## ROUNDU

NASA MANNED SPACECRAFT CENTER

HOUSTON, TEXAS



MARCH 1, 1968

## MSC Manages Tri-Country Earth Resources Program

The first cooperative international research programs to develop techniques and systems for obtaining and using earth resources data from aircraft will be carried out by Brazil and Mexico with the United States.

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The programs, to be carried out over the next three years are designed to develop techniques for acquiring, interpreting and using data to provide scientific and technical experience which would be useful in the development of earth resources survey techniques and to familiarize personnel with the reduction and analysis of remotely sensed data.

More than 25 Brazilian and Mexican scientists began the programs February 8 at MSC. The Test and Operations Office of MSC's Science and Applications Directorate is managing the program which brings together experts in the fields of remote sensing as well as experts in fields such as agriculture, forestry, geography, hydrology and oceanography.

The international program was developed under the direction of the NASA's Office of the International Affairs and the Office of

#### Gilbert Named **NASA Counsel** For Procurement

Porter H. Gilbert has left his post as MSC Deputy Chief Counsel to take over the position of Assistant General Counsel for Procurement Matters at NASA Headquarters. Gilbert was named to the new position by NASA General Counsel Paul G. Dembling, succeeding Neil Hosenball who became Deputy



General Counsel last October 11.

Gilbert, 45, entered federal service in 1951 as an attorneyadviser with

Materiel Command at Wright-Patterson AFB, Ohio and transferred in 1961 to the NASA Space Task Group, forerunner of MSC.

He received an AB in economics from Berea College, Berea, Ky. and an LLB from the University of Kentucky College of Law. He is admitted to practice in Kentucky and is a member of the Federal Bar and American Bar Associations.

A successor has not been named to Gilbert's position in the MSC legal office. MSC Chief the deputy counsel functions will be handled by himself and three assistant counsels – Henry W. Flagg, Jr., Carlos R. Garza and Richard J. Wieland.

Space Science and Applications with the cooperation of the Space Commissions of the respective countries. Management of the program was assigned to MSC which has been carrying out an aircraft earth resources program for the past two years.

Agency level technical agreements for the new projects were reached between the Brazilian National Commission for Space Activities (CNNE) and the NASA and between the Mexican National Commission for Outer Space (CNEE) and the NASA and confirmed by government exchanges of notes.

The programs will seek to tify promising applications of remotely-sensed earth resources data in Brazil, Mexico and the United States. Compatible data management systems will be developed to facilitate exchange of data between the two countries and the United States.

Both agreements provide the programs will be divided in four phases over the next three years: 1) an initial cooperative study and research program and establishment of research teams structure by Brazil and Mexico, 2) selection of test sites by user agencies in Brazil and Mexico, procurement of instrumented aircraft, and establishment of data processing centers in both countries, 3) NASA aircraft flights over selected test sites and 4) operational flights by aircraft of each country over its own country.

The agreements specify the establishment of Brazilian. Mexican and United States research teams with responsibility for coordinating the functions of the cooperating teams being assigned to a program manager for each country.

The US Department of Agriculture, the US Geological Survey and the US Navy Oceanographic Office will be participating with the NASA in carrying out the US responsibility under the agreement.

No exchange of funds between the research teams is contemplated. Data acquired in the course of the joint programs will be made available to the participating teams and to the world scientific community.

(Continued on Page 4)



TEST STACK — Apollo spacecraft 105 is shown atop a flight article Spacecraft Lunar Module Adapter (SLA) in the Bldg 49 Vibration and Acoustic Test Facility following a series of low-frequency vibration tests last month in support of the first manned Apollo mission.

WAY-OUT S-IVB-

## Apollo VI Launch Planned No Earlier Than March 21

Apollo VI, the second flight test of the first two stages of the Saturn V launch vehicle, will lift off KSC Launch Complex 39 no earlier than March 21, it was announced last week by NASA Headquarters.

and S-II second stage had their maiden flights in the Apollo IV mission November 9, 1967. The Apollo VI stack was moved by crawler transporter from the Vehicle Assembly Building to

Saturn V's S-IC first stage Launch Complex 39A on February 6 and immediately went into prelaunch testing.

> Apollo spacecraft 020 command and service modules will undergo a flight profile similar to that of Apollo IV in which reentry in excess of lunar return velocity will follow an apogee of some 12,000 nm. The severe heating will test for a second time the heatshielding and the redesigned command module crew hatch for manned flight.

