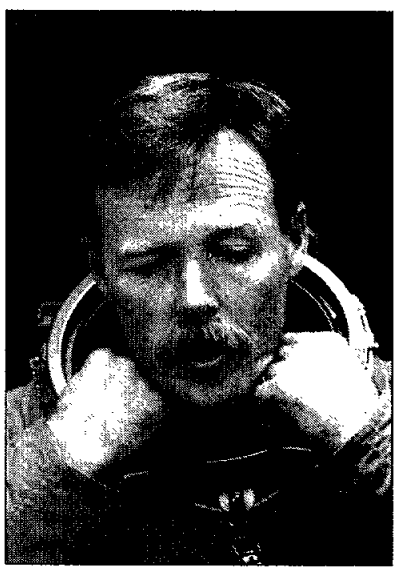
In addition to mission support assignments such as CAPCOM and launch and landing site duty, astronauts' technical assignments include assisting with flight rule development, following vehicle processing, tracking issues, working in the Shuttle Avionics Integration Laboratory, providing science support, addressing safety issues, assessing hardware performance and development, tracking payload development and integration, and monitoring crew equipment requirements.

Each astronaut participates in an active public appearances program and responds to news media interview requests.

Tracking essentially everything related to human space flight is what the chief and deputy chief jobs entail. They also make crew assignment recommendations for shuttle missions, oversee payload specialist activities and manage the paperwork required.

"Filling these positions was my top priority," Leestma said. "I chose Hoot and Loren because of their

Pleases see **ASTRONAUT**, Page 4



Robert L. "Hoot" Gibson

Loren J. Shriver

Garn's 'passionate support' served space program

Editor's Note: In special ceremonies Thursday, JSC dedicated the Jake Garn Simulator and Training Facility. Jeff Bingham, who served as Garn's administrative assistant from 1974 to 1990, provides a look at the man known in Congress for his support of NASA and who became known as simply "Jake Garn, PS-2."

By Jeff Bingham

On Sept. 9, near the end of the Senate debate on the bill containing NASA fiscal year 1993 appropriations, Sen. Barbara Mikulski, D-Md., chair of the VA-HUD-Independent Agency Subcommittee responsible for the bill, introduced a surprise amendment.

"This amendment renames the space shuttle simulator training facility at the Johnson Space Center after our distinguished ranking member, the senior senator from Utah," she said.

"The senior senator from Utah was not aware that I would take this action. He is not the kind of guy that wants a lot of fuss made over him. But I think we should make some fuss over him, because he has been an exemplary member of the U.S. Senate ... best known for his passionate support for the space program ..."

Mikulski's tribute to Jake was the first of many to follow over the next several weeks as the Senate wound up its business. A common thread running through those comments was Jake's unyielding commitment and support to the nation's space program.

Jake Garn has always been an avid supporter of the space program; a logical outgrowth of his life-long interest in aviation. His father, who was a World War I pilot, was the first director of aeronautics for the state of Utah, and Jake got his pilot's license on the morning of his 16th birthday, even before he got his driver's license. He has logged more than 10,000 hours of pilot time, in civilian and military aircraft, and is currently restoring a 1948 Navion single engine low-wing aircraft.

Among the committees Jake was first appointed to as a freshman senator in 1975 was the Senate Committee on Aeronautical and Space Sciences. It was then, in early 1975, that he first came to JSC and, in fact, first visited Bldg. 5. where he practiced docking the Apollo module simulator with the Soyuz, as Tom Stafford showed him the training procedures being used to prepare for that historic mission.

When the 1980 election gave the Republicans a majority in the Senate, Jake became chairman of the VA-HUD-IA subcommittee. For the next six years he was able to deal directly with and greatly influence the outcome for NASA funding.

During one of his first hearings as chairman in April of 1981, Jake was receiving testimony from acting NASA Administrator Alan Lovelace. It was just two days after the successful first flight of *Columbia*. He congratulated NASA and Lovelace on the success and indicated he had a very serious question.

"When do I go?" he asked.

A few weeks later, he had a visit from then-

Please see **GARN**, Page 3

JSC

Ticket Window

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

Children's Christmas Party (Dec. 19, 10 a.m. to noon, Gilruth Center) — Photos with Santa, entertainment and refreshments. Tickets on sale until Dec. 16, $4 for children and $1 for adults.

New Years Eve Dance (Dec. 31, 7 p.m. - 1 a.m., Gilruth Center) — Includes cold cut dinner and entertainment. Tickets $15 per person on sale until Dec. 29.

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

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

Metro tickets — Passes, books and single tickets available.

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

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

JSC

Gilruth Center News

Sign up policy — All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a badge or EAA membership card. Classes tend to fill up four weeks in advance. For more information, call x30304.

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

Defensive driving — Course is offered from 8 a.m.-5 p.m. Jan. 9. Cost is $19.

Weight Safety — Required course for employees wishing to use the Gilruth weight room is offered from 8-9:30 p.m. Dec. 15. Pre-registration is required; cost is $5.

Aerobics — High/low-impact classes meet from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is $32 for eight weeks.

Exercise — Low-impact class meets from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is $24.

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

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

Country and western dance — Beginning class will meet from 7-8:30 p.m. Mondays beginning Jan. 4. Intermediate classes will meet from 8:30-10 p.m. Mondays. Cost is $20 per couple.

Men's and Mixed Soccer League — League registration will be at 7 a.m. Dec. 16 at the Gilruth.

Fitness program — Health Related Fitness Program includes medical examination screening, 12-week individually prescribed exercise program. Call Larry Weir, x30301.

JSC

Dates & Data

Today

Cafeteria menu — Special: barbecue link. Entrees: deviled crabs, broiled codfish, liver and onions. Soup: seafood gumbo. Vegetables: buttered corn, green beans, new potatoes.

Monday

Lunch and learn — The Houston Section of the American Institute of Aeronautics and Astronautics will host a meeting of the Management Technical Committee at 11:30 a.m. Dec. 14 in the Bldg. 3 cafeteria. Rick Dennis, chairman of the Houston Business Roundtable Architectural and Engineering Committee, will discuss "Benchmarking." For more information, call John Hunsucker at 743-4194, or Susan Voss at x34841.

