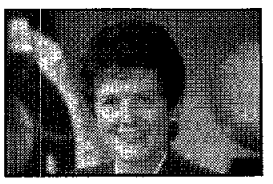
National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
Houston, Texas



Director's message

JSC Director Dr. Carolyn Huntoon presents her 'State of the Center' message. Story on Page 3.

Holiday greetings

NASA Administrator Daniel S. Goldin offers his holiday greetings. Stories on Page 4.

Space News Roundup

Vol. 33 **December 16, 1994** No. 47

Director's Holiday Message

With the coming of the holiday season, let us all take the opportunity to gather with our friends and family and remember what is truly important to us as individuals and for us as members of human kind. On a personal scale, the simple fact that we have steadfast friends and families gives us strength. On a global scale, the fact that the world is relatively peaceful in spite of our turbulent times gives us hope.

The men and women of the Johnson Space Center have still more to consider because our professional lives so often incorporate both the personal and the global scales. A diverse group of people from all walks of life, from many cultures and a growing number of countries, we work together day-in and day-out as a team dedicated to the peaceful advance of life on Earth through cooperation hundreds of miles above it.

We can be proud of the lofty goals we have set for ourselves and hard work we have done to accomplish our objectives. But over the holidays, please take time to enjoy the personal side of your life. Thank you for your hard work, dedication, and your can-do spirit. You have all my good wishes for a joyous holiday season.

Carolyn L. Huntoon

Cover design by Sean Collins

JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

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. December special buy one get one free.

New Year's Eve Dinner/Dance: Dec. 31 at the Gilruth $25 per person.

Metro tickets: Passes, books and single tickets available.

Movie discounts: General Cinema, $4.75; AMC Theater, $4; Loew's Theater, $4.75.

Stamps: Book of 20, $5.80

Shuttle music: MACH 25 a humorous shuttle music tape. Cost is $7.50.

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

JSC

Gilruth Center News

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. Dec. 29 and Jan 10. Pre-registration is required. Cost is $5.

Defensive driving: Course is offered from 8:15 a.m.-3 p.m. Saturday. Next class is Dec. 17. Cost is $19.

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

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

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

Tennis league: A fall tennis league may be started if there is sufficient interest. Contact the Gilruth Center at x33345.

Country dancing: Beginners class meets from 7-9 p.m.; advanced class meets from 8:30-10 p.m. Partners are required. For additional information, contact the Gilruth Center at x33345.

Ballroom dancing: Ballroom dancing classes begin Jan 5th. Cost is $60 per couple. For additional information call the Gilruth Center at x33345.

Fitness program: Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information, call Larry Wier at x30301.

JSC

Dates & Data

Today

Choir program: The Worthing High School Choir will perform at 1 p.m. at Space Center Houston. Performance is included in price of regular ticket.

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

Saturday

Christmas Party: The EAA will host the Children's Christmas Extravaganza from 10 a.m. - noon Dec. 17, in the Gilruth Ballroom. Cost is $1 for adults and $4 for children. For more information call x35350.

Choir program: First United Methodist Church of Pearland Choir will perform at noon and Baybrook Baptist Church Choir will perform at 1 p.m. at Space Center Houston. Performances are included in price of regular ticket.

Monday

Cafeteria menu: Special: Italian cutlet. Total Health: roast beef au jus. Entrees: chicken a la king, enchiladas with chili, vegetable lasagna, steamed pollock, French dip sandwich. Soup: split pea and ham. Vegetables: Brussels sprouts, oriental vegetables, buttered carrots, lima beans.

Tuesday

Cafeteria menu: Special: stuffed cabbage rolls. Total Health: roasted turkey. Entrees: turkey and dressing, country style steak and hash browns, beef ravioli, baked chicken, fried cod fish. Soup: tomato Florentine. Vegetables: Italian blend, okra and tomatoes, corn cobbette, navy beans.

Wednesday

Astronomy seminar: The JSC Astronomy Seminar will meet at noon Dec. 21 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For additional information, call Al Jackson at 333-7679.

Toastmasters meet: The Spaceland Toastmasters meets at 7 a.m. Dec. 21 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Darrell Boyd, x36803.

Cafeteria menu: Special: pepper steak. Total Health: stir fry pork with rice. Entrees: liver and onions, stir-fry pork with rice, steamed fish, western special, Reuben sandwich. Vegetables: steamed broccoli, yellow squash, macaroni and cheese, vegetable sticks.

Thursday

Choir program: Southwest Suzuki School of Music Choir will perform at 1 p.m. at Space Center Houston. Performance is included in price of regular ticket.

Cafeteria menu: Special: chicken fried steak. Total Health: baked potato. Entrees: beef tacos, steamed pollock, baked chicken, catfish special. Soup: navy bean. Vegetables: spinach, cut corn, breaded okra, pinto beans.

Friday

Cafeteria menu: Special: tuna noodle casserole. Total Health: baked potato. Entrees: steamed salmon steak, baked chicken, fried cod fish, ham steak. Soup: seafood gumbo. Vegetables: French cut green beans, cauliflower with cheese, green peas, black-eyed peas.

Dec. 26

Christmas Holiday: Most JSC offices will be closed in observance of the Christmas Holiday.

Jan. 2

New Year Holiday: Most JSC offices will be closed in observance of the New Year Holiday.

Jan. 9

Total Health: The first health related fitness course of the year begins Jan. 9. For information call x30301 or x30302.

