

VOL. 17 NO. 2

NASA LYNDON B. JOHNSON SPACE CENTER

HOUSTON, TEXAS

Friday, February 3, 1978

# New astronaut candidates are introduced in JSC auditorium







Gardner

Hawley

Nagel







Lucid

Onizuka





McNair

**McBride** 

Sullivan



Mullane

Seddon



Nelson







Resnik

THE 35 NEW ASTRONAUT CANDIDATES — The new astronaut candidates were at JSC Monday, Tuesday, and Wednesday of this week for briefings, orientation, introductions, and interviews with the press. Monday was spent mainly in briefings and orientation. Tuesday, the candidates were introduced to JSC employees in the Bldg. 2 auditorium and were interviewed by the press. Wednesday the candidates were briefed on their two-year training program, Shuttle systems, and future programs. In mid-year the candidates will report to JSC to begin training.





COST-REDUCTION WILL SAVE \$17,264,065 - The two men pictured above with Center Director Christopher Kraft richly deserved their recent Minuteman awards. B. L. Grider and H. F. Rees of JSC implemented a new approach during the course of a special requirements review for the hypergolic maintenance facility at the Kennedy Space Center which held that the checkout point for Shuttle flight equipment be brought to the mold line, thus eliminating the need to remove the forward reaction control system (FRCS) and the aft propulsion system (APS) from the orbiter vehicle every flight. Instead, it was decided that beginning with flight 7, the test port confidence check would be instituted and the FRCS and APS pods would be removed only if deemed necessary or at a specifically determined maintenance interval, such as every fifth flight. Since 315 flights are planned from KSC from 1979 through 1989, and the pods will be removed routinely only on the first six flights, the every-fifth-flight removal rationale will amount to a conservative \$17,264,064 cost avoidance, or \$69,895 per flight.

### **New experiments** selected for LDEF

Sixteen new experiments in space technology have been selected for NASA's Long-Duration Exposure Facility (LDEF) mission, currently scheduled as the payload for the first operational flight of the Space Shuttle in 1980.

These experiments join seven other technology experiments selected late last year.

The LDEF, managed by NASA's Langley Research Center, Hampton, Va., is a reusable, unmanned, free-flying structure on which many different technical and scientific experiments can be mounted in special trays. LDEF provides an easy and economical way to conduct primarily passive experiments in Earth

and one from Canada.

## meteorite Rare to arrive Feb. 11 at JSC

some newsmen that finders' fees elsewhere in space. were being offered for pieces of a meteorite that reportedly fell in of available samples may have Oklahoma, the subject has enjoyed been somewhat beneficial, says the a revived popular interest.

Meteorite pieces have typically been bought and sold for scientific study, private collections, and museum pieces although there are only about 2000 finds in the world. But when the Japanese discovered conglomerates of meteoric pieces in the Antarctic, fascination with meteorites vastly increased among members of the scientific community - the main reason being because they were frozen and. therefore, relatively clean and uncontaminated. The situation lent itself to scientific analysis of samples.

This discovery of some 900 pieces in the Yamato Mountains of Antarctica prompted Dr. Bill Cassidy of the University of Pittsburgh to ask the National Science Foundation (NSF) for funds to go out and find some more. He received the funds and succeeded in finding some 298 pieces at the United States' McMurdo Base. He and Dr. Mort Turner are expected to be bringing two rare and valuable pieces, hand-carried, to JSC Feb. 11.

These precious samples will be stored in freezers onsite until they can be processed. They are considered rare because they may contain primordial material.

Around April, JSC will be receiving the remaining 296 pieces which are presently being sent from McMurdo to California under refrigeration.

Methods are being developed at JSC for freeze-drying samples, say curatorial experts in Building 31. always served as a repository, and, called "mass balance."

JSC has the contamination-free facilities for storing, the special saws for cutting, and the expertise for preserving nonterrestrial materials. The curation of meteorites seems to be a natural extension of the lunar program.

The NSF asked NASA to tell them what could be done to assist them in dealing with the meteorites, and meanwhile Cassidy asked JSC to help him bring back this year's find from the Antarctic. He came to JSC and was shown JSC's special packaging equipment and dry nitrogen storage facilities.

Rare samples may give a picture Seven of the experiments are of the origin of the solar system from France, two from England, or possibly of the universe and may also give some hint as to

Ever since it was announced by whether some form of life exists

In the lunar program, the lack curators. The PI's had to learn to extend their analysis capability from the large to the very small and have therefore improved their techniques of detection greatly. From a mere sliver of lunar material, PI's can tell a great deal about sample chemistry, for example.

The big question is, however, why is it that so many meteorites seem to have been found in particular Antarctic locations?

John O. Annexstad, associate curator for lunar samples, attempts to answer that question first of all by emphasizing that it is not known how many complete meteorites have been involved in these Antarctic finds. Pieces, large and small, have been found and the debate goes on as to how many complete meteorites there are. On the Japanese find alone, estimates ranged from 50 to 300 meteorites.

Secondly, the meteorites did not necessarily fall where they were found. Having been on four expeditions to the Antarctic region himself, Annexstad explains a complicated theory of ice movement that may be responsible for the location of the finds.