As in Apollo IV, the third stage S-IVB will perform a fullduration lunar injection burn of some five and a half minutes in the Apollo VI mission. The command and service modules will separate after S-IVB shutdown. and a four-minute retrograde burn of the service propulsion system will limit spacecraft apogee to 12,000 nm. The S-IVB will coast out to an apogee of some 279,000 miles in an elliptical earth orbit with a period of 16 days.

The S-IVB injection burn of Apollo IV last November was purposely made inefficient through a combination of radial and out-of-plane attitudes to limit apogee to 9769 nm. Apollo VI's S-IVB injection burn will be in-plane posigrade to achieve the stage's apogee in excess of lunar distance, but on a trajectory not necessarily toward the moon-depending upon actual launch day and position of the moon relative to injection point over the Eastern Test Range.

The Apollo VI command module will be recovered in the Pacific.



Counsel J. Wallace Ould said OILER BACKERS—Houston Mayor Louis Welch, left, has appointed MSC Astronaut Office chief Alan B. Shepard, Jr. head coach of the Houston Oilers Civic Committee to promote attendance and support of the team during the 1968 season. The mayor said, "I have always felt professional football is good for Houston, good for business and commerce, and good entertainment for all—citizens and visitors alike." Preferred-seating season tickets may be ordered on a first-come first-served basis from the Committee at 748-2499. The Oilers will play home games in the Harris County Domed Stadium.

#### Regional Audit Service Awards



Robert H. Voigt 30 Years Service

Wayne S. Fagan 15 Years Service

ars Service 15 Years Service Both of NASA Regional Audit Office-MSC

The *Roundup* is an official publication of the National Aeronautics and Space Administration Manned Spacecraft Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for MSC employees.

Director
Public Affairs Officer
Editor Terry White
Staff Photographer A. "Pat" Patnesky

# Chorus Adds Four Singers been funded by the None of numerous experiment. For Performance of Requiem MSC aircraft program.

Four outstanding Houstonarea singers have been added to the Bay Area Chorus for the March 31 Astronaut Memorial Concert performance of Mozart's Requiem. They are Diane Tabola, soprano, and Tommy Clark, tenor, soloists from Christ Church Cathedral; Robert Bennett, bass, choirmaster and organist at St. Luke's Methodist Church, Houston: and Phyllis Hand, contralto who has been soloist with the Houston Symphony.

MSC employees in the chorus are Beverly Duncan, Earl Gilbert, Clarke Hackler, Eddie Bernard, Vicki Jones, Gerry de Vezin, C. Mac Jones, Warren Gillespie, Herbert A. Tiedemann, Gordon Spencer, Jim Bone, Lawrence Roberts and Paul H. Kloetzer.

The Chorus will be accompanied by the Houston Symphony in the *Requiem* perfor-

# Toastmasters Have Vacancies In Memberships

MSC and contractor employees who would like to improve their ability to talk on their feet are invited to join the MSC Toastmasters Club. The Club has several vacancies in its membership, but also has an upper limit to permit better participation.

MSC Toastmasters meet at 6 pm each Wednesday at the Ramada Inn on NASA Road 1 across from MSC.

Toastmaster group-participation activities include mastering the art of effective speaking, developing poise and self assurance before an audience, and learning how to prepare for conducting and participating in meetings.

MSC Toastmasters public relations director W. A. Greene can be reached at Ext 6161 for details on membership.

mance in the MSC Auditorium. All MSC employees are invited to attend and the concert will be open to the public.

#### Credit Union Holds Drawings For Free Shares

Church, Houston: and Phyllis Hand, contralto who has been soloist with the Houston Symphony.

The MSC Credit Union Monday will start a new contest in which the prize will be a \$5 share.

Each payday, the Credit Union will draw an account number coupon from a hopper and deposit a \$5 share to the winner's account. To be eligible to win, shareholders must have deposited one or more \$5 shares during the two-week period before payday. A coupon with the shareholder's account number will go into the contest hopper for each share deposited.

Credit Union officials say the contest "is an opportunity to open a savings account or activate a dormant account and be a winner, for *someone* is going to win \$5 each payday."

Winning names and account numbers will be announced in the *Roundup*.

