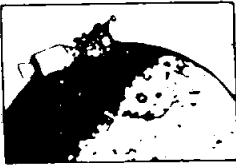


MOCR MOB—Ever thought about the number of employees involved in a single shift at the Mission Control Center during a mission? Pictured above is flight director Chuck Lewis' MOCR team and support personnel. They are in the MOCR at Bldg. 30.

ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

HOUSTON, TEXAS



VOL. 13 No. 4

January 18, 1974

Comet Still Receiving Attention

Comet Kohoutek continues to receive close attention from Earth-based astronomers and the Skylab astronauts.

Although the comet is now out of the field of view of the large Skylab Apollo Telescope mount (ATM) instruments, Astronauts Gerald Carr, Ed Gibson and Bill Pogue will continue to point six sophisticated cameras at Comet Kohoutek as viewing opportunities arise. The last such opportunity is expected to occur around January 30.

Comet Kohoutek has been the subject of more in-depth study, conducted simultaneously by more astronomers, than any other comet ever viewed. The results of these studies are expected to be extremely valuable to the progress of astronomic science.

A number of theories are being developed as to why the magnitude of Comet Kohoutek did not live up to advance billing.

Some astronomers theorize that Comet Kohoutek is a new comet, not previously affected

by solar radiation, and that the head of a new comet is covered by a low-vapor, layered crust that in some way inhibits the brilliance that could otherwise be expected.

Others believe it is possible that Comet Kohoutek consisted of highly volatile gases that vaporized soon after the comet was discovered, leading to a prediction of a higher brilliance than finally occurred.

Additional theory holds that as the comet approached perihelion the Sun quieted down considerably, thus producing less effect on the comet's magnitude.

Comets have always been unpredictable because of a lack of opportunity to observe them for long periods, inability to observe them as they were close to the Sun, and the limiting effects on ground observations of Earth's atmosphere.

The Skylab comet viewing program, conducted far above the atmosphere, is expected to be of valuable assistance as astronomers work to unlock come-

tary mysteries.

Astronomers say there is no reason for disappointment and they are impatiently waiting for the opportunity to correlate the massive amount of atmosphere-free data gathered on Comet Kohoutek by Skylab with ground-and rocket-based observations. Of further interest are the pictures of the Comet that will be provided by Mariner 10.

The Mariner 10 pictures, in conjunction with Skylab data and data from ground observatories, are expected to produce three-dimensional images of Comet Kohoutek, a feat never before possible.

Even after 2,000 years of recorded comet observations, questions dealing with such enigmas as comet origins, their composition, the processes by which gases are produced from parent compounds in the cometary nucleus, and the lifetimes of comets, have lacked hard answers.

The data gathered on Comet Kohoutek is expected to pro-

(Continued on Page 2)



LUNAR SCIENCE CONFERENCE—Dr. Fred Horz, JSC geologist speaks to a group at the Lunar Science Conference held at the Lunar Science Institute, January 14-16. Astronaut Jack Schmidt, right, was serving as chairman of Monday's seminar.

Skylab 4 Crew Gets Second Month Review

Skylab Program Director William C. Schneider, has announced that currently, there is nothing to preclude a successful 84-day mission for the SL-4 crew.

"The crew members are in good shape, the spacecraft is in good shape, and we have enough work to do to make an extension not only possible but desirable," Schneider stated after NASA officials approved the first seven-day "go-ahead."

"The crew is very enthusiastic. They've maintained their health very well; they've maintained their exercise regiment; they've managed to eat and sleep. They have done all of the things you would expect them to do to put themselves in the best posture for the 84 days," Schneider continued.

For the remainder of the mission, weekly evaluations of the hardware, consumables and crew will be made.

Schneider related that at the two thirds point of the mission, activities of the crew were on schedule.

"In the medical area, we have produced about 62 percent of the performances that we'd planned," he stated, "The ATM is at 67 percent on the solar and 94 percent on the Comet Kohoutek."

He said that EREP had suffered somewhat, primarily because of the problems with the gyros. He indicated that unfavorable weather conditions might interfere significantly with the completion of requirements in the EREP area.