The Pole is close to being the highest area in the Antarctic and ice tends to move radially outward from it, says Annexstad. More ice accumulates inland, of course, but there is nevertheless a continual slow outward flow of ice toward the fringes of the Antarctic until pieces break off into chunks and melt in the ocean. In fact, the debate over whether the Earth is or is not entering an Ice Age centers Many samples will go to the around how much ice accumulates Smithsonian Institute, which has versus how much ice melts. This is

of course, some will be kept here In the process of this flowing for Principal Investigators (PI's) to movement, some of the ice is blocked by mountains and other Because of the lunar program, obstacles. A phenomenon known as "blue ice," common to the Antarctic, appears when what is known as Katabatic winds strip the snow from ancient ice, leaving for our view a glassy panorama and exposed meteorites.

> Orbiter/747 arrives Mar. 10 at Ellington for 3-day display

## Special Announcements

### It's National **Heart Month**

Heart or cardiovascular disease is fatal heart attack, often totally without warning, is an all too frecoronary artery system has a lifesaving method of growth and repair so that the person who survives a heart attack can with proper diet, exercise, and medication continue his/her usual job.

What actually happens to the heart patient's circulatory system? If you would like the answer to this question and others, plan to attend a very informative program which will be presented by the JSC Clinic on February 16 at 9:00 a.m. and again at 10 a.m. in the Building 30 auditorium. A film from the Ameri-Twentieth Century Epidemic" will be shown and a physician will be present to answer questions.

### AIAA meeting earns 70 new applicants here

The AlAA Houston section, in cooperation with the Society of Experimental Test Pilots, conducted a membership campaign in conjunction with their program on the Space Shuttle Jan. 18 at the Gilruth

Over 70 applicants for AIAA membership were received the night of the meeting, which is more than double the number of new memberships ever received during a single AIAA local section membership campaign.

This fantastic response was the result of hard work by many members of the Houston section, particularly Bill Simmons and Bob Glowczwski who led the membership committee for the campaign.

Al Cleveland, AIAA presidentelect for 1978, provided a membership pep talk at the meeting and was introduced by JSC Director Christopher Kraft. The program consisted of a Space Shuttle panel: ALT pilot Fred Haise, ALT Program Manager Donald Slayton, Orbiter Project Manager Aaron Cohen, each Tuesday through March 28th. and Manager of the Systems Engineering Office Enoch Jones.

### Belong to FBA!

bership in the Houston area Federal government employee working at JSC.

The Houston FBA sponsors position vacancy sharing programs, Honor of Federal Employee of the Year awards, a Christmas program helping needy Federal employee families, and a local national discount buying service.

For further information and an application form, contact Roy Aldridge, Exchange Operations Manager and JSC representative on the Board of Directors of the FBA, Office in Bldg. 11, X-2363.

### **Blood program** sets record

Lockheed Electronics Company, our nation's number one killer! The Inc./Systems & Services Division (LEC) concluded the 1977 Blood Donor Program year by setting a quent occurrence. Luckily, the 3-drive/year record of 475 units collected. Lockheed Blood Drives are conducted through St. Luke's Hospital under the auspices of the NASA/JSC Blood Bank Program.

Six additional members were admitted to the prestigious Lockheed Gallon Club following the December Blood Drive, which now boasts a membership of 45 one-gallon donors. The LEC/SSD General Manager, R. D. Chandler, Jr., recently presented gallon club awards to the other individuals shown in the photograph. Pam Howes joins her boss, Bob Tokerud, can Heart Association, "The to become the first LEC/SSD manager-secretary gallon club donor. Bob Tokerud, who earned his gallon club award in April 1977, is the LEC/SSD Earth Observations Department manager.

### Conference set

The Synthetic Aperture Radar seven graduate apprentices. Technology Conference (SARTC) able. The conference, co-sponsored by JSC, will be March 8, 9, 10, 1978 at Las Cruces, New Mexico. Recent advances in the technology of array antennas, side-looking radar and radar image processing are principal conference themes. Those interested in obtaining detailed conference information should call Dave O'Herren, X-4261.

### **UHCLC** offers special program

The Great Decisions '78 Program, an 8-week study of current foreign affairs topics, will be held again at UHCLC starting Feb. 7 at 7:30 p.m. in Room 2-508, Bayou Bldg. Last year, employees were encouraged to attend a similar program there. Guest speakers from the U.S. Department of State and local universities will be featured on the programs which will be held

The programs are free to the public. An accompanying study book will be available from the UHCLC Bookstore for \$4.00.

The subjects for this year's study The NASA Exchange/JSC is are as follows: Human Rights; The sponsoring an introductory mem- Global Power Balance; The Changing Middle East; Dilemmas of World Business Association (FBA) for any Energy; International Development; Japan and America; Canada, Mexico and the U.S.; and The Style Steak; Stuffed Cabbage (Special); People and Foreign Policy.

> The nationwide study program is sponsored by the Foreign Policy Association (FPA), a nonprofit educational organization. Each lesson is accompanied by an opinion ballot to be completed and forwarded to the FPA. Results of the poll are presented to the various governmental bodies involved in foreign affairs.

For additional information, call X-5419 or the Exchange Operations Area Coordinator Earle Young, X-4981 or 333-5494.



GALLON CLUB AWARDS - LEC/SSD General Manager R. D. Chandler, Jr. recently presented Lockheed Gallon Club awards to six employees who donated their 8th unit of blood at the successful December blood drive which netted 155 units of blood for the critical holiday period. (left to right) Ken Alder, Roger Wilson, Ira Hirsch, R. D. Chandler, Jr., Bill Thomas, Pam Howes, and John Romero.