# MSC Aircraft Flys Test Run Of Spectrometer

One of MSC's aircraft flew a test-run over Houston and the Gulf of Mexico Monday with a unique instrument which one day may find a role in the nation's earth resources program. A new down-looking infrared grille atmospheric spectrometer which is designed to measure atmosphere at various altitudes was installed in MSC's four-engined Lockheed Electra last week.

Dr. Brian Tinsley of the Southwest Center for Advanced Studies at Dallas, Texas, designed the instrument. Dr. Thomas Barnett of MSC's Space Physics Division of the Science and Applications Directorate, as co-investigator for the experiment, is in charge of recording and analyzing the data.

The aircraft is one of two being used in MSC's earth resources aircraft program. Dr. Tinsley's experiment, which has been funded by the NASA, is one of numerous experiments currently being performed in the MSC aircraft program.

Dr. Tinsley's experiment scheduled to be run at 30,000 feet is designed to record the vertical temperature structure of the atmosphere below. The instrument measures infrared emissions above the various types of terrain. Monday's flight-plan called for the MSC aircraft to cruise above Houston and the Gulf of Mexico at 30,000 feet altitude. This is the first of several test runs designed to check out the instrument and associated data recording equipment.

Dr. Tinsley's experiment might find future application as a satellite instrument which could look at the atmosphere from much higher altitudes and have "extremely high value in weather forecasting."



## Tax time approacheth . . .



MSC Federal Credit Union

In Bldg 11 Cafeteria



## NHA-ISA Fund Drive Starts Monday at MSC

MSC Associate Director Wesley L. Hjornevik February 19 met with program office and directorate chairman to kick off MSC's annual campaign for the

#### **AFGE Meets March 11**

Lodge 2284 of the American Federation of Government Employees March 11 will meet in the Bldg 30 Auditorium at 5 pm to hear a report on the February 23-25 Educational Seminar on Employee/Management Relations held by the AFGE 10th District in Waco.



CONSCIENTIOUS - University of Florida electrical engineering major Charles Phillips during his work cycle is assigned to the RF Communications Section of IESD where he is involved in design and prototype construction of VHF telemetry transmitters. His supervisors comment that he "has demonstrated outstanding capabilities in completing assigned tasks . . . His ingenuity, zeal, determination and explicit work on the problems involved have greatly aided the section in accomplishing these tasks."

MSC Associate Director Wes- National Health Agencies and

International Service Agencies.

Hjornevik emphasized that the ten health agencies in the campaign to fight disease and disability along a broad front through research, education and service. The International Service Agencies help people around the world by providing food and medical attention and instruction and tools to enable them to build a better life.

Starting Monday each MSC employee will be asked to conbute to the campaign. The solicitation periods has been shortened to two weeks.

Last year's MSC participation in the NHA-1SA campaign was 80%, but with conscientious support of each employee the 1968 campaign can have 100% participation.

#### **Alvin JC Offers Nursing Course**

Alvin Junior College offers a two-year program for earning an Associate Degree in nursing which makes the graduate eligible to take the Texas Test Pool Examination, thereby qualifying as a Registered Nurse.

Nursing Director Mary Alice Metcalf, RN is taking applicants for the 1968-70 nursing class beginning in September. The RN course is open to men and women 18 to 48 who are high school graduates and who are interested in caring for the sick, helpless and mentally disturbed. The two-year tuition and associated costs run less than \$1200.

Mrs. Metcalf at Alvin-OL 8-5313 will send a nursing program catalog to anyone requesting information on the course.

## Roundup Swap-Shop

(Deadline for classified ads is the Friday preceding Roundup publication date. Ads received after the deadline will be run in the next following issue. Send ads in writing to Roundup Editor, AP3. Ads will not be repeated unless requested. Use name and home telephone number.)

FOR SALE/RENT-REAL ESTATE

3-2-2 brick in Bayou Chantilly, Dickinson, large family room w/cathedral ceiling and fireplace, formal living room, large master bedroom, laundry, electric kitchen, landscaped, large lot, patio w/gas grill, fenced, carpets and drapes, garden house. Available immediately. Low twenties, 150/mo. Atwater, 534-5684 for appointment.

2 bedroom house for sale or rent, single attached garage, fenced, Oak Meadows Addition, near Allen Genoa Road, Linda Blankenship, MI 5-0188.