"All other activities are schedulable," he added, "and we think that we will probably accomplish something on the order of 1600 experiments."

"We've had a very productive mission so far," Schneider concluded, "I'm looking forward to a continuation of that productivity."



ASTRONAUTS SET RECORD—The SL-4 crew passed the Skylab 3 spaceflight duration record of 59 days, 11 hours, 9 minutes and 4 seconds at 8:10 p.m. last Monday. Similarly, the Skylab 4 flag has flown in front of BLDG 2 longer than any other mission flag. The astronauts have been in orbit 64 days today.

JSC Seeking Scholarship Applicants

The NASA exchange—JSC is issuing its 1974 call for Scholarship Program applicants.

The college scholarship fund was established in 1967 to provide financial assistance to unmarried dependents of JSC employees.

Students who are currently in college, as well as high school students who will graduate in 1974, are eligible to apply.

College students will be asked to furnish transcripts showing that they are in good scholastic standing, and high school stu-

dents are required to have a grade average of 3.5 on a 5.0 scale or 2.5 on a 4.0 scale.

Scholarship winners are furnished \$300 per academic semester or \$200 per academic quarter, for a total not to exceed \$800 in any one year. The maximum value of the scholarships is \$3000, which permits sponsorship for five years for students who are seeking advanced degrees.

Although financial need is considered in selecting scholarship winners, dependents of all

(Continued on Page 4)

JSC Attracts Capacity Crowd on "Superbowl" Weekend



Secretary Chosen

Connie Lenczewski, secretary to the Technical Assistant of the Skylab Program, has been named "Outstanding Secretary" for January.

Miss Lenczewski is a poised, pleasant secretary who has demonstrated her awareness of space program requirements by assuming whatever duties her superiors consider most important.

When problems arose after the launch of Skylab 1, Connie worked closely with the secretary of the Program Manager to establish a "Communications Center" to locate crucial personnel and to make sure that messages of vital importance were relayed promptly.

To accomplish this assignment, Connie sometimes worked 18 hours a day and weekends. Despite the long hours associated with this emergency, however, she maintained a calm and cooperative manner, efficiently carrying out her assignments.

Connie's excellent background regarding problem matters and the personnel involved as well as her sound judgement, resulted in her gaining the confidence of all personnel who were working with the Program Office to seek a means of repairing the damaged Skylab Space Station.

Kohoutek Still Getting Attention

(Continued From Page 1)
vide many of the sought-after answers.

One theory holds that a giant spherical cloud of billions of comets exists at a distance of about 150,000 AU (astronomical units) from the Sun. An AU is equal to the distance between the Sun and the Earth, or approximately 93,000,000 miles.

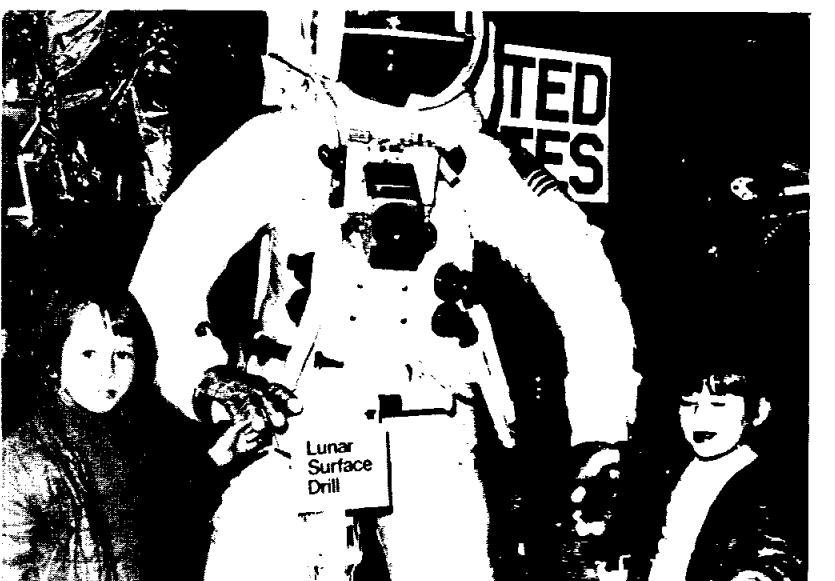
Occasionally, according to this theory, a perturbation of the gravitational force injects one of the comets from the cometary cloud into the inner solar system, where it is seen as a "long-period" comet.