# Graduation exercises are held for fifth TSD apprentice class

ducted on Jan. 13 for the Technical Services Division's (TSD) fifth apprentice class. Center Director Christopher Kraft presented the certificates of completion to the

technical programs are now avail- 4-year program combining rication.

Graduation exercises were con- academic instruction at the college level and on-the-job training to prepare technicians to become skilled in the highly specialized trades of JSC machining, sheetmetal fabrication, modelmaking/plastics fabrica-The TSD apprenticeship is a tion, and electrical/electronics fab-



TECHNICAL SERVICES DIVISION EMPLOYEES COMPLETE APPRENTICE-SHIP TRAINING - From left to right (standing) Mike Hughes, Dr. Kraft, Gregory Barbour, Les Sturm, (seated) John Allen, Jr., Billy Brown, Ruth Cole, and Ron

### WEEK OF FEB. 6-10

MONDAY: Celery Soup: Braised Beef Rib; Chicken A la King; Enchiladas w/chili; Italian Cutlet w/cheese (special); Brussel Sprouts, Navy Beans, Whipped Potato. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish: Chapped Sirlain: Selection of Salads, Sandwiches, and Pies.

TUESDAY: Beef & Barley Soup; Turkey & Dressing; Beef Raviolli; Country French Cut Beans, Corn Cobbette, Okra and Tomato

WEDNESDAY: Seafood Gumbo; Catfish w/ hushpuppies; Roast Pork w/ dressing; 8-oz. T-Bone Steak; Chinese Peoper Steak (Special): Macaroni & Cheese, Broccoli, Buttered Rice

THURSDAY: Tomato Soup; Beef Tacos; Hungarian Goulash; BBQ Ham Slice: Chicken Fried Steak (Special); Spinach, Pinto Beans, Whipped Potato.

FRIDAY: Seafood Gumbo; Liver w/ onions; Devilled Crabs; Roast Beef w/dressing; Tuna w/noodles (Special); Green Peas, Cauliflower, Whipped Potato. French Fries.

### **WEEK OF FEB. 13-17**

MONDAY: French Onion Soup: Ree Chop Suey; Polish Sausage w/ German Potato Salad; Breaded Veal Cutlet (Special); Okra & Tomatoes, Green Peas, Whipped Potato. Standard Daily Items: Roast Beef; Fried Chicken; Fried Fish; Baked Ham: Chopped Sirloin: Selection of Salads, Sandwiches, and Pies

TUESDAY: Split Pea Soup; Shrimp Creole; Salisbury Steak; 8-oz. T-Bone Steak; Fried Chicken (Special); Mixed Vegetables, Beets, Whipped Potato.

WEDNESDAY: Seafood Gumbo; Fried Catfish w/hushpuppies; Braised Beef Rib; Weiners and Beans; Stuffed Pepper Creole (Special); Corn O'Brien, Buttered Rice, Italian Green Beans.

THURSDAY: Chicken Noodle Soup; Beef Stroganoff w/noodles; Turkey & dressing; BBQ Link (Special); Spanish Rice, Buttered Squash, Lima Beans, Greens.

FRIDAY: Seafood Gumbo: Broiled Flounder; Liver w/onions; Fried Shrimp; Shrimp Salad; Meat Sauce w/spaghetti (Special); Green Beans, Broccoli, Whipped Potato.

## Brinkmann earns secretary award

Carol A. Brinkmann serves as secretary to the Chief of the Earth Observations Division, Space and Life Sciences Directorate and is responsible for the clerical and secretarial products of the Division. Since Robert MacDonald is not only Division Chief but also the NASA Level III Large Area Crop Inventory Experiment (LACIE) Project Manager, a significant responsibility over that normally expected of a division secretary has been assigned to Brinkmann.

According to her supervisor, Brinkmann's work requires a constant communications interface with senior management at JSC, NASA Headquarters, and the Departments of Agriculture and Commerce. Her work includes preparation of correspondence, reports, and briefing materials for LACIE which are used at all management levels in NASA up to and including the Administrator. She is responsible for establishing and maintaining the Division file system and she serves as Division Control Officer for all suspense correspondence and required action items. She also prepares Division travel arrangements and generally guides and assists other secretaries in the Division in the preparation of documentation.

Building 17 currently houses not only Earth Observations Division civil service and support contractor personnel (Lockheed, Ford, Technicolor), but also civil service employees of the Departments of Agriculture and Commerce. Brinkmann's supervisor indicated that she smoothly coordinates the procedures for all written and oral communications between these groups.

"Brinkmann performs all duties and requested tasks in an outstanding manner and responds with unmatched proficiency in direct proportion to the urgency of the request. Due to the complexity of the LACIE project, each day brings new challenges for which no regulations or guidelines have been established," says MacDonald.

The Division is continuously faced with high-level management briefings on LACIE to NASA Headquarters and other agencies. In what is described as a "pressure cooker" environment. Brinkmann appears to have demonstrated an extremely mature emotional stability and efficiently accomplishes her tasks with a minimum expenditure of time and energy and with minimal supervision.