Waterfront property for rent: perfect for boot owners. 2 bedroom furnished home with large den & fireplace. South side Clear Lake at 1818 PK Drive, 4-car carport, large barbecue, large patio. Very private 1/2-acre fenced grounds. Your own personal \$6,000 250 ft, pier with 2 enclosed boat stalls with sundeck on top. 1 stall equiped with electric boat hoist. Ideal for bachelors or family, Bill Munro, 877-2219.

Spanish beauty (3-2-2 and detached study) corner lot, formal sunken living room, separate dining, covered flagstone patio, fenced, central air-heat, large paneled den with cathedral ceiling, terrazzo entry. Webster, Tex., Lyle Woodruff, 932-26-6, JA 9883. Shown by appointment only,

Nassau Bay Townhouse - rent furnished or unfurnished, washer-dryer, Queens Court Pool & Club available, shown by appointment only, C. G. Sullivan, 591-3968 after

Rent by day or week, 1 bedroom furnished beach house at Bolivar, with boat slip in front, Evelyn Huvar, HU 3-7626 (no home

4-21/2-2 English-style home, central air/ heat, fenced, completely draped, carpeted throughout, fenced, gas grill, morning room, separate dining/living rooms, fireplace, large family room, exceptionally large closets, covered patio, El Lago. Harry May, 877-1152.

House for rent,  $4.3 \frac{1}{2}.2$ . In Nassau Bay. Wooded lot overlooking Lake Nassau. Available for 1 year beginning 15 March. \$280/mo. plus utilities. Karl G. Henize, 591-2889

#### FOR SALE-AUTOS

62 Chev. Biscayne. Excellent condition, 6 cvl., 4 dr., radio, heater, air conditioning. Paul Stokholm, Webster, 932-3753.

29 Model A Ford 2-dr. sedan, mechanically sound, body in near excellent condition, runs good. Larry Arnim, HU 8-2757 to see.

66 Dodge 1/2 ton pickup. Radio, heater, automatic trans., bucket seats, long wheel base, still under warranty. Bill Johnson, GR 4-3120.

57 Chevrolet 4-dr. hardtop, auto. trans., power pack heads, runs good. Bill Johnson, GR 4-3120.

64 VW sedan, black w/red interior, sunroof, whitewalls, radio, tinted front window, clean, 28,600 miles. \$975. Harold Atwater, 534-5684

63 Ford 300, 2 dr. sedan, V8, standard transmission, air conditioning, tinted windshield, radio, heater, all vinyl seats, clean, good tires, \$600. Robert C. White, HU 2-

64 Chevelle 4 door 6 cyl. automatic transmission, radio, heater, good condition. \$800. Bert Matthews, 591-3485.

64 Falcon Sprint convertible, new white paint, white top red interior, bucket seats, power steering, tachometer, dual exhaust, wheel covers, 260 V8, all chrome excessories on engine 4-speed close ratio, new tires with wide track on rear, \$995. Bernie Oczkowski, MI 9-6595.

59 Chevy-V8 standard rebuilt eng., 15000 miles, body in excellent condition, new paint, lacquer British racing green, looks and runs great. \$425. Bernie Oczkow-

62 Olds 88 2 door hardtop, extra clean, no rust, power steeeing, radio, heater, 61,000 miles, \$695 Benny Sprague 946-0224

Sports Racing Car, RGB Mk II, SCCA H Modified class. Space frame, fiberglass body shell, 725 lbs. Sell or trade with or without modified Panhard (848cc) engine and transaxle. Body molds included along with trailer. Would swap for VW or other small car or 100-hp outboard motor. Bob Bird, HU 2-7960, 204 Carey Lane, Friendswood. Office GR 4-4141.

62 Buick Special, delux V8, automatic transmission, air conditioning, power steering. 71,000 miles, clean and smooth running, Fred Pearce, RI 7-4447.

63 Dodge Polara, factory air, full power, new tires. R. Craig, HO 5-6298.

61 VW sedan, black with red seat. Good engine, runs good, new battery, trailer hitch, 77,000 miles. Take best offer, Gerry Goodman, HU 8-0609 after 7.

61 Impala Chevy convertible. Needs repairs. \$400. Evelyn Huvar, HU 3-7626. (no home phone)

63 Chevy II station wagon, Factory air conditioning, automatic transmission, luggage rack, 75,000 miles, \$795, R. Allen, 932-4585. 60 Plymouth 4-door sedan, Golden Com-

mando 395 V8, 3-speed automatic transmission, power steering and power brakes, new paint, no rust, \$395 or best offer. Jerry Vick. HU 7-2237.