JSC

Swap Shop

Property

Rent: El Dorado Trace 2-2, W/D, furnished, $675/mo + elec. 333-8126 or 488-1327.

Sale: Santa Fe/Alta Loma, 2.5 acres, mineral rights. 337-1311.

Rent: Galveston cond, furn, sleeps 6, Seawall Blvd & 61st St, wknd/wkly/dly rates. Magdi Yassa, 333-4706 or 486-0788.

Sell/Trade/Lease: 3-2-2A, near 290 & 2960, new roof, heatpump, new paint & carpet, $65k. x31265 or 286-3161.

Sale/Lease: Webster Sterling Knoll, 3-2.5-2, FPL, formal, wetbar. 332-6409.

Sale/Lease: Seabrook townhouse, 2-2.5-2A, no yardwork, approx 1680 sq ft, new roof, sunken livingroom, 2 sided WB/FPL, $69k/$750mo + $750 dep. 326-3737.

Rent: Pagosa Springs, CO, 2 bdr house, sleeps 8, ski Wolf Creek/Purgatory, 1 week from Jan 7 - Feb 4. $700. Scott, x34614 or 334-2278.

Sale/Lease: w/option, Clear Lake Forest, lg 5bdr, contemp, all formals, oversized wooded lot, $129.9k or $1k/mo. 474-3507.

Rent: Lake Placid mobile home on Guadalupe River near New Braunfels & Sequin, waterfront for fishing, skiing, swimming, sleep 6, winter, $65/dly, $350/wkly. 326-3706.

Sale: White Cemetery, Crosby, TX, 4 lots, make offer. 481-1469.

Rent: Arkansas Cottage overlooking Blue Mountain Lake, furnished, wooded, 4 acres, screened porch, antiques, great getaway, $250/wkly or $50/dly. x33005 or 334-7531.

Cars & Trucks

'87 Chevy S10 Blazer, 4 spd, manual trans, 100k mi, new tires, $4.2k/obo. Steve, x30671.

'85 Nissan Sentra, 5 spd, A/C, 2 dr, silver/gray, 140k mi, $1.5k/obo. 332-2571.

'91 Mitisibishi Galant, 4 dr executive, loaded, garaged kept, ex cond, $8,995. 998-8693.

'85 Porsche 944, black, 5 spd, sunroof, A/C, AM/FM/cass, ex cond, $4,995. x35180 or 326-3706.

'77 Chevy Luv pickup, A/C, toolbox, 30k mi on new engine, runs great, $1.1k. Danny, x47184 or 992-3827.

'87 Mazda 626 LX, 4 dr, auto, A//C, sunroof, 1 owner, 75k mi, cruise, power door/locks, & windows, $4k. 488-8588.

'85 Ford Tempo, GL, runs well, A/C not workings, new tires, $1.5k.. 334-1098.

'82 Cadillac Sedan DeVille, mint cond, must sell, leather, loaded, 21k mi actual, collector car, $6.9/obo. Rich, x41089 or 480-8335.

'90 Honda Accord LX, 4 dr, auto, grey/maroon, cruise, A/C, AM/FM/cass, all power, ex cond. 481-9702.

'86 Pontiac Firebird SE, auto, AM/FM/cass, P/S, P/W, T-tops, V8, 305 cu in, $4.4k/obo. x48911.

'91 Honda Civic DX, 5 spd, 3 dr, A/C, AM/FM/cass, 48k mi, new tires,m $6k/obo. x33425 or 480-8718.

'79 Alfa Romeo Spyder Veloce, 90k mi, Weber conversion, yellow/black, good cond, $1.9k. Mark, 37370.

'91 Volkswagon Vanagon Carart, blue, loaded, table, fold-out bed, $10.8k. Steve, x49770 or 996-5016.

'82 Chevy Chevette, runs great, good work car, $600/obo. 485-4008.

'92 Mazda Miata MX-5, red/black, B-pkg, 24 k mi, ex cond, $16k/obo. James, x31064 or 334-1766.

Trailer hitch for Jeep Wrangler, Draw Tite,, $50. John, x31114 or 486-0898.

Cycles

'89 Honda Cr 250, racing condition, $1.8k neg. 482-3872.

Suzuki TM250, clean, $450. 326-3737.

Ladies 24" Schwinn bicycle, 10 spd, Calientae model, red, new cond, $50. x31446 or 474-2607.

Boats & Planes

Boat propellers, stainless steel for Johnson V6 15" OD x 17 pitch; 14.25 OD x 21 pitch, $150/ea/obo. 332-9105.

Eipper MX Quicksilver ultralight airplane, new propeller & gas tank, newly rebuilt 447 Rotex engine, ex cond, $3k. 333-6557 or 409-925-7012.

'52 C-35 Bonanza, 3500 hours TT. 1k hours SMOH, 0 SPOH, IFR, sped slope, wind shield, hyd prop. Danny, x47184 or 992-3827.

24" Sovereign, extra jib, depth sounder, head/stove, sleeps 4, star Johnson OB, recent bottom job, ex cond, $7.9k/obo. Mike, 282-2787 or 532-1240.

'85 Glouster, 20', sailboat w/trailer, sails, '91 9.9hp Evinrude outboard, $3k. Carlos, 870-9512.

Audiovisual & Computers

Calculator with printer, $50. x35046 or x36186.

Sauder Oak laminated finish computer work center, slideout keyboard shelf, $55. 488-3419.