Carol A. Brinkmann

# Roundup Swap Shop

Swap Shop advertising is open to JSC federal and on-site contractor employees. Goods or services must be offered as

advertised, without regard to race, religion, sex or national origin. Non-commercial personal ads should be 20 words or less,

and include home telephone number. Typed or scribbled ad copy must be received by AP3/Roundup by Wednesday of the

### **CARS & TRUCKS**

70 Triumph Spitfire. Needs some \$600. Redmond, X-5111 or 784-4239.

75 Ford Granada. 4-dr, A/C, pwr steer & brakes, 302 V-8, new radials, avail mid-Feb. \$2.995. 488-0426.

76 Ford 150. LWB, 6 cyl, 3-spd, xInt cond in & out. Allen, 334-2297 after 5:30.

72 Plym Fury III. 9-pass wgn, good cond. \$900. Cantella, X-2981 or 488-0284.

73 Maverick. 6 cyl, 4-dr, auto, A/C, very good cond, sell and/or trade. \$1,250. 334-5079 after 6.

75 Triumph TR-7. Yellow, A/C, lug rack, driving lites, minilite, mag wheels, AM-FM stereo, xInt cond, 18K mi. Below book, \$4,800. Hamilton, X-5107 or 488-6120 after 5.

73 Interntl Travelall. Cruise cont, AM-FM stereo, tow pkg, new tires. Will trade. \$2,400. Dunaway, X-4161 or 332-1170.

59 MGA-1500. XInt cond, engine comp overhauled. \$3,500. Parten, X-2151 or 523-0534.

72 Lincoln. 4-dr sedan, all pwr, runs well. Schneider, X-4251.

74 Karmann Ghia. Convertible, new top. \$2,200. 471-5396. Mercedes. Desile. \$2,900.

471-5396.

69 Chry Newport. 2 new tires, runs well. \$475. Abby, X-3671.

74 gold 260Z. New tires, xInt cond. \$4,000.471-5254.

69 Toyota Corona. 4-dr, 4-sp, light blue, good tires, runs & looks fine. \$400. 944-3640.

68 Dodge Coronet. Std trans, A/C, hi mileage, runs well, needs battery. First \$200 takes. Durocher, X-2621 or nights, 789-8828, 781-2621.

73 240Z. \$3,200. Mike, X-7474 or 488-1829.

### week prior to publication. **PROPERTY & RENTALS**

Lease: new cheery color coordinated houses in back, breakfast area, separate dining, pantry, fireplace, large master bdrm suite, covered patio, finished garage, enclosed utility area, drapes, 3-2-2 \$450/mo, 488-7232 after 5:30 or week-

Rent: Lake Livingston, Cape Royale, compl furn home, 3-2-1. Fishing hunting, tennis, golf, etc. Reserve early. Wk/mo/yr rates. 488-4487.

Rent: Galveston West End. 2 BR by-the-sea condo apt. full furn. \$180/wk off-season; \$260/wk in-season. Clements,

Rent: New Galveston Island Jamaica Beach cottage. \$175/wk or \$30/day for veekends, 334-1640 after 6 p.m.

Lease: New 2-11/2-2 CP townhouse. Fireplace, drapes, refrig, washer & dryer. XInt location on Gulf Fwy (Windswept Townhomes) w/ lighted tennis courts & swimming pool. Adults, references \$395/mo. 488-5262 after 6.

Sale: Webster 3-11/2-2 CP, 100 x 125 corner lot w/ trees, covered patio, storage area, all elec w/ energy-saving heat pump, new roof, carpet. Nice area, low taxes. Carolyn, X-2805 or 488-5778.

Lease: Middlebrook new 4-2-2 w/ car pet, drapes, formal areas, den, fireplace, utility rm. \$515/mo. 488-3148.

### **BOATS & PLANES**

Sunfish sailboat, Lockard, X-4501. 18' Sportscraft Trihull w/ trailer & Merc 125. Three props, battery, gas tank, new tach & steering assembly. Must sell, 946-9240 after 6.

### HOUSEHOLD ARTICLES

End table, night stand, lg chair. \$25. wo slat benches. \$10.946-4311.
Off-white 7' vinyl couch. \$40.

Thompson, 332-2229.

Furniture: 2 modern design couches, \$115 each. One overstuffed rocker. \$100.479-5487.

Caloric gas range, 36", white, xint cond, used short time, \$350. Also GE dishwasher, chopping block top, portable connections, pot scrubber, xint cond, 1 yr old, \$250, 332-4732 evenings.

Color TV. Works but needs parts. \$25. Also B&W TV, portable 115-v, 18". \$20. Ward. X-2386 or 488-5445.

Furniture: black acrylic top table w/ chrome base & 4 chairs. Also, black acrylic top portable bar w/ chrome base 2 matching bar stools. Jones, X-2611 & 488-8119

Cute children's furniture: 2 storage beds orig bought from "The Storehouse." 8 mos. old. like new, \$120 each. Also one chest of drawers to match beds. \$70. All 3 pieces \$300 firm. Redmond, X-5111 or 784-4239.

Twin bed, no mattress, walnut/gold velvet headboard, \$50. Also beige fake fur trim bedspread, \$25. Floor length turquoise drapes, hardware, f/ 6' window, \$35. And 4 walnut Early American dining chairs, \$60. 488-0010 after 5.

Chest of drawers, 52" long, 23" wide,

#### STEREOS

Pioneer belt drive manual turntable, Shure M91-ED, 10 mos. old, xint cond. \$57.50. Also Garrard Type A Changer, new cartridge, xint cond. \$17.50.