Others have been captured in small orbits; these short-period comets include Halley's Comet.

It is thought the comet cloud may actually be frozen chunks of the nebula of which the Sun and the planets were formed. If this is true, Comet Kohoutek could consist of the primordial material of the solar system and provide clues to the origin of that system.

Although the Sun, planets and the rest of the matter in the solar system have been changing with time, comets appear to have escaped astronomical evolution.

**Take stock in America.
Buy U.S. Savings Bonds.**



Roundup Swap-Shop

Swap Shop advertising is available to JSC and on-site contractor personnel. Articles or services must be offered as advertised, without regard to race, religion, sex or national origin. Ads should be 20 words or less, including home telephone number. Name and office code must accompany, but need not be included in ad copy. Typed or printed copy must be received (AP3 Attn: Roundup) by Thursday of the week before publication.

HOUSEHOLD ARTICLES

Sealy (firm) King-size mattress and bx springs, xint cndn, \$70, McPhillips, 337-1471 aft 5.

Freezer, xint, 9 cu ft, \$25, reg 26" men's bike, \$15, Cosco playpen, stroller, highchair, aquarium, 488-2584.

Contemp triple dresser and mirror, xint cndn, 333-4184 x-4588.

7 piece dinette, gd cndn, Mrs. Lai, 483-6461.

PETS

Satans Sun Dance, vry gd horse for experienced young girl, brown w/ b/c mane, tail and stockings, gelding, nds home w/ love, 334-1791, Barbara.

WANTED

Motorcycle Junkers for parts, 554-6093. Carpool from Nasa area to downtown Houston, 474-4359 aft 4:30 p.m.

LOST AND FOUND

Lost: female wire hair Terrier, CLC Dec 31, white w/ b/c and tan, wearing flea collar, answers to Princess, reward, 4 88-4134.

PROPERTY AND RENTALS

House for lease, CLC, 4 br, w bath, 2 car garage, fire-place, drapes, built-ins, large yard, \$315 month, 488-1935.

Sell or lease, Seabrook, 3-2-2 brick home w central heat, air, dishwasher, nw carpet/paint, 488-3200 or 483-3602.

BOATS

72 16" Wellcraft airstot, 80 hp Mercury, w/ xtras, li nw, \$2600, 554-3166.

VEHICLES

67 Impa a, 9 pass Chev sta wgn, V8, fact air, radio, gd carpool car, \$625, 334-1639.

Boys 20" Schwinn Bike, \$15, boys sz 5 ice skates, Canadian Hockey, \$10, 488-4005 or x-6421.

69 Chrysler Imperial, 2-dr ht, \$1400 or bst offer, pwr, air, seat belts, Fischer, 472-6910 or 2177.

64 Olds 88 4-dr, air, white, xint, 14-16 MPG in town, \$450 cash, nd, 71-72-73 Clean Volvo 145 sta wgn, will trade, 482-7698.

69 Olds 4-dr 98, loaded, gold, brocade seats, prtct cndn, 54,000 mim \$1400, 482-7698.

69 Dodge Charger, V-8 but no P.C.D., 16 mpg, Rainey, 488-4384.

63 Chev 3/4 ton pickup, V-8 stick shift, gd tires, 10' ft camper, a/c, all gd cndn, \$1695, Armstrong, 333-3279.

65 Chev 1/2 ton pickup, 6 cyl, std shift, a/c, new tires, cover, long bd, \$775, Armstrong, 946-2615.

72 Ranchero 500, 351, air, auto, pwr, radio, and more, 12000 mi, Allen x-6161 or 488-4024.

69 Pontiac Catalina, 2 dr ht, auto, air, pwr, vinyl top, gd cndn, nw paint, \$1000, 485-2787.

61 Forc Falcon, 4-dr, gd work car, \$100, Hartley, x-4401 or 488-0877.

73 Pontiac Lux Lemans, red w/ white vinyl top, air, radio, heater, bucket seats, all red interior, rally ll whs, 14,000 mi, li nw cndn, Furnished comp car, 479-3848 aft 5 p.m.