Citizen printer, "CSX-140" w/GSX color option slightly used, $250. Madgi Yassa, 333-4760 or 486-0788.

Nintendo games, $15/ea. 492-5535.

Dot matrix printer, $40. Keith, x35191.

Hooked on Phonics program, $100; Sega game gear w/Sonic 2, $80. Sharon, x33363 or 480-6713.

Infinity SM120 200W 3-way speakers, $500/pr; Proton D1200100W/channel power amp & Proton P1100 Pream, $350; or entire system $800. Chris, 280-4394 or 474-7263.

PC CD-ROM's, AGEGIS Guardian of the Fleet, $35; the Lawnmower Man, $25. Ray, x38030.

Gold Star model 1405 B/W computer monitor, $50/obo. Leah Elliott, x38687.

Microsoft Visual C++ CD-ROM, $125; Paradox for Windows, $100; Master Visual C++ book w/CD-ROM, $40; Power Programming Paradox book, with s/w, $60. 282-3570 or 474-3820.

Photographic

Kodak Disc 6000 camera, $30. Linda, x49658 or 486-6873.

Pentax super program 35mm SLR, sigma 35-135mm zoom lens, Pentax automatic electronic flash, camera body case, UV filter, sunshade, camera strap, instruction book. new $350 sell $175. Linda, x49658 or 486-6873.

Musical Instruments

Boston upright piano, $375; Phillips CD interactive w/Bernstein Bears & Richard Scarry's Neighborhood, $195. x45035 or 334-4124.

Pets & Livestock

AKC Chihuahuas, both black w/fawn markings, 2 mos, shots, 1 female, $200; 1 male, $175. 337-9218.

White male miniature schnauzer, AKC registered, $300. 482-1505.

Household

Kingsize waterbed w/access, $150; Graco deluxe stroller, $20. 326-3737.

West Bend mini food chopper, $10. 480-3424.

Stereo cabinet, 3 shelves, smoked glass door, vertical blinds, fits std 6' sliding door, off-white fabric, $30. 538-2696.

Oak pedestal table w/4rolling captains chairs, $125. 538-2413.

Keller bath shower doors, $40; couch, $200. 996-9690.

GE electric dryer, w/auto sensor, $100; early american dark pine furn, sofa, leather recliner, chair, tables, twin bed, wht canopy twin bed, wagon light fixtures, lamps, mirror, custom walnut cabinet, misc. Arthur Mandell, 474-3507.

Table & 4 chairs, silverplated serving for 8 in wooden box, iron bed, old wooden wheelchair. 783-9164.

Contemporary sect, 3 pcs, w/2 chairs & ottoman, med brn fabric/wood trim, coffee table, $1.2k. James, 282-3586.

Wood dining table w/4 chairs, $150/obo; sofa, loveseat & chair, $299/obo; refrig, side-by-side, $399/obo. 480-2870.

Bentwood rocker, w/cushion, $50; 2 rattan peacock chairs, w/cushions & round rattan table, $100/obo. 532-2147.

Antique oak hdbd & ftbd, full size, $150; bed frame, full sz, $25. 538-2696.

Danish hutch, china, glassware, paintings, curios, display case, Afro suite loveseat & armchair, Chippendale Breakfront & 2 chairs, framed mirrors, uhf/vhf mini TV, misc. 326-2221.

Futon, $100; sofa/sleeper, $175; chair & ottoman, $20; kitchen table & 6 chairs, $75. Mark, x37370.

Wood excutive desk w/matching credenza, $600. 482-3872.

Super single waterbed, complete w/mattress, heater & bookcase headboard. entertainment center. JoLynn, 941-4307.

Black stand for 35" TV has VCR compartment w/smoke windows. 991-0821.

Wanted

Want low priced school/work car or truck. 271-7011.

Want non-smoker carpoolers from Sugarland, 59 & Hwy 6 area to JSC, 7:00 a.m. to 3:30 p.m. Norman, x31970.

Want personnel to join VPSI vanpool departing Meyerland Park & Ride lot at 7:05 a.m. for JSC, vanpool consists of on-site personnel working 8 a.m./4:30 p.m. shift, have 15 members. Travis Moebes, x45765 or Don Pipkins, x35346.

Want personnel to join VPSI vanpool, West Loop Park & Ride lot at 6:50 p.m. to NASA/Contractors. Richard Heetderes, 37557 or Ed Rangel, x36124.

Want manual treadmill. Carole, x48862 or 332-0164.

Want 4 trailer tires & rims. Keith, x35191.

Want 42"/48" round glass top rattan dinette table w/4swivel chairs, dk/med wood. 480-5725.

Want people M/F to play ultimate frisbee, no exper necessary, every Mon & Wed, 7:30 - 9 at Clear Lake Park. Dan, 282-5239 or 486-1102.

Want quiet, mature housemate to share 2700 sq ft, luxury home in Taylor Lake Village, 2 sep bedroom/bathroom areas, $625/mo + util. x47108 or 326-6188.

Want Ham radio, hand held or small unit, good cond. 867-3908.

Want Tiffany & Co. rd diamond engagement solitaire, .75-1.5 carats, must have original Tiffany & Co certificate. 480-4836.

Want children's backyard swing set, good cond. x38723 or 334-1455.

Miscellaneous

Original Step w/workout video, $50; Schwinn exercise bicycle, $100; Char-Broil H_2O smoker, $20. Rick, 480-9898.