### WANTED

2 female roommates to share large 4-bdrm home. Must be neat & reliable, non-smokers. Norma, X-2301 or 481-9301.

Gas logs f/ fireplace & paint sprayer/ compressor unit. Mandell, X-5281.

Firefighters needed! Men and women adult residents of CLC needed to join CLC Volunteer Fire Dept. Rewarding community service. You will be trained and equipped. Call 488-0023 any time.

Need riders for carpool from W Loop, SW Fwv. Bellaire area, 8-4:30 McLaughlin, X-5536 or 661-2974.

One person to join carpool w/ 4 others. Carpoot leaves Meyerland Shopping Center at 7:15 a.m. f/ the 8-4:30 shift. Call Carl, X-4871, Cathey, X-6387, or Russ, X-4871.

Need new members f/ Bacliff Bass Club. Singles-couples welcome. Meetings, tournaments, prizes. Parker, X-4241 or Mobley, X-4428.

Small car to save transportation costs f/ daughter. Hughes, X-2271.

### **LOST & FOUND**

Found: small calculator. Owner identify & claim. Bell, X-3647.

Lost: small initial "K" charm w/ chip diamonds. Karla, X-5309.

Lost: small gold circle pressure clip earring. Beverly, X-5111.

Lost: gray leather knee-length jacket w/ silver fox collar. Lost around parking lot in Baskin Robbins area off El Camino

#### **CYCLES**

24" 10-sp bike. \$40. Thompson. X-4823 or 332-2229.

71 Yamaha HT-1, 90 CC Enduro, recently bored to first oversize, new coil. front sprocket, runs well. \$175. 554-6685 after 5.

Motorcycle trailer, 3-bike capacity, ' wheels w/ spare, springs, lites, safety chains, xInt cond. \$125, 554-6685 after

19" boy's bike w/ motorcross handles & seat. Good tires, \$15, 946-4311.

71 Honda CT 70 w/ rack. Xint cond, adult rider. \$215. Ferguson, 488-2329. Sears 3-spd man's & woman's bikes 28". \$35 each. Avila, X-5807 or 481-4837.

72 Husquarna 400 Cross. \$400. Mike, X-7474 or 488-1829

#### **MISCELLANEOUS**

Gardening equip: one Black & Decker 22" dual blade elec mower. \$65. Wheelbarrow, \$10 and 2 ladders, both \$5. Dial, X-2564.

Metal lath, 6-in, outfitted, 925-6780, Alta Loma

Typewriter, Royal, office-size manual. White, xint cond. \$75. 334-5949.

Computer paper tape reader, 1969 Air Force surplus. \$10. Ward, X-2386 or 488-5445.

Tire: Sears radial. Two Fiberglas & 2 polyester. Size HR 78-15. Less than 4K mi. \$8. 488-4069.

Ten 1976 Bicentennial souvenir sheet sets in original USPS envelopes. \$169. Jeff, X-3856 or 482-5393 after 5.

Bay Area Lions Club's annual fertilizer sale. \$4.50/50lb bag. Taking orders now. Proceeds go to charity. Delivery date will be Mar. 4. Call 333-2270 488-2642, or 482-4687. Fertilizer is 12-4-8 composition.

# **EAA ATTRACTIONS**

### TICKETS

The following tickets are availfrom 10 a.m. 2 p.m. Monday -TICKETS.

Dean Goss Dinner Theater -The comedy play "Marriage-goround" is now featured at the Dean Goss Dinner Theater. Tickets are now being sold for \$16 per couple or \$8 per person.

Disney Magic Kingdom Club -Free membership cards.

### HOUSTON AERO HOCKEY

are on sale at the special rates of \$6.50 and \$4.00 through EAA.

Houston Acros gift cards will be sold in Bldg. 11 to EAA members, with the Bob Wills's Band, so for a who in turn may exchange them at the Aero's Box Office.

in a row and in third place.

### **HOE-DOWN**

Break out your spurs and chaps. able at the Bldg. 11 Exchange Store all you barrel-racers and broncriders, 'cause it's Country and West-Friday. NO REFUNDS ON ANY ern Hoe-Down time again - just in time to get you warmed up for Houston's Rodeo Season.

> The date is Saturday, Feb. 11, 1978, and the place is JSC's "back 40" (more specifically, the Gilruth Recreation Center). Refreshments (sassparilla and the like) will start at 7:00 p.m. with chow being served from 8:00-9:00 (good ole' Texas Bar-B-Que).

At 9:00 y'all will be stompin' to Houston Acro Hockey tickets the sounds of Herb Remington and the Texas Wanderers (complete with fiddler!). Herb just returned from a taping session in Nashville taste of Herb's talents, we hope you saw the special on NBC January 22. The Aeros are hot, with six wins Y'all get all these good drinks, good food, and good sounds for only Upcoming home games are with \$7.50/person. Tickets are on sale New England Feb. 4. Quebec Feb. now at the Bldg. 11 Cafeteria, but

### DANCE CLASSES

The JSC Dance Club will sponsor a 10-week series of classes every Wednesday evening beginning Feb. 15 at the Gilruth Recreation Center. All types of dancing (rock, swing, whip, fox-trot, polka, waltz, latins, etc.) will be taught by instructors Bob and Rae Calvert of Calvert Dance Studios. Cost is \$38. per couple for the 10-week session. For information, call Dance Club secretary Billie Fairfax, X-3050.