69 Honda 350 pre "K" 8000 mi, lug rack, adjustable sissy bar, custom lite mount, turn signals, 10" riser bars, windshield, nw upholstery etc, \$500 firm, Underhill, 482-3100 aft 4:30.

55 Chev 210 series, 2-dr, 76000 actual mi, 4 nw wh wall tires, radio, heater, 17+ mi per gal in town, original std trans, nd upholstery, runs gd, lks new, \$850, 482-3100 aft 4:30.

Dunebuggy, Corvair, Calif, Custom 30 +, MPG, Bullock, 488-6095.

68 Olds Delta 88, xint cndn, gd gas mi, Maxwell, 482-1015.

Repossessed cars: 70 Cadillac Eldorado, recent valve job and tune up, xint cndn, 70 Ford F100 pickup, long wh base xint cndn, 72 Ford Pickup Explorer, xint cndn, may be seen in parking lot across from fire sta from 11 am-1 pm, Jan 21-24, 1974, bids close at 5:30 pm Jan. 24.

Bike, Italian 10-speed, simplex Derailleurs, Weinmann Centerpull brakes, Ideal leather seat, \$60, Gast, 334-1417.

Bike Montgomery Ward, 26" boys Coasler brake, gd cndn, \$25, Konrad, 334-2180.

69 Chevrolet Kingswood sta wgn, 52,000 mi, air, pwr brakes/str, recent brake job, radial tires, \$750/oft, Sawin, 334-1251.

64 Ford Galaxy, loaded, a/c, tape deck, xint cndn, \$325 Alford, 334-2844.

63 MGB, nds engine work, \$400, x-5270.

26" Girls bike, gd cndn, \$15, 944-7632.

66 Pontiac, 9 pass wgn, 2 barrel economy, reduced to \$595, 488-2797.

67 Buick LeSabre, reg gas, gd mi, low compression engine, below blue book, must sell, Quinn, 2301 or 488-1877 aft 5.

71 Toyota Celica w/ air, red, 28,000 mi, \$2150, Kolkhorst, 488-3807.

71 Suzuki street bike, 250cc, li nw, lw mi, w/ helmet, \$425, 471-6798.

73 Monte Carlo, V-8, metallic royal blu w/ bl vyl top, auto, pwr, s/b, am/fm radio, rally whs, steel belted radials w/ white sidewalls, rear window defrosters, body side molding, rally sport mirrors, 10,000 mi, li new, Steve 473-3168.

MISCELLANEOUS

Plastic model airplane kits, most all 1/72 and 1/32 scale kits, Aurora WWI, Many unavailable now, for listing Parmenter 482-7734.

Revere 8mm roll-type camera and Keystone projector w/ case, xint cndn, both \$75, w/ free light bar, 334-1639.

Canon 518 auto zoom, super 8 camera w/ 1.6X teleconverter, custom case and 600 watt light \$250 new, \$125, 333-3001.

Oscilloscope, 5" Bell and Howell, \$50, transistorized volt meter, \$15, Ward, 3421.

Haviland Platter and 12 plates (3 sizes) \$100, stainless flatware, service for 6, still in original wrappings, handsome design, \$11.50 wiglet, light red-brown real hair, \$4.95, 2

hand-made folding tables, blond tops, blc legs, \$6, wardrobe trunk, bst ofr, assorted textbooks and music, \$0.10 up, 332-1375.

Ruger, "Super Bearcat" 22 cal revolver w/ holster/belt, li nw, \$50, 488-3966.

Hammond electric organ w/ blt-in Leslie, beautiful cabinet, li nw cndn, adult owner, 483-4871 or 721-1432.

5 x 7 wool rug, \$5, 488-4005 or 6421.