Bearcrafter windsurfing racks, $100; Krenelin, sz 6, $10; beige mini blinds, 4-35"x46", 1-43"x46", $7/ea; swan wedding cake top, $15; blk grad cap & gown, sz med, $5; women's roller blades, $25; amethyst bridesmaids dress, sz 3-4, $50. Su, x45722 or 286-7280.

Microwave oven, 1.5 cu ft, $75/obo; Ludwig 5 piece drum set, $150/obo; Baldwin upright piano, $600. 334-2047.

White satin wedding dress, sz 5-7, long train w/veil, $300/obo; boys 20" bicycle w/plastic body, $50/obo. 332-0746.

Italian leather briefcase, mens solid gold link bracelets, contemp glass punch bowl set, lighted 2-sided makeup mirror, silver/turquoise Bolo. x38278 or 334-7258.

Mink coat, waist length, black, ex cond, $599. Kerry, 480-6923.

Rocket's/Aero's tickets, great seats available for either. Jeff, x47493 or 486-5763.

Spirit stairstepper w/detach armbars $250. Cathi, 280-4563.

Engagement/wedding set, round cut solitaire, sz 5, orig $1.5k/obo. 486-7537.

Antique table, 45x70, Circa 1910, $550; iron babybed w/matt, $225; ladies mink coat, stroller length, $1k. 488-3588.

'88 Fleer, '88 Donruss, '89 Donruss, '90 Donruss, '90 Score, '90 Bowman, '91 donruss unopened factory sets, $100/all; nine 1909-1911 Tobacco baseball cards, $100. Tony, x47401 or 482-4156.

Old paddle cars, 2; coke box, '50's coke machine. 409-765-8453.

Computer desk, $30/obo; sparkling water/juice carbonation unit, $30/obo; 32 vol Funk & Wagnalls encyclopedia including index/dictionary, $80/obo. Tony, x47401 or 482-4156.

Several coats; old sewing machine. 335-6978 or 783-9164.

Cruise to Bahamas with stops in Ft Lauderdale & Orlando, 7 nights/8 days, $398; bridal slip, white, semi-full, sz 6, zip-perback. Jennifer, x32417 or 286-9204.

Bike Avocet seat, $20; Profile aerobars, $60; roof rack, for vehicles w/"rain gutters" on roof, $50. 333-8126 or 488-1327.

Cotton Bowl tickets, 4, Texas Tech vs USC, priority parking pass for 1/2/95, sec 107, 30 yard line upper level, $225. David, x34392 or 992-5862.

Matched set of teardrop-shaped blue topaz in 14k gold basket settings, 6.61 carat pendant 7 8.13 carat combined weight pierced earrings, $600. Tim, x35824 or 992-4360.

Oilers/Jets, 12/24, 2 or 4 tickets, upper box, 2nd row, $31/ea/obo. Ray, x38030.

Fish tanks w/stands, 55-gal, $150; 2-30 gal, $200; elec dryer, $45; car ramps, $25; bumper pool/card table, $100; flouresent lights, $20/ea; oak dining table w/6 chairs, $750; student desk, $50; R/C biplane ready to fly, $250, various beds, $40 - $200. 474-3820 or 282-3570.

Soloflex with butterfly & dip bar attachments, $400; '91 model Honda Accord bra, half nose, '91 Accord Chilton repair manual, $50/both. tim, x41139 or 280-8102.

Antique brass FPL set, $15; Big Sur queen size waterbed, $120; Gerry Bouncing seat, $20; Kanga-rocka-roo, $10; Fischer Price night time bottle warmer, $20; 4 piece canister set, $10. x45035 or 334-4124.

Drafting table, util tray, $75 nego. x30452.

Director's Message

JSC must deliver even as it reinvents itself

[Editor's note: The following is the text of JSC Director Dr. Carolyn L. Huntoon's "State of the Center" address, presented at the American Institute of Aeronautics and Astronautics Houston Section meeting Dec. 8, 1994.]

"Nothing is more difficult to undertake, more perilous to conduct or more uncertain in its outcome, than to take the lead in introducing a new order of things. For the innovator has for enemies all those who have done well under the old, and lukewarm defenders amongst those who may do well under the new".

We at JSC are taking the lead that Machiavelli wrote about so long ago. Since taking the helm of one of NASA's largest and most visible centers in January of this year, I've taken up the reinvention challenge and begun sweeping reforms to the way we do business. These reforms have streamlined our business base and strengthened our ability to provide the best possible support to both the shuttle and International space station programs, anchors of JSC's mission. We employ some of the best minds, the most innovative thinkers, and the most foresighted workers in the country, both as civil servants and as contractor personnel. Only through innovative change can we launch these creative talents to take us successfully into the 21st century. In today's turbulent times, we need to create a working environment that makes it possible for us to follow through on our promises.

In February, I assembled a team of the best and the brightest at JSC to rethink the way JSC does business, to streamline our structure, and to analyze our work processes. They examined industry success stories bringing the best of these ideas to JSC. In June, a gust of reinvention was felt with the announcement of a major reorganization, the most sweeping reorganization in JSC's 30-year history. The top-level staff at the center was cut by more than 40 percent. One entire layer of management was eliminated. Half of our supervisory positions were eliminated. Certain technical projects have been reassigned from contractors to our own talented engineers, resulting in further savings. Spin-off technology is no longer an afterthought, but an integral part of the strategic planning process. Our research libraries, computer systems and telecommunication services have been combined in an efficient, customer-oriented base; and we have intermingled customer service teams with the front-line workers to improve service and enhance teamwork. We have more clearly defined roles, minimized overlaps and enhanced accountability.