### LIVESTOCK SHOW

The Houston Livestock Show and Rodeo runs smoothly each year because of more than 2500 volunteers - including NASA employees who donate their time, talents and energy to ensure its success. This year, they plan a significant increase in their agricultural scholarship program - already the largest in the state.

Rich, Crystal Gayle, Mickey Gilley. hall on a round-the-clock basis. Kenny Rogers, Lynn Anderson, the Osmonds, and Captain and

N. W. Freeman.

Planning for the 1978 Show beopens February 24 in the Astro- championship barbecue cook-off. ances.) Sales end Feb. 17!

dome. Stars appearing this year are During the two week run of the Mac Davis, Charley Pride, Charlie Show, volunteers are in the Astro-

One of the NASA employees Johnny Cash & June Carter, who serves on Houston Livestock Conway Twitty and Loretta Lynn, Show and Rodeo Committees is Tom Howe, communications specialist, who is a member of the Beef The volunteer members serve on Scramble, Beef Scramble Sponsor, 51 different committees, each of and Scramble Greeters Committees. which is charged with responsibility The Beef Scramble Committee for a special facet of the Show. organizes the Beef Scramble contest "Without the help of these dedi- and conducts the Beef Scramble cated individuals who work long Awards Banquet, while the Beef hours without any financial Scramble Greeters Committee obcompensation, the Houston Live- tains sponsors for all of the Beef stock Show and Rodeo would never Scramble calves. The Scramble have achieved the success it has or Greeters Committee arranges to have been able to help so many stall all scramble calves and issues young people," said Show President show numbers and exhibitor badges to scramble exhibitors.

Tickets are now on sale at the gan at the close of the 1977 Show. Bldg. 11 Exchange Store through Volunteers begin working early in EAA. Available for \$5.50 are 200 August and continue until the last tickets for each of FOUR performspectator leaves the Astrodome in ances: Feb. 24 (Mac Davis), Feb. 25 March. They do everything from (Charlie Pride), March 3 (the The 1978 Houston Livestock selling calf scramble sponsorships to Osmonds), and the March 5 mat-9 & 11. Winnipeg Feb. 12, Birming- hurry 'cause it's first come, first Show and Rodeo begins February announcing horse show competi- inee (Dolly Parton). (The other ham Feb. 16, and Cincinnati Feb. serve, and the last day to buy 'em is 22 in the Astrohall; the Rodeo tion and running the world's three shows are evening perform-

# Gilruth Center classes extend into early spring

### **Auto Mechanics**

Basic: This class covers the operating principles of the automotive engine. drive train, and running gear. Emphasis is given to safety inspections and preventative maintenance procedures that can be accomplished by the average owner/ operator with a minimum of tools. Following completion of the course the student should be able to

- 1. Inspect an automobile relating to its safe operation and repair/adjust items needing attention.
- 2. Save money by doing own preventative maintenance. 3. Have some understanding of the re-
- pair work that must be done by a mechanic when it is required.

per person. Thurs. nights, starts March 2. Sign-up deadline Feb. 23.

Intermediate: This course is designed as a follow-on to the basic class or as a supplement to the "back-vard" mechanics basic skills. The fundamentals of performing minor tune-ups, carburetor overhauls, and light repair (brakes, shock absorbers, hoses belts, etc.) work are covered in lecture and lab sessions. The two labs will be limited to 6 students for each 3-hr. session (with 2 instructors for close supervision) where the students actually perform minor tune-ups and install carburetor repair kits. Potential benefits to the students include signifi-

rectly. Four 2-hr lectures, 2 - 3 hr. labs, \$33.50 person. Thursday nights, starts March 30. Sign-up deadline March 23. Labs for both classes are on Saturdays.

### Conversational Spanish

Ten 2½-hr sessions, \$40.00 per person. Meets Wed., 6:30-9 p.m. Starts Feb. 8. Sign-up deadline Feb. 6, 1978.

### Conversational German

Ten 21/4-hr sessions, \$40.00/person meets Mondays, 6:30-9 p.m. Starts Feb. 6. Sign-up deadline Feb. 3, 1978.

### Plant Propagation

Five 2-hr. sessions, \$14.50/person, incant monetary savings, plus the satisfac-cludes materials but students may

p.m. Starts Feb. 22. Sign-up deadline Feb. 21.

### Oil Painting

Be sure to see the painting display in Building 11 the month of February, All paintings were done in previous classes held at the Gilruth Recreation Facility. They are good examples of what can be accomplished with some instruction.

Second Session: Six 2-hr sessions, \$37.50/person, materials not included. Meets Thursdays, 6-8 p.m. Starts March 16. Sign-up Deadline - March 14.

### Photo Darkroom

Black and White: Eight 2-hr sessions, \$30/person, includes materials except

Three 2-hr lectures, 1 to 2-hr lab, \$16.75 tion of knowing their car is repaired cor-Sign-up deadline Feb. 7

Color: Eight 2-hr. sessions, \$30/ person, includes chemistry students supply paper and negatives. Wed. 7-9 p.m.. starts Feb. 15. Sign-up deadline Feb. 7.

### Group Tennis (4 to 8 people)

First Class: Eight 1-hr sessions, \$30/person, Mondays and Wednesdays. Beginners: 7:30-8:30 p.m.; Intermediates: 8:30-9:30 p.m., Starts Feb. 27. Sign-up deadline, Feb. 20.