NSS meets — The Clear Lake area chapter of the National Space Society will meet at 7:30 p.m. Dec. 14 at the Gilruth Center, Rm. 204. Plans for an upcoming regional conference and for the newly established Young Astronauts chapter will be discussed. For more information, call Marianne Dyson at 486-4747.

Cafeteria menu — Special: chili and macaroni. Entrees: barbecue sliced beef, Parmesan steak, spare rib with kraut. Soup: French onion. Vegetables: ranch beans, English peas, mustard greens.

Tuesday

Lunch and learn — The Houston Section of the American Institute of Aeronautics and Astronautics will host a meeting of the Computer and Software Systems Technical Committee at 11:45 a.m. Dec. 15 at Lockheed Plaza 4. Dr. Jude Franklin, chief technology Officer of PRC Inc., will discuss "Trends in Software Technology." For more information, call Cora Carmody at 282-6580, or Tek Shrini at 282-6643.

Papers sought — The 27th Aerospace Mechanisms Symposium has issued a call for papers with a deadline of Dec. 15. NASA, the California Institute of Technology and Lockheed Missiles and Space Co. are sponsoring the conference May 12-14, 1993, at Goddard Space Flight Center. Papers are selected on the basis of 500-900 word abstracts sent to Dr. Charles W. Coale, Box 3504, Orgn. 77-50, Bldg. 551, Lockheed Missiles and Space Co., Sunnyvale, Calif., 94088-3504. For more information, call Ronald Mancini, 415-604-6319.

Cafeteria menu — Special: corned beef hash. Entrees: meatballs and spaghetti, liver and onions, baked ham with sauce. Soup: split pea. Vegetables: buttered cabbage, cream style corn, whipped potatoes.

Wednesday

Astronomy Seminar — JSC Astronomy seminars will host a luncheon meeting from noon to 1 p.m. Dec. 16 in Bldg. 31, Room 129. Guest speaker will be Dr. P. Spudis discussing "Bases on the Planets." For more information, contact Al Jackson at 333-7679.

Cafeteria menu — Christmas Dinner Special: Turkey and dressing, giblet gravy, waldorf salad, cranberry sauce, green beans almondine, candied yams, rolls, apple and mince cobbler.

Thursday

Cafeteria menu — Special: chicken fried steak. Entrees: roast beef with dressing, fried perch, chopped sirloin. Soup: beef and barley. Vegetables: whipped potatoes, peas and carrots, buttered squash.

Friday

UNIX group meets — The JSC UNIX Systems Administration Group will meet at 2 p.m. Dec. 18 in Bldg. 12, Rm. 254. Brad Mears and Mark Hutchison will discuss "Managing Non-Homogenous Networks." For more information, call Mark Hutchison at x30738.

Cafeteria menu — Special: fried chicken. Entrees: fried shrimp, baked fish, beef stroganoff. Soup: seafood gumbo. Vegetables: okra and tomatoes, buttered broccoli, carrots in cream sauce.

Dec. 23

Astronomy Seminar — JSC Astronomy seminars will host an open discussion luncheon meeting from noon to 1 p.m. Dec. 23 in Bldg. 31, Room 129. For more information, contact Al Jackson at 333-7679.

Dec. 30

Astronomy Seminar — JSC Astronomy seminars will host an open discussion luncheon meeting from noon to 1 p.m. Dec. 30 in Bldg. 31, Room 129. For more information, contact Al Jackson at 333-7679.

JSC

Swap Shop

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

Property

Rent: Colorado, ski condo, 1 BR, FPL, full ktlchen, sleeps 4, Feb 6 - 13, $400. Debbie, x38631 or 482-7344.

Rent: Lake Travis cabin, CA/H, private boat dock, fully equipped, accommodates 8, $325/$90 wkly/daily. 474-4922.

Lease: Pipers Meadow, 3-2-2, carpets, drapes, FPL, fenced, built-ins, $825/mo. 538-3352.

Sale: Dickinson, 4-3-2D, study, game rm, screen porch, lg kitchen, new ceramic tile, util rm inside, lot w/trees, $129.9K. Coy, x39282 or 335-0641.

Sale: CL Village, 1903 Lasalle, 4-2.5-2D, 2500 sq ft, formals, den, wetbar, exercise/gameroom, $113.9K. 326-4464.

Sale: Green Acres, 3-2-2, lg living area w/custom WBFB, den, spacious kitchen, lg master BR, patio w/custom grill, $71.5K. Delia, 335-0266.

Rent/Sale: Egret Bay, waterfront condo, FPL, fans, W/D, dishwasher, microwave, balcony w/2 glass doors, 2 outdoor closets, $530/mo. + dep. Karl, x33031 or 286-9822.

Lease: Green Acres, 3-2-2, open living area, fenced, no inside pets, avail mid-Dec, $900/mo w/equal dep. 482-1685.

Lease: Camino South, 3-2-2, cul-de-sac, new carpet, FPL, fenced, trees, fans, $850/mo + dep. 332-0309.

Sale: Meadowgreen, new section, 3-2-2, no approval, cul-de-sac, high ceilings, tile entry, wetbar, formals, family rm, sec sys, whirlpool, crown moulding, $118K. x35296 or 486-7475.

Sale: El Dorado Trace condo, 1-1.5-1cp, all appl, patio, balcony, FPL, fans, designer carpets/wallpaper, assumable, low equity. Barbara, 488-3383.

Sale: Heritage Park, 3-2-2A, fenced, new paint, carpet, tile, miniblinds, cul-de-sac, $61.5K. 326-5216.

Lease: League City, Countryside South, 4-2-2, cov deck, fenced, cul-de-sac, no pets, $775/mo. x38843 or 332-6153.

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

Cars & Trucks

'88 Holiday Alumilite MH, 34', xl pack, 455 Chev, 28K mi, 6.5 Onan, 2 roof ACs, rear queen, full bath, pantry, dinette, micro, sofa bed, 2 chairs, $37.5K. 283-6508 or 337-3696.

'84 Chevy Caprice, 4 DR, pwr windows, AC, AM/FM/cass, good cond, $2.4K. Allan, 472-7526.

'66 Chevy Van, straight 6, running, good body, negotiable. 409-938-4793.

'85 Mercury Cougar, auto, all pwr, 2 DR, AC, ex cond, $3650 OBO. Dave, 333-6062 or 847-3146.