Rolliflex 2.8 f twin-lense reflex camera w/ blt-in light meter, rollinkin 35mm kit flash unit li nw \$350, Kilpatrick, 534-4603.

Lafayette RK 87 AM-FM cassette recorder-player w/ blt-in condenser mike xtra plug-in mike, 30 min cassette and air adapter, \$45, Weitz, 333-3071.

Golf clubs, matched Wilson woods, 1-4, \$20, 333-2787.

Half-cord of firewood, slow burning hardwood, \$10, 488-4005.

Color TV FM antenna, new still in bx, was \$14.95, now \$7.50, 488-2797.

Typewriter, Underwood Five, less than 25 hrs use since rebuilt by Underwood, \$49, 488-2797.

Ham gear, Heath HW 101, speaker, a/c powr, c.w. filter, Lindsey, 488-0517.

Black/Decker router/planer kit, Industrial w/ cutting bits/metal case, \$90, Sears 1 1/2 motor, 115/230v, 3450 RPM, Industrial, cap star, dbl ended shaft, Sears Dovetail Template, model 315-25720 still in box, \$18, 471-6798.

JSC Group Meets Fund-Raising Goal

JSC Black Christmas Project Officials have announced that their annual fund-raising drive to aid needy families was once again successful.

This year, the group met their goal of \$2000, allowing them to provide toys and food baskets to 65 families. The food baskets included a turkey, ingredients for dressing and potato salad, a variety of vegetables, and dessert.

Also, five senior citizens were given blankets and housecoats.

Julius Mayhorn, project chairman, stated that he was pleased with the outcome of the fund-raising drive, "The JSC community came through as usual," he said. "The hard work of committee members and the generous contributions from JSC and contractor employees are greatly appreciated."

Contractors who participated in the project include IBM, Philco, Singer, Northrop, General Electric, Kentron, Martin Marietta, Lockheed and TRW.

"We hope next year's Black Christmas Project will be even more successful," Mayhorn stated.

Tennis Tourney

The JSC Tennis Club will hold its first "round robin" tournament, Saturday January 26 from 1-5 p.m. Beginners will play at the EAA Courts; other tennis players will occupy the Clear Lake High School Courts.

Employees interested in participating in the tournament should contact John Norris, x-2728 or Paul Anderson, x-2228.

Take stock in America. Buy U.S. Savings Bonds.



PRESENTING AWARD—Bob Tokerud, Manager, Earth Observations Department presents an LEC commendation to Jan Twyman. Also receiving awards were (l to r) Shelly Cousin, Rod Donaldson, Bill Bennett and Ed Weisblatt.

Lockheed Group Recognized By NASA

The Lockheed Electronics Company, Aerospace Systems Division Earth Observations Department has been recognized by the NASA Science and Applications Directorate for an outstanding job in the preparation of the Large Area Crop Inventory preliminary plan.

The plan describes the initial design of a major remote sensor applications systems development program to be implemented at JSC over the next few years.

Anthony Calio, Director of Science and Applications, com-

mended the Lockheed support for its "professionalism and timelessness."

LEC commendations have been presented to S. B. Cousin, Manager of the Earth Resources Applications Department; J. R. Donaldson, Supervisor, Sensor Applications Performance Evaluation Section; J. E. Twyman, Secretary, Earth Resources Applications Department; W. P. Bennett, Principal Engineer and E. A. Weisblatt, Senior Scientist, Earth Resources Applications Department.

EAA Gets Off to Rollicking Start

The Employees Activities Association (EAA) is getting off to a rollicking start this year with a schedule of events that should be entertaining.

First, a limited number of tickets to the Houston Livestock Show and Rodeo are available at the Souvenir Counter in Building 11. Tickets at \$4 each will be sold on a first come-first serve basis.

Performers include the Jackson Five, February 22; Sonny and Cher, February 23; Vicki Carr, March 2; and Elvis Presley, March 3.

The EAA also is sponsoring "NASA Night at the Balinese

Dinner Theatre" in Galveston, Wednesday, February 27. Featured will be a play entitled "Agatha Sue, I Love You."