Metropolitan, 1957, radio & heater, extra clean. W. W. Killingsworth, 534-2055 (Dickinson)

65 GMC pickup, air conditioned, 5 new white-wall tires, new paint and small camper, radio and heater, \$1825. W. B. Wood, HU 2-7557.

67 Pontiac Firebird 400, 326 hp, air conditioned, tach, AM/FM radio, 4 speed, postraction, 13000 miles, warranty maintained. \$2900. Thomas J. Brown, 534-5009.

62 VW, clean, good tires, runs good, B. J. McGee, HU 8-3188.

67 Cougar, air, power steering, radio, 3-speed manual transmission, console, blue with white interior, 14,000 miles, \$2300, Tom Carter, 591-3895 (Nassau Bay).

#### FOR SALE-MISCELLANEOUS

Interested in Viviane Woodward cosmetics? Flossie D. Leggett, 591-4591 after

1960 Glaspar Citation, six individual seats, 75 hp Evinrude, tilt trailer, top and stern cover, extras, excellent condition, \$1250. N. Corbett, Ext. 5961 (no home phone).

Fly retractable gear with the Aero Club Inc. for MSC and contractors, K-Bonanza, IFR, 195 mph, \$16/hr. wet; Cessna 172 \$9/ hr. and 150 \$7/hr; instructor \$5/hr. Bob Ward, 877-3187.

Factory made "Hale" 2-horse trailer, has 2 coats of primer, is ready for final coat of paint. Pulls exceptionally well. Bill Johnson, GR 4-3120.

One Fender Vibro Champ Amplifier and dual-pickup electric guitar, almost new. Call after 5:30 p.m., GR 2-5469.

67 Honda 50 cc Sport. 600 miles. Adult owner. Like new, C. M. Poe, HU 8-1276.

Machinist's combination square with bevel protractor. R. B. Lang, HU 8-0149.

Honda 305 Super Hawk, 1900 miles, immaculate, \$495. Longines all guard automatic man's watch. \$30, very good. G. W. Harvey, MO 5-0947.

Portable heater, thermastat, instant heat, \$6.50. Solid Oak bookcase headboard, footboard and frame for single bed, \$25. Youth bed, rails and mattress, \$25. Richard Stan-

66 Consort, 12X54 ft., 2 Bdrm., front kitch., cathedral roof liv. rm.,  $1\frac{1}{2}$  baths, early American interior, Custom built by Princess Mobile Homes. Pick up the equity by just taking over payments. Wesley Kooken, 944-8108, private owned.

Black, white, and/or brown genuine dogs, 6 weeks old, AKC registered (as mutts), 50 cents each or 4 for a dollar, R. Inglis, 877-4740. P.S. Put your bid in early for 4 kittens -available for sale March 15.

Danish walnut oval dining room table, complete with three leaves, six chairs, plus buffet with removable glass top. Excellent condition, \$500. 877-3153.

New Youngstown food waste disposal, \$35. Nylon pink rug 10 ft. by 10 ft. with rubber pad, excellent condition, \$75. G.E. deluxe portable dishwasher, like new condition, \$110. Handscraft baby car bed (can be converted into car seat) \$4.50. Baby potty chair, \$3. Original infant baby seat with terry cover, \$4. Bowling bag and shoes, \$10. Jack H. Cohen, HU 8-3171.

Two brown tweed contemporary matching lounges, \$25 each. Allstate motorcycle, 50cc, under 400 actual miles. Like new, \$100. Vivking Ranger transmitter, class B modulation, 100 watts, \$120. J. B. Fox, 591-4460.

Grolier Encyclopedia (20 volumes): yearbooks (62-67); Richards Topical Encyclopedia (10 volumes). M. M. Frasher, 932-4084

Irish Setter pups for sale, registered, perfect house or field dog, excellent with children. Blair R. Knappenberger, HU 2-1893.

Two single bed bookcase headboards, \$10 each or both for \$15. D. W. Allen, HU 8-4024.

18 ft. boat, 40 hp Evinrude Selectric motor, big wheel tilt trailer, completely equipped \$700. Ted Guillory, 472-8208.

16,500 BTU Sears window air conditioner. Less than 1 year old, still in warranty, \$150. Ted Guillory, 472-8208.

Gold wrought-iron table with champagne glass top and four matching chairs with apple-green leather cushions. Original price \$200. Used 2 mo. Sell \$150. Evelyn Huvar, HU 3-7626 (no home phone).