'85 CJ7 Jeep Laredo, $5.9K. 474-4742.

'77 Lincoln Continental Mark V, runs good, $800 OBO. 796-0231 or 480-5545 ext 124.

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

'86 Pontiac Sunbird GT, 2 DR, ex cond, $3.3K. Jerry, 333-0983.

'80 Cadillac Fleetwood Brougham, $1.8K OBO. Keith, x35191 or 332-5170.

'91 Camaro RS, 305 V8, auto, PW/PL, AC, cd player, nonsmoker and female owned, under warr, 36K mi, $11.5K negotiable. Lisa, x34726.

'80 Chevy Monza, good eng, trans, 3.8l V6 eng, $200 OBO. Mike, x36142 or 538-4103.

'80 Mercury Zephyr, PS/PB, vinyl top, AT, new headliner, good eng, tires, $700 OBO. 946-6658.

'85 Lincoln Town Car, 75K orig mi., ex cond. 282-4849 or 409-925-7839.

'85 Ford Van, new paint, stereo, captain chairs, bed, auto, cruise, 107K mi, good tires, runs great, $4.85K. 472-6323.

'86 Isuzu, ex cond, $1.5K OBO. 471-5251.

'78 Volvo Z64GL, 6 cyl, auto, less than 100K mi, good cond, $1.8. Gary, 480-9716 or 283-5781.

'80 Chrysler LaBaron, 4 DR, 100K mi, good cond, $1K. Jack, x31213 or 488-4019.

'79 Jeep Cherokee, 4 WD, V8, full size, 2 DR, hitch, AC, auto, good cond, $2.3K. x35187 or 332-3911.

'78 Chevy Silverado PU, 454, 400AT, PS/PB, AC, camper shell, 171K mi, $1.5K. Mark, x38013 or 992-4132.

'79 Lincoln Continental, 2 DR, Mark V, new paint/vinyl, one owner, well maintained, low time eng, trans, $3.8K OBO. 331-8063.

'84 Nissan Sentra XE, 4 DR, auto, AC, AM/FM/cass, ex cond. 996-0152.

Boats & Planes

'78 Santana 20 sailboat, sailmaster motor, new 155 Genoa, 100 jib, spinaker, trlr, compass knotmeter, $4.3K OBO. x32545 or 326-1782.

Cycles

'85 Honda Nighthawk, 650cc, 30K mi, $1.2K OBO. 282-4563 or 943-8443.

Audiovisual & Computers

Zenith minisport laptop computer, 2 MB, 1 FD, modem, ser/parallel ports, batt, AC adaptor, sw, documentation. Speier, 333-2263.

PC/XT clone, 512K, HD, 2 FD, modem, mono, Epson FX85, desk, pwr strip, sw, $350; stereo, AM/FM tuner, turntable w/changer, 8 track tape, good cond, $50 OBO. 554-2320.

Apple II+, disk drive, 80 col, mono, modem, sw, $300; Epson MX-80, $75; Hewlett Packard 9845B data acquisition control computer, expansion chassis, modules, $300 OBO. x35187 or 332-3911.

Nintendo game sys, 6 games, 1943, pinball, Super Mario I/II, Dragon Warrior, Battletoads, cleaning sys, $100. Chuck, x36341 or 286-1470.

Panasonic dot matrix printer, 24 pin, KP1124, ex cond, $199; acoustic cover, $35; PC Tools 7.1, $35. 474-2654.

Amiga A2000HD, 1 MB RAM, 40 MB Quantum HD, $1K; 2 MB mem board, $100; XT Bridgecard, $250; AMAX II, Mac Emulator w/Mac ROMs, $250; 14" Supersyn monitor, $250; Epson JX-80 color printer w/dithering chip, $100. Mark, 929-7215.

Apple IIGS, 1 MB RAM, 20 MB HD, color monitor, 3.5 & 5.25 FD, ImageWriter II color printer, mouse, joy stick, sw, $950 OBO. 326-7441.

Socrates video education system, shapes pad voice module, memory mania, state to state and hodge podge cartridges, 22 multilevel games, was $275, now $100. David, x37706 or 481-8470.

Microsoft Word for Windows for PC, 2.0B w/manuals, 3.5 FD, $90. 464-8694.

IBM PS/2 Mod 80, 386, 248 MB SCSI HD, 70 MB ESDI HD, 8703871, 6 MB mem, 3.5 & 5.25 FD, DOS, Windows, OS/2 v2.0, $1.3K or $1.8K w/NEC 3FGx Multisync monitor. Bryan, 286-3502.

Turbo graphics game w/4 games, Legendary, Vigilante, Kieth Courage, $100. Greg, 554-6200.

IBM PC/XT clone, 30 MB HB, 5.25 FD, DOS 3.30, 2400 baud int modem, sw, monitor, printer, game port, $500. x30712 or 992-3849.

Emerson HiFi VCR, audio/video perfect, needs mech work, $30. Musgrove, 488-3966.

Macintosh games, all w/complete orig materials, good cond, many titles, from $15/ea. Dave, 286-2213.

40 MB IDE HD for PC, 1 yr old, good cond, $100. Jim, x37238.

Photographic

Olympus PC, auto 35mm, 50 & 75-210mm lens, case, flash, $150; Minolta 300, auto 35mm, case, $50; Joe. 286-1713.

Olympus Superzoom 300, fully auto, point and shoot w/35 mm - 105mm zoom, case, $145; 9" RCA color AC/DC powered tv, $140; Nintendo w/controls, gun, $55. Pat, x32661 or 326-5342.

Pets & Livestock

AKC male Rottweiler, 2.5 yr old, $200. Sean, 283-9323.

Mini-lop and fuzzy lop rabbits, Gailo, 554-6200.

AKC Boxer pups, weaned by Christmas, gentle, $250. 922-7045 or 474-2660.

AKC Labrador pups, champion bloodline. 992-3018.

Lost/Found

Found white envelope w/name Ed Bradford, color snapshots of infant and small girl; fall foliage and zoo. Card signed by Kay. Call JSC mailroom to claim, x30626.

Household

Dinette set, table w/leaf, 4 swivel chairs on casters, $275; matching cherry wood coffee/end table w/Qn Anne legs, $175/both. Pat, x32661 or 326-5342.