The Balinese will accommodate 225 persons. If groups plan to attend, tables will seat 4, 6, or 10 persons.

Employees interested in making reservations to the theatre should contact Mary Yarbrough, Bldg. 2, Rm 707 beginning January 22. The price is \$6 per person.

Also, the EAA is arranging for Center employees to purchase Sea Arama tickets at discount prices from May-June. Details will be announced later.

ASTP Working Groups Meet at JSC

Three Apollo-Soyuz Test Project working groups have begun technical meetings at JSC in the areas of mission plans and experiments, communications and tracking, and life support and crew transfer.

The meetings are part of a continuing exchange of working groups between the U.S. and the

U.S.S.R. in preparation for a joint manned earth-orbital mission in July, 1975 to test a compatible rendezvous docking systems and techniques.

Project technical directors are scheduled to meet again in March at JSC. Their last meeting was in Moscow in October, 1973.



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It Pays More to Buy Savings Bonds

The White House has announced an increase in the interest rates offered on U.S. Savings Bonds.

Series E Bonds, purchased on or after December 1, 1973 earn 6 percent interest, compounded

Former Employee Needs Blood

Virginia DeFoy, formerly employed in JSC's Photographic Technology Division, is listed in serious condition at St. Luke's Hospital, 6720 Bertner, Room 18Y409, Houston 77025.

Virginia is receiving Cobalt treatments which destroy red corpuscles; she must have blood transfusions to counteract this side effect.

A blood drive in her name is currently being established and will be conducted in conjunction with the Center's Blood Drive, tentatively scheduled for February 20.

Virginia's doctor has requested that expressions of concern be limited to cards at this time.

semiannually, when held to maturity of five years. Series H Bonds will provide an average yield of approximately 5.6 percent during the first 5 years, and 6.5 percent during the remaining 5 years to maturity, providing an overall yield of 6 percent, from date of issue to date of maturity (10 years).

Yields on outstanding Series E Bonds—both new and older issues—are raised by one-half of one percent for their remaining life to maturity, effective with the first semiannual interest period, beginning on or after December 1, 1973. Also, all outstanding Series H Bonds will receive one-half percent increase in yield for semiannual interest periods, payable in the form of increased semiannual interest payments.

Series E Bonds are accrual-type securities, sold at 75 percent of face value. Interest is paid by gradual increase in redemption value. Series H Bonds are current-income securities, sold at face value. Interest is paid by semiannual checks issued by the Treasury.

JSC Issues Over \$449 Million In Contracts In FY '73

Companies in 47 states and the District of Columbia shared in receiving over \$449 million in contracts from JSC in fiscal year 1973. Five of the ten largest contracts were with firms in California, making that state the largest recipient of NASA-JSC contracts with over \$256 million in awards. Texas, with three contractors in the ten largest, received the second highest dollar amount of awards.

Rockwell International Corporation, in Downey, California, received the three highest awards for three different programs. Rockwell received over \$118 million in a new contract for Space Shuttle Orbiter design and development work and another \$40 million for developmental work for the Apollo/Soyuz Test Project. In an on-going program, Rockwell's fiscal 1973 award for the Apollo-Skylab contract was over \$35 million.

Lockheed Houston Aerospace Systems Division received over \$27 million in fiscal '73 contracts for computing center support services. For continued implementation of the Mission Control Center, Philco-Ford Corporation, of Palo Alto, California, was awarded \$22 million.

Martin Marietta Corporation, Denver, Colorado, received \$18.2 million for payload integration program for the Skylab. IBM in Bethesda, Maryland, received almost \$14 million for maintaining and operating the real-time computer complex in the Mission Control Center.

The General Electric Company, Apollo Systems Division in Houston, received \$12 million for their systems engineering contract; and Kentron Hawaii, of Dallas, received over \$11 million for institutional support services.

TRW, Incorporated of Redondo Beach, California, was awarded contracts over \$10 million for mission trajectory control programs and spacecraft systems analysis programs.