Our culture is changing as well. Having a broad knowledge base and a firm grasp of the "big picture" is a keystone to our success in today's world. To that end, the center is establishing new formal rotational opportunities for employees to gain the breadth of knowledge they need. Another significant change is the fact that more than half of our managers are either new or in new positions this year. New managers translate into fresh perspectives and "can do" attitudes, the same attributes that put the first man on the Moon.

New contract guidelines have been put in place to change the way contractor performance is rewarded. The terms and conditions of the contract —not the operating plan or the budget— are the yardstick by which success will be measured. Gone are the days when rewards can be given to contracts which are behind schedule, over budget and not in compliance with the technical specifications.

Instead of developing a separate Mission Control Center for space station, the control center is being re-engineered to accommodate space station's unique requirements and newer, off-the-shelf technologies, creating a projected savings in the $200 million range.

This is an excellent example of the kind of revolutionary thinking that NASA needs to keep on course.

In the tumultuous challenge and struggle to reinvent, there is always the temptation to neglect the business at hand. Yet, JSC has continued to make great strides this year. We successfully flew seven planned shuttle flights. Earth's view of the cosmos became more focused when the Hubble Space Telescope began transmitting strikingly clear images of our universe. In February, NASA made history again when Russian Sergei Krikalev became the first cosmonaut to fly on an American spacecraft. NASA has pioneered uncharted territory, establishing unprecedented international agreements with the Russians, Europeans, Canadians and Japanese, at a significant cost-saving to the American taxpayer.

Innovative tools are being successfully developed today for use on the space station in the near future. During September's STS-64 shuttle mission, a new propulsive backpack (named the Simplified Aid for EVA Rescue or SAFER), performed flawlessly, providing a reliable safety net for space walkers in emergency situations. That same flight featured the SPIFEX flight experiment which gathered information about the potential effects of thruster plumes on large space structures. This vital information will ensure the success of the shuttle docking and rendezvous operations with the Russian Space Agency's Mir Space Station in May 1995 and other future docking operations.

The International Space Station passed a significant system design review in April with flying colors, keeping us on track for assembly to begin in 1997. Joint efforts with universities and hospitals have yielded revolutionary results for both the space program and the American people. The NASA Baylor heart pump program at Methodist hospital has yielded cutting edge technology in artificial heart development. The concept of telemedicine, the ability to transmit vital medical information to an expert at a remote location for consultation, is being pioneered by NASA. These and many other technological advances will position this nation to lead in the crucial challenges of space exploration beyond low Earth orbit while simultaneously addressing broader national and global needs .

These accomplishments are a few of the products of a changing environment, and we can be proud of these. But as we look to the future, one fact that we may not have come to terms with is that many of the changes we must face are not the result of economics, technology, or even politics. Many of the changes we face are the result of our success as managers. It is human nature for us to find comfortable patterns and strategies that are successful. But what worked in yesterday's environment does not necessarily work today, and whenever we've been successful, we've unknowingly sown the seeds of an inability to reinvent ourselves. Ultimately, managers have too often fallen prey to solutions that reject unconventional ideas, promote self-protective behavior and fuel resistance to change. If today's managers are to succeed in changing, we must liberate ourselves and our organizations from the status quo.

We've weathered significant upheavals—the earthquakes of budget cuts, and the aftershocks of redesigns, reassignments and political backlash. We work in an unsettled landscape with more eruptions to come. More than ever, we need to survey the landscape, see what needs to be done and do it without letting the org chart stand in our way. Conversely, we all need to keep egos in check when someone from outside our area comes in and helps get the job done. The important thing is to work as a team and to do the work well. Henry Ford said "Whether you believe you can or you can't you're right." I believe that we're up to the challenges ahead, and that we *can* achieve success in 1995. Here are some goals I'm setting for the center by which we can measure our success:

Next year, JSC will take an even more aggressive stance regarding safety in the workplace. Despite some very public setbacks this year, I believe we can meet the goal of having no accidents or mishaps in 1995. If we believe it, we shall achieve it.

JSC will continue to require contractors to deliver in terms of cost, schedule and technical performance. As you all know, JSC made dubious history this year by giving two "zero" award fee performance scores. I've set an even better goal for 1995: that no contractor will receive a score of "zero"—not because JSC's easing up, but because we're all working together to better ensure we get the job done. Further, I want to address the rumor that JSC won't be giving out award fee scores above 90. It is my sincere hope to be the first center director to be able to give scores of 100 to contractors that really and truly deserve it. If we believe it, we shall achieve it.

In addition to all these things, we'll still have to fly eight shuttle flights in 1995. I acknowledge it's going to be a stressful year because of our ambitious and tight flight schedules, which may wreak havoc with your training schedules, your reviews, and your lives in general. But this is our opportunity to show the world what we're made of and that we're up to the challenge. The winds and waves are always on the side of the ablest navigator, and I intend for JSC to be the best navigator the government has ever seen.

Word from the Potomac is that we can count on more turbulence in the form of budget cuts in 1995, especially in the shuttle area. You know, we can't just keep nibbling on the edges and maintain our high safety standards. Congress has given NASA $14.1 billion to do our job in fiscal year '95—and asked us to do more with less. Shuttle will be taking at least a $100 million cut which we haven't yet resolved how to handle. Wayne Littles, the new Associate Administrator for Space Flight, supports the consolidation and streamlining of our five major shuttle contracts. However, he has given us direction to move a little more slowly on those consolidations until the results of the multiple—and I might add, oppressive—reviews are in. Dr. Littles will be a difficult taskmaster—he's a hands-on engineer with a keen eye for detail—but he understands better than most the need to make prudent and difficult decisions. He understands all of the dynamics that will force us to look for revolutionary, dramatic change opportunities.