Fireplace screen with draw drapes, log holder, tools with one extra large log prong holder, all match, and grate. \$50. Evelyn Huvar, HU 3-7626 (no home phone).

Stud Service, male silver blue AKC registered miniature poodle, Evelyn Huvar, HU 3-7626 (no home phone).

Windsor upright practice piano, \$100. C. W. Burd, League City 932-2343 after 5. Wire wheel covers, 14" size. With Ford emblem in center. Really beautiful, Original price \$75. Will sell for only \$30. Judy Atchison, Baytown, 422-5009.

Free  $-\sqrt{2}$  Lab.- $\sqrt{2}$  Collie, 2 yrs. old, good housepet, terrible retriever. John Harrison, 944-5414 after 12:00 noon.

Lhasa Apso puppies, Shaggy little "mop" dags from Tibet. Betty Reneau HU 8-1655 days or PA 9-3344 home.

Renault parts, complete engine \$50. Has new ring and valve job with transmission, radiator, generator, starter, manifold, carb., coil, axle and housing with brakes, wheels and tires. Ready to run. For Dauphine, boat, dune buggy, electric welder, etc. Will vouch for equipment. Other Renault parts. Caravelle metal top, will paint to suit, \$50; you paint, \$40. Bell 500 crash helmet, \$25. Never worn. Ken Cashion, HU 2-7917.

35 mm camera, Leica 3F with F 1.5, 50 mm Summarit lens. Excellent condition, \$90. Ed Kenyon, 534-2354.

Fisher monaural tuner, FM/AM, audio control center, and 30-watt amplifier plus EV 15 TRX speaker in walnut bass reflex enclosure—all good condition for \$150 or offer trade on spinet piano. Pete Campbell,

Port-a-crib, like new, \$15; 6 year baby bed, \$10; high chair, \$7. Joe Rutherford, HU 7-1671.

Wrecking out 57 Chevrolet 2 door sedan parts cheap. Don Heywood, Dickinson 534-

English Pointers, 6 months and up, AKC Champion Sire & Dam, liver and white, \$75 and up, Rita Heywood, Dickinson 534-3979.

10-ft. Hydroplane, steering wheel and controls, good condition, \$50 or will trade for small outboard motor. Steve Heywood, Dickinson 534-3979.

Schwinn Stingray bicycle, \$19. Steve Heywood, Dickinson 534-3979.

3.9 hp Mercury outboard, remote tank, gear shift, excellent condition, \$85. W. B. Wood, HU 2-7557.

Mens professional roller skates, black, size 7 shoe, \$20. Ladies roller skates, white, size 7 shoe, \$15. Morse 200 series mechanical steering for 16-17 ft. boat, new, never used, \$45. Two sets Post drafting instruments, \$12.50 each. Kaigler, 877-4731.

Full-size Westinghouse Electric Range,

\$30. C. V. Spencer, HU 2-1607. Estate gas range, good condition, \$50. Gibson window air conditioner, 14,500 TU, 1963 model, but has had relatively little use, \$100. John Lottinville, HU 8-3128.

Fiberglass Sailboats: call us before you buy. 151/2 ft. Demon, 14 ft. Scorpion, 8 ft. El Toro. Bob Ward 591-2182; Don Wiseman day GR 4-4141, night 877-1847.

18 ft. Helton boat, trailer, and 75 hp Johnson motor. Good condition. Must sell, see to appreciate. Oneda Michals, GR 3-

#### WANTED

Wanted: Collins 75A or 51J series receiver. Will discuss purchase or trade for Hallicrafter SR-159 transceiver and 12 volt power supply. J. W. Moore Jr, NA 2-8341.

Would like to share rides from MSC to University of Houston and back. Class hours are 11:30 a.m. to 1:00 Tuesday/Thursday. Jim Horning, Ext. 5807 or GR 4-3838.

If you are a budding newcomer to the field of numismatics or a seasoned trooper, and are interested in forming an MSC coin club, stand up and be counted. Call Gerald Janicke, Ext. 6128. Your participation is

## **Apollo Gulf Exercises Scheduled This Month**

views for the upcoming Apollo Apollo spacecraft 007A, tended VI mission and development from the deck of the NASA testing for later manned Apollo flights were underway this week be used in the training. at MSC, Kennedy Space Center and Naval Air Facility, El Centro. Calif. Apollo VI is scheduled for launch no earlier than March 21.