Twin comforter, bed skirt, pillow shams, seaform green, mauve, lavendar, off-white, $30. Shawn, 472-7526.

Waterbed, full motion, $75; extra long couch, $25. Kelly, 282-2586.

Qn sz Simmons maxi-pedic matt, box springs, ex cond, $150. Beth, x36696 or 332-9102.

China cabinet, buffet, table/chairs, Qn Anne settee, Remington Rand elec typewriter. 282-4849 or 409-925-7839.

Qn sz matt, box spring, $150; Kg sz oak waterbed w/hdbd on 12 drawer pedestal, sheets, $600. 286-7516.

Victorian oak BR set, spindle style bed, dresser w/mirror, nightstand, 5' chest w/cedar drawer. 280-1531.

Portable Kenmore WD, hookup to kitchen sink or reg W/D conn, both use household elec outlet, $150/both. Susan, x32444 or 286-9478.

6 pc sofa sectional, rust, one tear, two dk brwn corduroy low wide chairs, best offer. 486-4747.

1.2 cu ft Litton microwave w/probe, not working, sell for parts, best offer; kerosene space heater, $100. 486-4747.

Qn sofabed, brwn/wht stripe, $150 OBO; coffee table, $12; floor lamp, $30; table lamp, $12. 488-6521.

Contemporary sofa, matching chair, $125. Terry, 283-6646 or 554-6631.

3 pc BR set, hdbd, dresser, mirrior, good cond, $150 OBO. x37038 or 333-2938.

BR suite, 7 pc, French Provincial, canopy bed frame, 2 drwr bedside table, 3 drwr chest, mirror, 4 drwr chest, 4 drwr matching student desk, $875 OBO. 331-8063.

Wanted

Want roommate to share house in CL, no pets or smokers, $300/mo + util, avail Jan 1. Jeff, 335-4320 or 480-1242.

Want used garden tiller and riding lawnmower, any cond. Ken, x30921 or 554-6504.

Want roommate for 2/2 condo, own bed, nonsmoker, $260/mo + 1/2 bills. Kyle, 286-3628 or 280-4422.

Want videotape camcorder in workable cond, must have batt, charger, instructions preferred. Ed, x36250 or 481-4889.

Want exercise bike/equipment in good working cond. Mandal, 333-6001 or 498-5400.

Want Nordic Track, Sequoia or Excel model. G. Owens, x33162.

Want cheap work/school car. 486-4700.

Miscellaneous

2 solid gold bracelets. x38278 or 326-2995.

Collector Barbie Dolls, Skipper, ex cond; toy boxes, lg and sturdy, $25/ea. 488-6521.

Elan 180 cm beginner skis and poles, $40; Nordica boots, sz 27.5, shoe sz 10, $80. George, x38959 or 486-6944.

Myers Tri-fin w/leash, deck pads surfboards, $150; 7'4" Hurricane Tri-fin w/leash, tail pads, ex cond, $300. 554-2320.

Baby crib, ex cond, $50; weedeater 8" trimmer, $20; thick glass mirror, 54" x 29", $25 OBO. Ed, x36250.

Four tickets to Oilers-Packers; 4 tickets to Rockets-Golden State, Dec 29, all face value. Cliff, x38166 or 486-8810.

23/24K gold plated flatware, 70 pc service for twelve, padded storage case, Vienna pattern, $275 OBO. Cliff, x38166 or 486-8810.

Sears canister vacuum, $30; Hoover upright, $25; shelf unit, nightstand, dresser w/mirror, $150. Joe, 286-1713.

Table, lift-top w/drawer, $50; hardwood rocker with cushion seat, $60. Gene, x30182 or 480-9580.

Backpack, camp trails, welded alum frame, $40. 474-2654.

Tables, 71" x 42" glass dining room table, 2 oak/glass end tables, sofa table, wood drafting table w/lamp. 280-1531.

Acoustic guitar, made in Ecuador, $120; Sony 13" color tv, $25. 334-1867.

Amana microwave oven, $50; bicycle trainer w/bicycle, $95; qn sz bed, no matt, pine, $100 OBO. 488-3128.

Ford full sz truck bedliner, 6.75 bed, no tailgate pc, $190. 286-5148.

Space Station Pilgrim model made in 1970 by MPC MIB, $15. 464-8694.

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

Ladies Rolex, oyster, perpetual, datejust, stainless/gold, was $3.5K, now, $2.5K. 996-7814.

Shelled pecans, $4.50/lb. Clarence Blume, x38820 or 554-2911.

Jenny Lind crib, matt, $80; Fisher Price high chair, $60; Strolle stroll-a-bed w/full boot, $55. 334-1784.

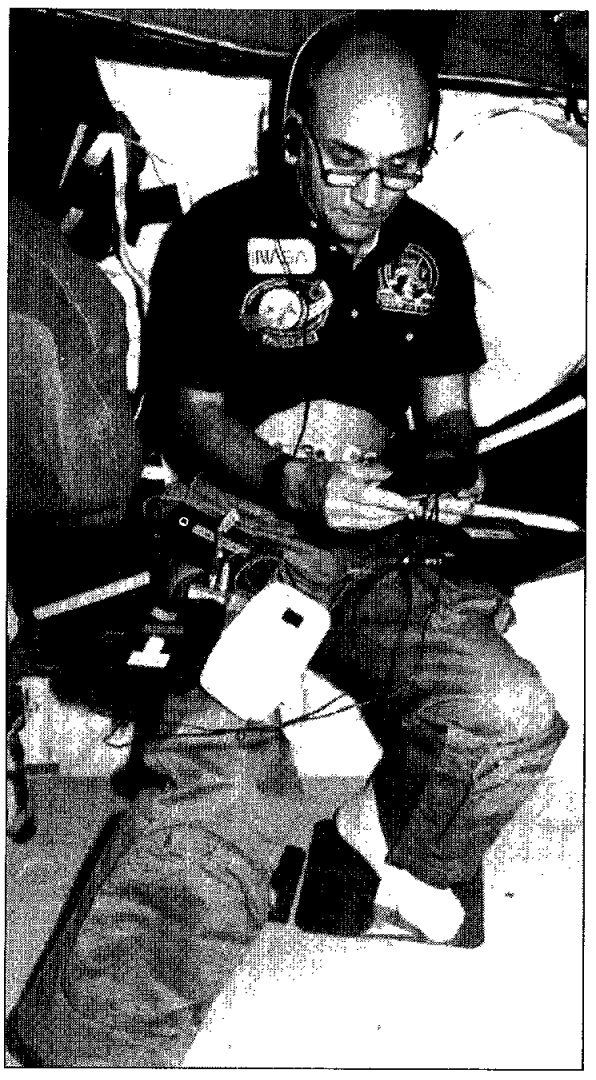
Bernina model 830E sewing machine w/cabinet, $400; grandfather clock, 6' tall, not working, lg wall clock, works, $60/ea. Gene, x30182 or 480-9580.