Space station will continue to be managed in terms of cost, technical and budgetary compliance, and frankly, it will likely be the most difficult road we travel this year. We have a significant new Congress in place that will be looking hard at a program with which many of them are unfamiliar. It is said that if you give a child a hammer, she will find that everything she encounters needs pounding. I fear we have a lot of hammers on the hill, but to use a somewhat worn cliche, where there's a will there's a way, and we're going to use every last ounce of pluck and determination to find every penny necessary, even if it means picking change out of the vending machines and pay phones onsite.

There are challenges out there for everyone, from complex technical challenges involving being strapped to the top of a rocket to the day-to-day challenges of keeping track of the multitude of audits. The goal for next year is to demonstrate excellence by closing audits 50 percent faster, and showing a 50 percent improvement the following year. We need to lead the way in creating a work environment that draws on a variety of skills and backgrounds of the people who are NASA. Everyone will be required to give of themselves, to their full potential in order to keep this great institution thriving. If we can believe it, we can achieve it.

While we're weathering these significant technical challenges and business upheavals, we'll need to keep an eye on the barometer of Congress. We have every indication the barometric pressure is falling, which means more storms on the horizon. As you know, the new Congressional leadership has just this week kicked off a windstorm of enormous proportions by proposing a dramatic restructuring of NASA. While it's too early to react to this proposal now, it's certainly an indication that the winds of change are not subsiding.

I would like to share with you an extraordinary statement made by British novelist John Le Carre when he addressed the Boston Bar Association in the fall of 1993. He was talking about the end of the Cold War and the need to move forward. He said: "the service industries of criticism have almost drowned the magic of creation. Our intellectuals hate too much...our press revels in public executions. We are poisoning ourselves with malice. Yet we take no risks. We are not brave. Our orthodoxy still gives us no way out. Yet we have never been so free! We no longer need to clip the wings of humanity...it's time we flew again."

There are still many challenges that lie ahead of us. The days of generous funding are long gone, and the fabric of NASA's very existence seems to hang on the thread of our ability to change. We are all too familiar with the harsh criticisms heaped upon NASA by the media, other government review bodies, and by the shifting sands of the political arena. We have always had and will continue to have critics...those who would question our methods and, at times, our motives. It is easy to fall prey to their cynical beliefs. But as Le Carre said, "Never have we been so free!" We cannot and will not allow negativism to paralyze progress. We must be willing to take risks and challenge ourselves in spite of the chance of criticism.

It's time we at NASA and in the aerospace industry make the decision to stop clipping the wings of our creativity and innovation. To stop listening to the naysayers and to those who would hold us back. It's time to clean the grime and the dirt off the window through which we view the American space program, and to return it to its once gleaming and sparkling status. It's time to take the risky road of innovation to recapture our destiny in space. ❑

Goldin calls NASA's relevance key to its future

Improving communications and increasing the country's technological base are keys to NASA's future, NASA Administrator Daniel S. Goldin said in his annual state of the agency address.

"What we do at NASA makes a tremendous difference to America. We make the nation stronger economically. We broaden the country's technological base, the lifeblood of our future," the administrator said on NASA Television.

Goldin stressed that the agency will not be able to continue to receive funding if the American people do not see the relevance in the program. The agency must help industry be competitive and help meet America's needs in a way everyone understands.

Communicating effectively and without jargon to the nation and industry counterparts will enhance the agency's image to the American public, he said, stressing the importance of expanding our interactions to include people not usually connected with the space program.

"We have to communicate with each other so that everyone is informed about what the agency is doing," said Goldin.

Better communication can lead to enhanced cooperation, he added. The agency must work together with other nations to build a space station. This cooperation has enhanced NASA's own station, doubling power, volume, and the number of research modules. To help NASA stay on its course of excellence, Goldin asked senior employees to mentor new employees and encourage new employees to explore their fresh ideas. NASA also must promote the vital link between university research and industry, he said, and the agency needs to measure a program's success by results.

"If we are not the best at what we do we should stop doing it," Goldin said.

The new focus also includes doing more with less, building small projects quickly and cheaply, he said. This has begun with the Earth-imaging spacecraft, Lewis and Clark, which are costing a tenth less than similar projects of the past. In the planetary program, four missions are planned to Mars that will cost less than the one Mars observer spacecraft.

Goldin emphasized revolution, not evolution, to build America's technological base and help industry maintain the leading edge. The priority is a new spacecraft.

"Our highest priority here is the most important thing NASA has done in 20 years. Working hand in hand with industry partners, we're going to give our country a new launch vehicle. We will never open up the space frontier while we rely on 25-year-old rocket engines and launch vehicles," Goldin said. "It will be a bold, risky endeavor, and we'll share that risk with industry."

Goldin stressed the issue of planning and delivering on time and on budget.

"Our challenge now is to make this vision reality. We are transforming NASA to do that, and you are part of the transformation. Our stepping up to this moment is what's going to make it all happen. I know we will, because throughout all the changes, there's always been one constant—NASA is filled with extraordinary people who do extraordinary things," he said.