Of the \$449 million in contracts awarded to business firms in this country, \$19.8 million was awarded to companies classified as "Small businesses." In other terms, however, the small

business concerns received 45.7 percent of the contracts.

Of the 47 states and D.C. receiving awards, companies in 17 states and D. C. received contracts in excess of \$1 million. These were, in order, California, Texas, Colorado, Maryland, New York, Connecticut, Massachusetts, Minnesota, Michigan, Delaware, Pennsylvania, Florida, New Mexico, Missouri, Louisiana, District of Columbia and Oklahoma.

By Geographic distribution, the Pacific West Coast received over \$257 million in contract awards, Texas over \$103 million, the Middle Atlantic over \$44 million, the West over \$22 million, New England over \$20 million, the Great Lakes area over \$10 million, the Mid-West over \$9 million and the South over \$5 million. Companies in Alaska and Hawaii received, respectively, over \$45,000 and \$2,000 in contracts.

Not all of the \$492 million in contracts were with private industry. Almost \$25 million of the awards went to educational and other nonprofit institutions. Of that amount, over 80 percent went to institutions in Massachusetts, Texas, California, Michigan, New York, Indiana and Maryland. Massachusetts Institute of Technology, in Cambridge, Mass., received the largest award, over \$7.5 million. The next highest awards went to the Environmental Research Institute in Ann Arbor, Michigan, Purdue University in Lafayette, Indiana, California Institute of Technology in Pasadena, and John Hopkins University in Baltimore. The University of Houston received awards of \$466,384 and the various branches of the University of Texas, at Dallas, Galveston, Austin, San Antonio and Houston, were awarded a total of \$984,861 in awards. Baylor University's College of Medicine was awarded a contract of \$332,500 and Rice University received a \$328,722 contract. Texas A&M received a contract for \$130,000. Other Texas Institutions to receive awards included the Clear Lake Water Authority, the Southwest Research Institute

in San Antonio, Stephen F. Austin State University in Nacogdoches, Methodist Hospital in Houston, the Graduate Research Center of the Southwest in Dallas, and North Texas State University in Denton.

Of the 93 institutions receiving awards, 17 are located in Texas, 6 in Massachusetts, 8 in California, 4 in Pennsylvania and 3 in Michigan. Thirty-eight states and the District of Columbia are represented in the 93 total.

Not all of JSC's contract awards were with private concerns or institutions. Reflecting NASA's policy of avoiding duplication of effort and achieving the most effective and economical utilization of government resources, \$17.5 million in contracts went to other agencies. Major procurements were placed through the Air Force for Skylab task force support, modification of KC135 aircraft and Skylab cartographic items. Total contracts let to the Air Force were \$4.96 million. The Interior Department received awards totaling \$2.69 million for analysis of lunar samples, photo-geological mapping and photographic data analysis. The Navy Department received \$2.15 million for Skylab recovery operations and for data used in predicting motion sickness in unusual, zero gravity conditions. The Commerce Department received just over \$1.5 million for weather reporting, operation and maintenance of solar observing equipment and for earth resources experiment investigation. Other departments which also received NASA-JSC contracts were the Government Printing Office, the Atomic Energy Commission, the Department of Health, Education and Welfare, and the Department of Agriculture.

Of the \$492.4 million awarded in contracts, 91.4 went to business concerns, 5 percent to educational and other nonprofit institutions and 3.6 percent to other government agencies. Competitive procedures were used for approximately 62 percent of the contracts and non-competitive procedures were used for the remaining 38 percent. Over 6,800 separate purchase requests were received by the procurement operations office, with 584 of them left over from fiscal year 1972.

Scholarship

(Continued From Page 1)

personnel who have been employed by JSC for at least two years, effective January 1, 1974 are eligible to apply.

Marilyn Bocking, Chairman of the Scholarship Committee may be contacted in Building 2 Room 701, X-2995 for further information regarding the scholarship program. A JSC Announcement will be released soon with additional details.