Second Class - Eight 1-hr sessions, \$30/person, Tuesdays and Thursdays. Beginners: 7:30-8:30 p.m., Intermediates: 8:30-9:30 p.m., starts April 4. Signup deadline March 28.

# You can't tell the score without a score card

JSC Sports Feature

# Intercenter Running Competition: They just keep jogging along!

Results are now in from the Two-Mile Run: fourth NASA Intercenter Postal Running Competition. Every April Men 29 Yrs. and Under and October the event is held at each NASA Center wishing to participate. Sponsorship is rotated from center to center. The sponsoring center is responsible for rules, signup, results, and awards. The events are open to NASA employees as well as other Civil Service people assigned to a NASA Center and contractor employees as long as they work full-time at a NASA Center. Some sponsoring centers also include spouses and dependents of the Civil Service and contractor employees.

The events started in June of 1976 at the instigation of a group of joggers at NASA Headquarters headed by Bob Lottman. In this fourth competition, events have grown steadily in popularity. An event that started with 171 runners from nine centers in a two-mile race has grown to well over 400 runners from 10 centers competing in twoand four-mile events.

Tim Kincaid, the Recreation Director at the Gilruth Recreation Facility, coordinates this event for JSC, along with a lot of volunteer help from employee runners. After a strong showing last April and a first place finish in both events, there was somewhat of a letdown, and JSC slipped to third place in the two-mile and to second place in the four-mile. Kincaid points out that a balanced showing in all age groups for both men and women is necessary to capture first place

The JSC men held their own in October, but only three women participated in the two-mile race and none ran four miles. In April, JSC had 20 women run two miles and nine run four miles. It is true that some of those were spouses and dependents and were not eligi- JSC had none participate. ble to run in the two-mile race this time; however, even with this considered, womens' participation fell way off. Those women who did participate are to be commended. and it is hoped that they have a little company out on the track in April 1978 to regain the champion-

Other groups where JSC has been chronically weak are: Men, 20-29 years, Men, 50 years and over, and participation percentage. In those races points are added for sheer numbers. Information about the events will be carried in the 22:39, 3rd place, 8 points, Roundup as well as be on bulletin boards and mailed to all past partic- 22:46, 4th place, 7 points, ipants. JSC can regain the first place titles, but every one must 25:05, 5th place, 6 points, pitch in.

The following are the top 10 25:46, 6th place, 5 points, JSC runners' times, showing also age group, points scored, and where 25:54, 7th place, 4 points, employed.

(52 total participants) 11:17, 4th place, 7 points, Lupe Gomez, Northrop, Bldg. 13

Men 30-34 Yrs. (55 participants) 10:45, 2nd place, 9 points, Jimmy Gilbert, FS5 11:34, 8th place, 3 points, Stan Fink, DB6

Men 35-49 Yrs. (79 participants) 10:31, 1st place, 10 points, Herb Cottle, MDAC, Beta 11:06, 4th place, 7 points, Lou Schiavo, Northrop, Bldg. 8 11:19, 8th place, 3 points, Chuck Michalik, IBM-71

Men 40-44 Yrs. (71 participants) JSC placed none in the top 10, highest JSC Finisher 12:10, 12th Place, 0 points, Ed Gibson, CB

Men 45-49 Yrs. (62 participants) 10:53, lst place, 10 points, Claud Edmiston, EG5 12:02, 3rd place, 8 points, Toy MacDonald, SWBT, Bldg. 47

Men 50 and over (47 participants) 13:00, 6th place, 5 points, Rex Martin, EC3

Women 29 Yrs. and Under (12 participants) 16:31, 7th place, 4 points, Renee Lance, EP4

Women 30 Yrs. and Over (15 participants) JSC placed none in the top 10, JSC finishers were 18:24, 12th Place, 0 points, Billie Gibson, WA; and 19:49, 13th place, 0 points, Mary Lynn Putnam, EC5

Four-Mile Run:

Men 19 Yrs. and Under - Mostly dependents (8 participants)

Men 20-29 Yrs. (12 participants) 25:57, 2nd place, 9 points, Paul Wychor, BB6 27:47, 4th place, 7 points, Nick Lance, EC4 29:07, 7th place, 4 points, Joe Chambliss, ZC-01 29:32, 8th place, 3 points, John Rector, EP5

Men 30-39 Yrs. (30 participants) 22:12, 1st place, 10 points, Herb Cottle, MDAC, Beta 22:36, 2nd place, 9 pointts, Jim Gilbert, FS5 Lou Schiavo, Northrop, Bldg. 8 Chuck Michalik, IBM 71 Stan Fink, DB6

Rick Barton, EX4

Coye Jones, ER

26:59, 9th place, 2 points, Mickey Trichel, SF3

Men 40-49 Yrs. (31 participants) 22:36, 1st place, 10 points, Claud Edmiston, EG5 25:23, 5th place, 6 points, Toy MacDonald, SWBT, Bldg. 47 27:21, 9th place, 2 points, Dean Myers, EJ13 27:43, 10th place, 1 point, Don Cherry, BB6 JSC also took 11th through 17th place.