The talk was the first in a series Goldin plans to deliver to employees. Over the next several months, Goldin said he plans to talk about specifics of the streamlining plan, customer service plan and other efforts. After each of these talks, center directors and associate administrators will be available to answer questions for employees.

Astronaut Class of '95 here in March

By Kyle Herring

Nineteen new astronaut candidates have been selected for the Space Shuttle Program. The 1995 group consists of 10 pilots and nine mission specialists, including six civilians and 13 military officers.

The candidates will report in March 1995 to begin a year of training and evaluation, followed by technical assignments within the Astronaut Office to further prepare them for assignment to shuttle flight crews. They were chosen from among 2,962 applicants 122 of which came to JSC for interviews and medical evaluations in June, July and August.

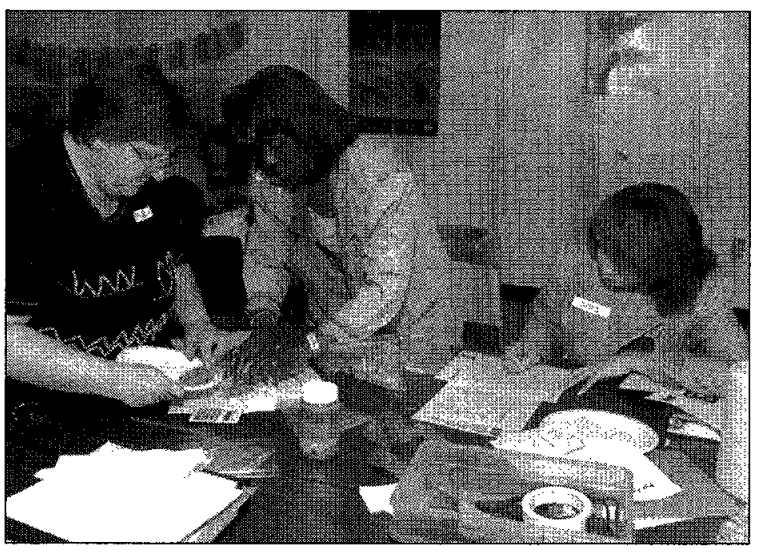
The 1995 astronaut candidate class also will eventually include international participation. These international candidates will be announced at a later date.

Pilot candidates include Lt. Cmdr. Scott Altman, U.S. Navy, San Diego; Cmdr. Jeffrey Ashby, U.S. Navy, Lemoore, Calif.; Maj. Michael Bloomfield, U.S. Air Force, Edwards Air Force Base, Calif.; Lt. Cmdr. Joe Edwards, U.S. Navy, Fairfax, Va.; Cmdr. Dominic Gorie, U.S. Navy, Orange Park, Fla.;

Maj. Rick Husband, U.S. Air Force Amesbury, England; Maj. Steven Lindsey, U.S. Air Force, Niceville, Fla.; Maj. Pamela Melroy, U.S. Air Force, Edwards, Calif.; Lt. Susan Still, U.S. Navy, Virginia Beach, Va.; and Capt. Frederick Sturckow, U.S. Marine Corp, Leonardtown, Md.

Mission specialist candidates include Maj. Michael Anderson, U.S. Air Force, Plattsburgh, N.Y.; Dr. Kalpana Chawla, civilian, Sunnyvale, Calif.; Lt. Cmdr. Robert Curbeam, U.S. Navy, Annapolis, Md.; Kathryn Hire, civilian, Merritt Island, Fla.;

Dr. Janet Kavandi, civilian, Renton, Wash.; Dr. Edward Lu, civilian, Honolulu; Maj. Carlos Noriega, U.S. Marine Corp, Camp Foster, Okinawa, Japan; James Reilly, civilian, Mesquite, Texas; and Dr. Stephen Robinson, civilian, Grafton, Va.



JSC Photo by Bill Blunck

Local teachers Beverly Boyer, Christine Jackson, and Margaret Blackstone, from left, participate in a hands-on demonstration on how island chains form.

JSC says 'aloha' to JASON VI teachers

By Barbara Tomaro

JSC education specialists hosted a series of workshops last week for 240 local teachers who will lead their students—via interactive video linkups—on a robotic exploratory adventure of the Island of Hawaii.

The educators were here to study a hands-on curriculum created to enhance understanding of the scientific endeavors of the JASON VI Project, which begins its robotic and human exploration of the Hawaiian Island chain in February.

The five-year-old JASON project was designed by a team of scientists and educators to motivate and provide professional development for teachers, and excite and engage students in science and technology. JASON VI will allow students around the world a chance to view and participate in the remote robotic exploration of the most isolated land mass on Earth.

Since their first voyage to the floor of the Mediterranean Sea, the JASON teams have shared scientific discoveries with student argonauts at Primary Interactive Network sites. Astronaut Bill Shepherd, who was instrumental in bringing JASON to NASA, sees the project as a chance to interest students in the active exploration of our planet and other worlds.

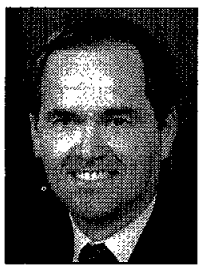
Hawaii offers scientists and students a chance to investigate the adaptation of pioneering life forms that have created a unique biological laboratory and uncover some mysteries of Earth as the one island of life in the solar system.