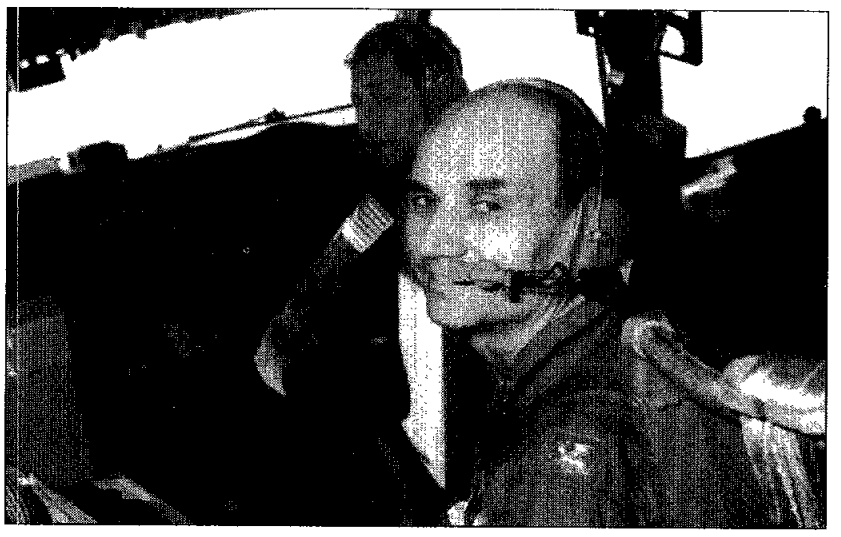
Compressor, 1 hp w/8 gallon tank, $125. x30355 or 338-2705.

Elec dryer, 1 yr old, white, Delux model, $180. x38740 or 992-3827.

BR triple dresser, mirror, kg hdbd, bedspread, $300; LR drapery, 6 windows, $25/ea; sliding door drapery, $50; side tables, $10 and $20; glass dining table, $250; motorized treadmill, $150. Gail, 283-5366 or 333-4051.

Tool box for midsize truck w/lock, $100 OBO; spare tire w/rim, 4 to 5 bolt pattern, $30 OBO. Youm, 283-4813.





Garn remembered as friend to NASA

(Continued from Page 1)

newly-selected NASA Administrator James Beggs and Deputy Administrator Hans Mark. The four of us were in his office and again Jake asked his question.

Mark immediately responded that Jake should go — once the shuttle was operational. What better way to demonstrate the reliability of near-routine access to space that the shuttle is expected to provide, he asked.

From that moment on, what had been the almost light-hearted question of an envious pilot/senator became a serious interest and earnest desire. A desire that he repeated often in visits with shuttle crew members.

Then, on Nov. 8, 1984, I received a call. Jack Murphy, NASA's associate administrator for legislative affairs, was on the line telling me that Beggs was formally issuing an invitation to the four members of Congress, who chaired the House and Senate committees with jurisdiction over NASA authorization and appropriations, to make an inspection flight aboard the space shuttle.

Only Jake accepted the initial invitation.

In January 1985, we came down to Houston and "set up shop," so he could begin training for his as-yet-to-be-determined flight. Many of the employees at that time didn't quite know what to expect of the senator who had somehow gotten an invitation to fly on the shuttle. That also was true of the astronauts who learned a short time later that he was joining their mission.

I remember the day his flight assignment was announced. We actually were over the Gulf of Mexico in the "vomit comet" at the time, and soon afterwards we met with the crew.

At that first meeting, Jake remarked that people had been calling him "sir" and "senator," and he wanted to make it clear that he understood the chain of command and who the commander was. He said he did not want his fellow crewmates to think of him as a senator.

He turned to Commander Karol Bobko and said "You're the commander; you tell me to jump and my only question will be how high?"

Bo instinctively responded "Yes, sir."

That was the last time I ever saw that sort of response. For the crew, it was good to hear Jake say that, but what counted was how he actually behaved.

His serious and dedicated attitude and performance as a trainee and crew member in the days and weeks that followed removed the title of "senator" for all practical purposes. He became, and remained, simply "Jake Garn, PS-2."

Jake took his training very seriously. He had told then-JSC Director Gerry Griffin that he wanted to contribute something to the flight, not be a passenger just along for the ride. He agreed to participate in a series of medical tests, and as a result his training was tailored accordingly.

The mission was scheduled for a little less than six weeks away, so it was necessary to put him on an intense schedule, which he relished. His training was his first priority and his only interest.

The actual flight took place later than expected. STS-51E was canceled because of problems with the TDRS-B satellite it was scheduled to deploy, but by April 1985 the crew was ready to go for its new mission, STS-51D.

'His training was his first priority and his only interest.'

On launch morning, the weather and a vessel in the range area caused additional holds. Finally, the count resumed and *Discovery* was launched within 55 seconds of the end of the launch window.

Jake has said countless times that the flight was the most extraordinary and unforgettable experience of his life. The changes that experience made in him are deep, personal and profound. Coupled with the experience of several months at JSC in preparation for the flight, Jake gained a greatly increased understanding of the agency, from the bottom up, and of what it really takes to plan, prepare and conduct a mission into space.

One of his favorite comments about the experience is:

"I spent four or five months at Johnson Space Center, with people who know what they're doing ... and then had to go back to the U.S. Senate!"

Jake didn't discover his support for the space program as a result of his training and flight experience. He clearly had it reinforced, however, by the wealth of experience that led him, for the remainder of his service in the Senate, to be an effective spokesman, partner and occasional friendly critic of NASA.