Men 50 Yrs. and Over (16 participants) 27:35, 2nd place, 9 points, Rex Martin, EC3

Women all age groups (none ran the four-mile)

With the number of employees at JSC, Kincaid feels that 1000 participants is not out of line. He has set 250 participants as the goal for the April race. He says, "Nearly that many runners regularly use the Gilruth Recreation Facility. If we can get their full support 250 is well within our reach. From there we'll need each participant to bring a new runner to each race; whether it's spouse, dependent or coworker. By the October 1978 race, JSC can be up to 1000 participants and leading the way in employee fitness and recreation." Contact Kincaid at X-3594, if you ever have any questions or need information.

The next Intercenter Race will be sponsored by Lewis Research Center, and will be sometime in April. Details are not available yet, but as soon as the Lewis Running Committee sets anything firm, JSC runners will be notified.

## Scuba diving courses offered

The JSC Scuba Diving Club, Lunarfins, is offering a certified basic Scuba course at the Gilruth Recreation Center. Although the first class began just vesterday, interested individuals are urged to enroll by contacting Doug Cook for details. It's not too late!

The course includes classroom lectures and supervised practical experience. The Scuba Club schedules regular boat trips to the Flower Garden Reefs, V.A. Fogg, and to numerous platforms in the Gulf. Trips are also planned to favorite diving locations in the Caribbean.

The club continues to have access to the Clear Creek High School pool (League City) on Monday evenings from 7 to 9 p.m. Underwater hockey is played from 8 to 9 p.m. and visitors are welcome.



MUSGRAVE PRESENTS AWARDS Astronaut Story Musgrave was on hand to present the awards. He also participated. He finished 3rd for men 40-44 yrs, old with a fine 26:16. Pictured receiving an award is Danya Greider, Top female 4-miler. Award ceremony turnout was over 200 people.

### NASA/BARC race brings awards

Ordinarily the traffic on Avenue B and Second Street on a Saturday morning is very light. Saturday, January 14 this was not so. Traffic was heavy, very heavy, but not with cars and trucks. About 125 runners were out on a cold, windy morning to participate in the second NASA-Bay Area Running Club Road Race (BARC). About half the runners were NASA or contractor employees, their spouses and dependents. Other participants were BARC members and Houston Area Runners. Four other Joint NASA/ BARC races are scheduled for 1978. They are being run in order to bring some interesting competition into JSC for our employees to take part in.

The Jan. 14th race had 27 onemile novice runners and 97 4-milers. R. Delacruz was the first place finisher in the 4 mile with a time of 20:41. Top woman finisher was Danya Greider who turned in a fine 27:45 for 44th overall. In the one mile, Windsor led all finishers with a time of 5:37; Blanchard led the ladies with the time of 6:30 for 4th overall.

Rick Barton, EX43, heads up the events for BARC, but it takes a lot more than one person. Many of your fellow workers are BARC members and they all pitch in. Prerace arrangements, advertising, early mail-in registration, registration the day of the race, refreshments, awards, guest speakers, people to time races and so forth are considered.

> NASA/BARC 1978 Schedule

Sat. - April 8, 9 a.m., 15 km, GAAU Sat. - June 10, 9 a.m. 4 mi Sat. - Oct. 7, 9 a.m. 20 km, GAAU

Sun. - Nov. 26, 3 p.m. 10 km

### Golfing anyone?

The JSC Golf Association (JSCGA) has completed its tournament schedule for 1978 and is now conducting its membership drive. Any JSC employee or badged JSC contractor is eligible to join fellow golfers in a competition consisting of nine medal play tournaments. two fun tournaments, a two-day championship tournament, and an optional 4-ball match play tourna-

Competition in the JSCGA is handicapped and flight winners for the season are determined by points won in each medal play tournament. The membership is divided into two groups by handicap. Last year the split was 16/17. All handicaps are updated during the year.

The schedule for 1978 is:

Course	Low HDCP	High HDCP
Texaco	Feb. 20	Feb. 20
Glenbrook	Mar. 11	Mar. 25
Wortham	Apr. 1	May 6
Brock Park	Apr. 29	Apr. 15
Texas City Bay	ou May 13	Jun. 3
Tejas	Jun. 10	Jun. 24
Newport	Jul. 8	Jul. 29
Columbia Lake	s Aug. 12	Aug. 19
Sunmeadows	Sept. 9	Sept. 30
Inwood Forest	Oct. 9	Oct. 9
Championship	Oct. 28/29	Oct. 28/29
(qualifiers only	),	
Course TBD		
Lake Houston	Nov 10	Nov 10

Costs include dues of \$34.00 (\$27.50 returned as fun and medal play prize cerficates; \$6.50 for expenses and trophies) and greens fees (average \$6.25) which are paid when signing up for each tourna-

To participate in eleven enjoyable and competitive matches played at different courses in and around Houston, request a membership application form by writing to Bob Sampson, code EJ. Completed applications must be received by Feb. 10, 1978.

### EAA LEAGUE SPORTS SCHEDULE 1978

Mens Basketball - 10-wk season Jan. 9 to Mar. 30.

Mens, Womens, **Mixed Softball** 

Mar. 27 to June 16.

Mixed Volleyball - 10-wk season June 5 to Aug. 11

Mens, Womens – 10-wk season Mixed Softball

June 19 to Sept. 8

Mens, Women - 10-wk season

Aug. 21 to Oct. 20 Mens Basketball 7-wk season Oct. 23 to Dec. 15.

## ROUND

NASA LYNDON B. JOHNSON SPACE CENTER

HOUSTON, TEXAS

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