GOLF WINNERS—Pictured above are the 1973 JSC Golf Association Trophy winners. First row, l to r are J. Wood, J. Wilson, T. Breezy. Second row, D. Tousignant, H. Miller, S. Stockham, J. Thomas, J. Sanders, H. Epps. Not pictured are M. Hefflin, J. Jones, R. Wood, and T. Jennings.

NASA Plans 26 Launches in 1974

Twenty-six vehicles will be boosted into space during 1974 in a busy launch schedule planned by NASA.

For the first time in the agency's history more spacecraft will be launched for organizations outside NASA than launches for which the agency is solely or primarily responsible. NASA will be reimbursed for providing launching and tracking services for 15 corporations and governments or government-connected organizations, both domestic and foreign.

Among the 11 NASA launches, the first Synchronous Meteorological Satellite (SMS) is scheduled for liftoff using a Delta booster, in March. To be placed in stationary orbit 22,300 miles above the equator, it is the first of two satellites to be used by the National Oceanic and Atmospheric Administration in development of an operational geosynchronous weather satellite system. SMS-B is set for a May launch.

A Titan-Centaur booster is scheduled for launch January 24. The new configuration, which mates a liquid hydrogen-fueled Centaur upper stage with the Titan IIIC, will launch two Viking spacecraft to Mars.

The Titan-Centaur will carry a mass model of a Viking, similar in weight and shape to the spacecraft scheduled for launch in 1975, and a SPHINX (Space Plasma High Voltage Interaction Experiment) spacecraft to be released in Earth orbit.

Helios-A to be launched by a Titan IIIE-Centaur, is a NASA-German cooperative satellite designed to study the solar environment. GEOS-C, a Geodetic Explorer, is scheduled for launch from the Western Test Range atop a Delta in late summer. Later in the year the second Earth Resources Technology Satellite (ERTS-B) will be launched from the Western Test Range.

Two spacecraft will be launched from the San Marco launch site off the east coast of Africa—San Marco C2, a scientific vehicle featuring NASA-Italian cooperation in January, and

UK-5, a NASA-United Kingdom scientific project in April.

ATS-F is scheduled for an April launch aboard a Titan IIIC booster from the Eastern Test Range. Hawkeye, launched by a Scout Booster, will blast off from the Western Test Range in May.

ANS-A, a jointly operated NASA-Netherlands astronomical satellite, is scheduled for an August launch aboard a Scout rocket from the Western Test Range.

Twenty-four launches are scheduled from NASA U.S. complexes in 1974 with 17 from spaceport facilities at Cape Kennedy and seven from the Western Test Range.

Five of the reimbursable launches will be for the Comsat Corporation and three for the United Kingdom. NASA will begin a series of domestic communications satellite launches for Western Union for the first time in June, with a total of three scheduled during 1974.

Two launches will be reimbursed by the National Oceanic and Atmospheric Administration (NOAA). One spacecraft will be launched for West Germany and one for a two-nation consortium, West Germany and France.

All 1974 launches will be unmanned spacecraft with the next manned effort, ASTP, a joint United States-Soviet mission, scheduled for mid-1975.

Tentative dates have been established for the first four 1974 launches—San Marco C2, Jan. 15; Skynet IIA, Jan. 18; Titan IIIE/Centaur, Jan. 24; and Intelsat IV, Jan. 30.

Officers Elected

The 1974 Employees Activities Association (EAA) Executive Board officers were recently elected. They include president, William Jones; executive vice-president, William Forsyth; treasurer, Loretta Bradley; secretary, Joan Jackson; vice-president athletics, Ivan Spiker; vice-president organized clubs, Norma Godeke; vice president facilities, Jerry Jones; vice president promotion, James McBride; and vice-president social activities, Dawn Hoyle.



SOFTBALL CHAMPS—The EAA Allstar Slowpitch Softball team for 1973 captured the Fall League Championship in Pasadena. This was the first league competition for an EAA Allstar team in metropolitan athletics. Left to right, top row are Larry Ratoliff, Jack Boykin, Al Morrey, Phil Shannahan and Richard Kruse. Left to right, bottom row are Mickey Brunjes, Nat Hardee, Harvey Schmidlapt, Mike Christiansen and Bailey Corbett.