His colleagues deferred to his technical judgment and informed comment when it came to discussions of specific NASA programs, and his increased knowledge of the agency enabled him to be much more effective in evaluating NASA's programmatic and budgetary proposals.

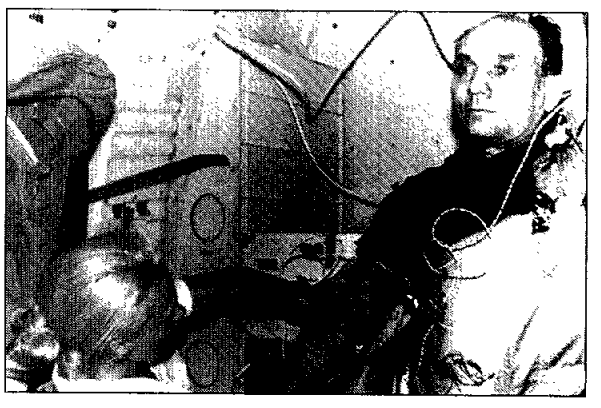
The knowledge Jake gained and used was coupled with an emotional commitment to the space program. The deep, almost indescribable, feelings of space flight and the sense of humanity that grows from seeing the Earth from that vantage point, inevitably played a factor in deepening his support for NASA and its programs.

That emotion also came to the surface and welled over in January 1986, with the loss of *Challenger* and her crew.

Not since the loss of his first wife in an automobile accident in 1976 have I seen Jake so saddened and so deeply affected by a tragedy. Yet he moved quickly to sound the positive note of continued support for NASA and for the value and importance of continued human space flight. Upon hearing the news of the accident, he immediately went to the Senate press gallery to express, in a voice choked with emotion, his sadness and sorrow for the loss of the crew and his concern for their families.

For the next several months, as the Rogers Commission investigated the accident and the press speculated and called into question NASA's abilities and the value of humans in space generally, Jake spoke on countless occasions of the importance of finding the problem quickly, fixing it, and moving on. He argued that the exploration of space was simply too important for humanity not to overcome the setback and continue. He seemed like a singular voice crying in the wilderness in Washington, as NASA- bashing became the sport of media and politicians alike.

Jake's efforts went a long way toward keeping the accident in perspective and maintaining the focus where it needed to be, in the realm of safety, reliability and quality assurance; minimizing the risks but accepting those that simply will always be a part of the exploration of space.



'The changes that experience made in him are deep, personal and profound.'

Soon after the accident, the question of building a replacement orbiter arose. Jake soon became frustrated that the administration seemed unable to make, what was to him, an obvious decision to request funding for a new orbiter. Jake always believed that a fleet of four orbiters was marginal, so a fleet of three was simply unacceptable.

He decided not to wait for the administration and began working with his Senate colleagues in the appropriations committee. Through a series of intense negotiations and a final important telephone conversation, he secured full up-front funding for what was to become the orbiter *Endeavour*.

That telephone conversation was significant. it took place between Jake and Ted Stevens, R-Alaska, the chairman of the Defense Appropriations Subcommittee. At the time, Jake was lying in a hospital bed, in a great deal of pain, having only the day before undergone the massive surgery necessary to remove one of his kidneys for transplant to his oldest daughter, who had lost her kidney function as a consequence of juvenile diabetes.

Stevens could not have any doubt about how important the issue was for Jake, considering the timing and circumstances of the call. The call was the final act in Jake's efforts to secure the final commitment of funds from the Defense Subcommittee allocation to the replacement orbiter.

Since the shuttle returned to flying, the greatest challenge facing NASA has been the continuation of support for Space Station *Freedom*. In 1986, the senate returned to the control of the Democrats, and Jake returned to his previous position as ranking minority member of the VA-HUD-IA subcommittee, with Mikulski as chair.

Many of the decisions of Congress are the result of one-on-one negotiations prior to the votes taken in committees and on the floor, which publicly and formally ratify those decisions. The instances where Jake has literally been the sole advocate within the Senate of specific NASA program initiatives are many. They are not widely known because Jake has never been one to be overly concerned with who gets the credit for getting things done.

But Mikulski chose to make a fuss over his support for the space program and the unanimous vote in support of her amendment demonstrated the agreement of her colleagues. NASA's quiet recommendation to Mikulski of Bldg. 5 as an appropriate facility to bear Jake's name reflects a feeling that JSC regards Jake as one of its own.

I know that's how Jake feels, and to be accepted simply as a member of the team that has the major responsibility for manned space flight is really the thing of which Jake is most proud.

To the extent the fact that his name is associated with a building at JSC reflects that acceptance, he is, I know, proud and happy to accept this generous tribute.

Note: Bingham served as a member of the Synthesis Group in 1990 and now works for Science Applications International Corporation and provides strategic planning and policy analysis support for JSC under a contract between Hernandez Engineering and the JSC New Initiatives Office. ❑