Jason VI will establish a new benchmark in remote science, giving students a chance to operate robot mechanisms to take samples from active flowing lava, drive an remotely operated vehicle eventually bound for Mars, participate in biomedical research on endangered nectar-feeding forest birds, and observe via computer the actual infra-red imagery from the NASA facility on Mauna Kea, part of the world's greatest astronomical observatory complex.

JSC employees may view the downlink with students in Teague Auditorium beginning Feb. 27.

Veteran astronaut, KSC director plans to leave in January

Kennedy Space Center Director Robert Crippen announced Monday he will retire to explore opportunities in private business after three years as KSC director and more than 25 years with NASA.



Crippen

Crippen, 57, announced his retirement, effective Jan. 21, to KSC managers in a staff meeting. A successor was not immediately named.

"I have been proud to be part of the NASA and KSC team," Crippen said. "I know they will continue to carry on our tradition of safe, successful and efficient launches."

The retired Navy captain became an astronaut in 1969 and was the pilot of *Columbia* on the first shuttle flight in 1981. A native of Beaumont, he flew as commander of STS-7 in 1983 and STS-41C and STS-41G in 1984. From 1986 through 1989, he was deputy director of shuttle operations, then moved to NASA headquarters as shuttle program director for two years before accepting his current post.

"Bob Crippen is one of the giants of our nation's space exploration effort, and he will leave large shoes to be filled," said NASA Administrator Daniel Goldin. "Crip's contributions to NASA and the shuttle program have been enormous, from making the first historic flight of the space shuttle, to running the Kennedy Space Center. We wish him well, and thank him for his dedicated service to NASA and to America."

Duffy to command STS-72

By Kyle Herring

A crew of six astronauts under command of Air Force Col. Brian Duffy will launch next fall on STS-72 to retrieve a satellite, deploy and retrieve another, and conduct two space walks.

Joining Duffy on the nine-day flight will be the pilot, Navy Lt. Cmdr. Brent Jett, and Mission Specialists Leroy Chiao, Daniel Barry, Navy Cmdr. Winston Scott, and Koichi Wakata of the Japanese National Space Development Agency.

STS-72 objectives include retrieval of an octagonally shaped science satellite carrying 14 experiments, set to be launched aboard a Japanese H-2 rocket in early 1995. The Space Flyer Unit was developed jointly by NASDA, the Institute of Space and Astronautical Science and the Ministry of Trade and Industry.

The crew also will use the shuttle's robot arm to deploy and retrieve the Shuttle Pointed Autonomous Research Tool for Astronomy. This spacecraft will fly free of the shuttle for several days, gathering astronomical data prior to its retrieval.

Chiao and Barry will conduct two space walks to evaluate and better understand assembly requirements and techniques for the space station.

Cafeterias planning holiday hours

Both JSC cafeterias will offer limited service starting next week.

From Dec. 21-23, both cafeterias will serve breakfast but will open only one entree line for lunch. Sandwiches will be available in both cafeterias.

From Dec. 26-30, Bldg. 3 cafeteria will be closed, but Bldg. 11 will serve breakfast and lunch including entrees, deli and hot sandwiches, soups, salads and pies.

TOPEX/Poseidon shows sea-level rise

Scientists using data from the U.S.-French oceanography satellite TOPEX/Poseidon say they appear to have detected a rise in the average global sea level over the past two years. The discovery could have important implications for the Earth's climate.

"A rise in global mean sea level is an important indicator of global change, because it can be caused by thermal expansion of the oceans and melting of glaciers and the polar ice caps," said Dr. R. Steven Nerem of NASA's Goddard Space Flight Center. "Therefore, if a long-term rise in global mean sea level were detected, this would provide further evidence to support the global warming predicted by some climate models due to an increase in the 'greenhouse' gases."

The insights from TOPEX/Poseidon, announced Dec. 7 at the American Geophysical Union's fall meeting in San Francisco, add to data collected from tide gauges over the last century that suggest average sea level has been rising at a rate of about .04 to .08 inches per year, roughly equivalent to the rate expected from global warming, Nerem said. "The data (from Dec. 1992 to Sept. 1994) show a rise in average sea level of about .12 inches per year, which is in reasonable agreement with the tide gauge results," Nerem explained.

TOPEX/Poseidon was launched on Aug. 10, 1992, to study how long-term ocean circulation affects climate change. The satellite measures the sea-surface height along a groundtrack that repeats once every 10 days. The satellite also measures absolute sea level relative to the center-of-mass of the Earth. The measurement data is unaffected by land movements.

Nerem cautioned that the results are preliminary and could change as a longer time series is collected and as the measurement errors are better understood.

"It should also be noted that since the sea level rise is only measured over two years, it could represent a short-term variation unrelated to the long-term signal expected from global warming. Nevertheless, TOPEX/Poseidon appears to be providing corroborating evidence that global sea level is indeed rising," Nerem said.

TOPEX/Poseidon data are helping scientists and a U.S. oil company in the Gulf of Mexico study potentially dangerous ocean phenomena that can disrupt offshore oil drilling.

Volunteers needed for Engineers Week

You don't have to be an engineer to participate in National Engineers Week, coming up in February.

If you want to go into classrooms to encourage students to pursue their studies in math, science, and technology, here is your chance.

Any individual can participate in National Engineers Week and other Educational Outreach Programs. "It is not necessary to be an engineer to provide inspiration to our young people," said coordinator Norma Rhoads.

Even if the deadline for applying has passed, fill out that application and send it in.

For additional information call Norma Rhoads at x30235, or electronic mail at nrhoads@gp301.jsc.nasa.gov.