Disks replace paper files

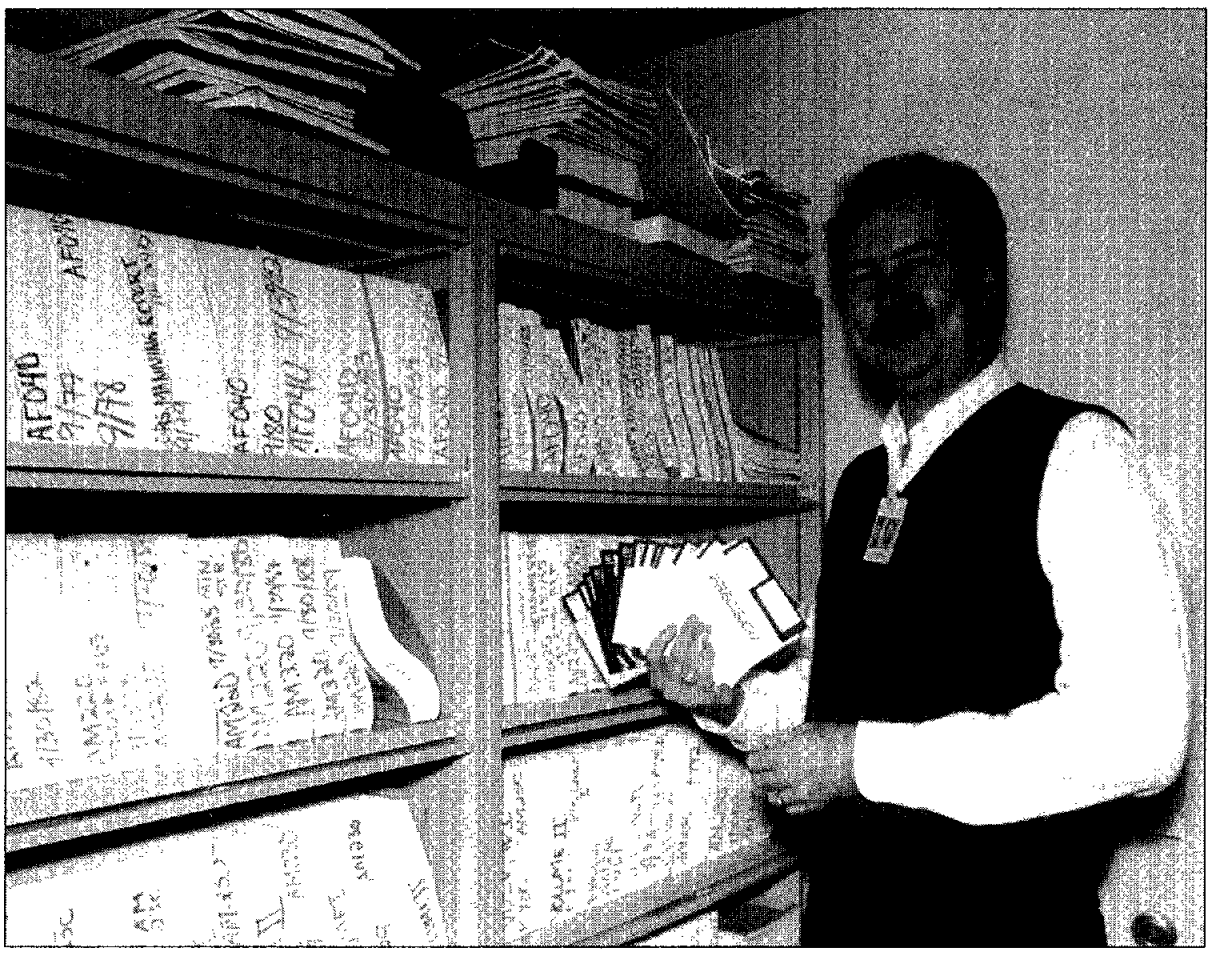
The recycle bin in the Human Resources Office recently was real full when 13 computer disks replaced a wall of documents containing statistical information since 1980.

For the past year, NASA Headquarters has been converting the Personnel Management Information System to diskette, said Rich Campbell, a program analyst in Human Resources. The task is now up to date and all the information has been loaded onto a mainframe computer and runs on a Nomad database.

Storing the information on the mainframe not only frees up space, Campbell said, it also allows the Human Resources Office to manipulate the data.

"It gives us more flexibility," Campbell said. "We can work the data in a slightly different way and we can import it to other documents like PROFS notes and spread sheets."

Now that the system has caught up from the 1980s, Headquarters will continue providing the data on disk. The information documents all personnel transactions, employee status and other Human Resources reports.



JSC Photo by Andrew Patnesky

Rich Campbell holds the 13 disks that replaced the wall of documents comprising the Personal Management Information System. The disks contain the center's personal statistics since 1980.

Crew picked for HST visit

Three veteran astronauts were named to the Hubble Space Telescope servicing mission last week, completing the crew roster for the seven-person mission.

NASA astronauts Air Force Colonel Richard O. Covey and Navy Commander Kenneth Bowersox and European Space Agency Astronaut Claude Nicollier were selected as STS-61 commander, pilot and mission specialist, respectively.

The three join Payload Commander Story Musgrave, M.D., and Mission Specialists USAF Lt. Col. Tom Akers, Jeffrey A. Hoffman, Ph.D., and Kathryn D. Thornton, Ph.D, all who were named to the mission earlier this year.

This will mark Covey's fourth Space Shuttle mission. He flew as pilot on missions STS-51 in 1985, and STS-26 in 1988, the return to flight following the *Challenger* accident. Covey was mission commander of STS-38 in 1990.

Bowersox will be making his second flight, having previously flown on STS-50 this past June, the longest Shuttle mission to date.

Nicollier also will be making his second flight aboard the Shuttle, having flown recently on the STS-46 mission in July.

The Hubble Space Telescope program is an international cooperative project between NASA and the European Space Agency.

Astronaut Office chief, deputy chief selected

(Continued from Page 1)

experience, exceptional capabilities and talents, and the wide variety of technical tasks they have accomplished in a superb and enthusiastic manner."

Gibson is a veteran of four Shuttle missions. He was pilot on STS 41-B in February 1984 on which two communications satellites were deployed and the first checkout of the Manned Maneuvering Unit was accomplished. The orbiter also landed at KSC for the first time. Gibson also commanded 61-C in January 1986 during which a SATCOM-KU satellite was deployed a number of astrophysics and materials processing experiments were accomplished and STS-27, a Department of Defense mission, in December 1988.

Spacelab-J, a cooperative mission with the Japanese Space Development Agency, in September 1992 was his third command and fourth space flight. The crew focused on life science and materials processing experiments in over forty investigations in the Spacelab module.

While Gibson is in the chief astronaut assignment, he will not be on flight status for Shuttle missions, but he will maintain his flying proficiency in training aircraft.

"I'm extremely honored and excited by this very challenging assignment," Gibson said. "I have a wonderful and talented group of people to work with and I'm really looking forward to all the challenges we will get to face together as we continue our shuttle missions and move into the Space Station era."

Shriver's shuttle flight experience was varied on his three missions. He piloted STS 51-C in January 1985, a Department of Defense mission. He then commanded STS-31, the Hubble Space Telescope deploy mission. The crew also conducted a variety of experiments involving the study of protein crystal growth, polymer membrane processing, the effects of weightlessness and magnetic fields on an ion arc.

More recently Shriver commanded STS-46, the European Retrievable Carrier deploy and Tethered Satellite System test flight, in July 1992.

"This year we welcomed astronaut candidates from the Canadian Space Agency, the European Space Agency, the National Space Development Agency of Japan," Leestma said.

"We have two cosmonauts onboard preparing to fly on STS-60 next year. Hoot's and Loren's experience in this area will be especially helpful as NASA becomes even more involved with our international partners preparing for Space Station *Freedom*. I look forward to working with both of them in this new capacity."

McQuary ends cancer battle

Frances McQuary, a longtime administrative officer in the JSC director's office, died Sunday after a long battle with cancer.

Services were held earlier this week.

From 1983 until her retirement in October, McQuary served as Administrative Officer in the Office of the Director. She was the recipient of many awards including the Silver Snoopy in 1991. She had a total of 25 years with NASA.

She is survived by her husband, Keith McQuary of JSC's Plant Engineering Division; her mother, Rosa Lou Rasco; a sister, Joan Rasco Burke; and a step-daughter, Marion Kelleher.

Memorials may be made to the American Cancer Society.

STS-53 records successes with secondaries

(Continued from Page 1)

capped off a super year for the manned space flight program. It's because of all your work."

Mission specialists were James Voss, Guion Bluford and Michael "Rich" Clifford.

The crew started its flight Dec. 2, and, after the successful completion of the classified Department of Defense payload, devoted its time to the eleven secondary activities.

Crew members completed all the scheduled tests of the Fluid Acquisition and Resupply Equipment and tripled the amount of photographs required for the HERCULES geolocation camera system. The mission requirement for HERCULES was 25 pictures and astronauts reported that 78 were taken.

Weather hampered the Battlefield Laser Acquisition Sensor Test. Twenty tests were performed. Two were verified acquisitions and two others require post-flight analysis.

Crew members also had success with the Orbiter Glow Experiment and the Cryogenic Heat Pipe Experiment. About 20 of the 23 mission objectives were met for the glow experiment, and investigators reported that the data was some of the best ever obtained. Payload investigators also reported that the data from the heat pipe work exceeded mission requirements. Both designs worked well.

Due to a power source problem, crewmembers were not able to deploy the metal Orbital Debris Radar Calibration Spheres. The payload, however, will be reflown on STS-56.

Data from the remaining secondaries is being analyzed post-flight, but the payload operators believe most of the mission objectives were met.

Discovery will be ferried back to the Kennedy Space Center next week.

Galileo heads toward Jupiter

(Continued from Page 1)

The orbiter will spend 22 months studying Jupiter's atmosphere, satellites and surrounding magnetosphere while the probe drops into the atmosphere for at 75 minutes dive.

For the Earth pass, the Galileo flight team at Jet Propulsion Laboratory programmed the spacecraft to measure the near-Earth environment and observe Earth and the moon during this flyby. Scientists expect to obtain several images and spectral scans of the northern regions of the moon and of various areas on Earth over a period lasting several days. The views will provide scientific data from new perspectives and will help scientists calibrate their instruments for the Jupiter orbital mission.

The gravity-assist flyby required several rocket thrusting sessions, using Galileo's on board propulsion module, to refine the flight path.

Next in line for Galileo will be a asteroid observing opportunity. The flyby, which will occur in about nine month, will be the last stop before Jupiter.

The two-ton Galileo orbiter carries nine scientific instruments while the 750-pound probe carries another six experiments. Galileo's scientific experiments are being performed by more than 100 scientists from six nations.

The Galileo project is being managed by NASA's Jet Propulsion Laboratory.

NASA-JSC

Mini-conference focuses on continuous improvement

JSC and contractor employees are invited to attend a two-session mini-conference featuring presentations from the NASA/Contractor's Conference on Quality and Productivity.

The mini-conference will consist of five presentations — the first three set for Dec. 15 and the last two scheduled for Dec. 16. Both sessions will be from 9 to 11 a.m. in the Bldg. 2 Auditorium.

Session One include "Strategic Planning as a Focus for Continuous Improvement," by John O'Neill, deputy director of Mission Operations at JSC; "Johnson Space Center Total Quality Partnership," by Gary Johnson, deputy director of Safety, Reliability and Quality Assurance; and Alfred Boyd Jr., vice president of Safety, Reliability, Maintainability and Quality Assurance Operations at Loral Space Information Systems; and "JSC Experiment in Taguchi," by R. Matthew Ondler, an aerospace engineer at JSC.

Session Two presentations will focus on "A Shared Vision: Partnership of NASA and Rockwell International in Cost Effectiveness Enhancements for the Space Shuttle Integration Program," by Bohdan Bejmuk, program director of Space Shuttle Integration at Rockwell Space Systems Division, and G. Lee Norbraten, deputy of the Project Integration Office in the Space Shuttle Engineering Integration Office at JSC; and "Defining the Performance Gap: Conducting a Self Assessment," by Dr. David Stoner, manager of technical support at Loral Space Information Systems, and Susan Braymer, director of Human Resources Development at JSC.

SR&QA to present quality award

Nominations are being accepted now for the Quality Partnership Award presented twice a year by JSC's Safety, Reliability and Quality Assurance Office.

The honor recognizes individuals outside SR&QA who play key roles in JSC reaching and maintaining excellence.

The most recent recipients were Robert Ling, Deborah Buscher and Susan Morgan of the Flight Data System Division for providing product assurance for the Space Station *Freedom* integration, test and verification environment development.

Emphasized in the team's nomination was its dedication to enforcing SR&QA-related guidelines, demanding that the ITVE contractor improve its software integration process, and ensuring that all test activities to be completed prior to NASA acceptance testing were identified.

Nominations should be submitted to the Quality Assurance and Engineering Division, Mail Code ND, by the candidate's peers or manager. The candidate may not work in the quality field or make direct contributions to the SR&QA Office at JSC.

Nomination deadline is Dec. 31.

For more information, contact M.C. Perry, chief of the Quality Assurance and Engineering Division, at x34352.

Space News Roundup

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

Editor .....Kelly Humphries
Associate Editor .....Kari Fluegel

Seminar to discuss managerial success

The second in a series of presentations about "Cracking the Glass Ceiling" will be sponsored by JSC's Black Employment Program Council Dec. 18.

Gloria Stiner, manager of Loral's Space Information Systems, and James Gauthier, of NASA's Mission Operations Payload Support Integration Section, will provide their views of managerial success and empowerment during the presentation set for 11:15 a.m. in the Gilruth Center, Room 206.

For more information, contact Charles Hoskins, the Black Employment Program manager.