The Apollo VI Flight Readiness Review was held Tuesday in the Manned Spacecraft Operations Building at Kennedy Space Center, and Apollo VI flight controllers were scheduled to take part in launch simulations today in Mission Control Center.

Also scheduled for today was water egress training in preparation for Apollo postlanding life support systems 48-hour tests later this month in the Gulf of Mexico. Scheduled to take part in today's training were MSC pilots Lames A. Lovell, Charles

Cosmologist

Training and technical re- M. Duke and Stuart A. Roosa. Motor Vessel Retriever, was to

> Apollo command module flammability testing was expected to wind up this week after the last series had been run at 16 psia in 100 percent oxygen. Of the 27 tests conducted at Roundup press time, 13 were terminated either because they did not extinguish themselves or because they spread beyond the immediate area of ignition.

> The tests were terminated according to preset ground rules to prevent unnecessary damage to nearby components in the boilerplate test vehicle after a propagation path had been identified.

No additional materials problems were uncovered in this test series that were not discovered in component tests or in the two previous tests series conducted in pure oxygen at 6.2 psia and in 60/40 oxygen/nitrogen at 16.2 psia. As expected, fires in materials were generally more severe in the 16.2 psia oxygen environment than in the other condi-

A modified parachute system designed to handle the increased weight of the Apollo command module February 21 was successfully tested at the Naval Air Facility, El Centro, Calif. The Apollo Earth, Landing System, including the two drogue chutes and the three main chutes, was deployed from a 13,000-pound parachute test vehicle dropped from an altitude of 31,000 feet.

A test of the modified drogue chutes was scheduled yesterday to verify the chutes at 135 percent of their design load and to clear the way for the final test series using a full-scale boiler-

#### "TEN BILLION YEARS AGO . . . "-Dr. Allan R. Sandage, one of the world's leading authorities on observational cosmology, February 21 described to an MSC audience of more than 150 how the world as we know it today was formed 10 billion years ago. Speaking at the Science and Applications Directorate monthly scientific seminar, Sandage detailed the knowledge recently gained of quasars. Sandage is with the Mt. Wilson and Palomar Observatories.



Need guitar, bass and drums to play with present duo of guitar and piano. Playing to be always fun and occasionally profitable. Johnny Ferry, ext. 3701 (no home phone).

Want to buy 5 hp, or smaller, outboard motor in good condition. Darrel Greenwell,

Wanted: camping equipment—tent, cots, etc. Darrel Greenwell, HU 8-1034.

Electric Hawaiian guitar, single neck, 6 or 8 string. Age and condition not important. Jim Bates, 944-4687.

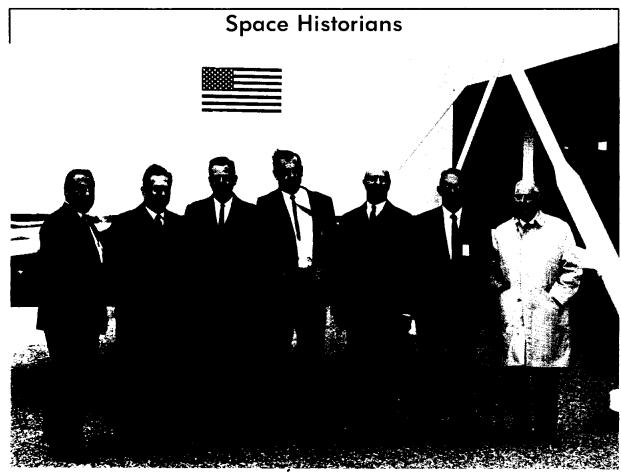
### Sail Club Holds **Spring Training**

The Clear Lake Sailing Club Tuesday will hold its first spring training session and business meeting at Southwestern Savings in Nassau Bay at 7:30 pm. A second training session will be held March 16 at the same location and time.

Two boating sessions will be held (weather permitting) on March 9 and 15 at 10:30 am at Harris County Park on Clear Lake.

The training is primarily for beginning and intermediate sailors. Family fun, safety, sportsmanship, racing of small sailboats and introducing new facilities to sailing are the main Club objectives. Some 70 members took part during the Club's 1967 season, and 30 new members are expected for the 1968

Membership fee is \$5 a year. For information call Jim Robinson at 932-2344 or Wayne Meriweather at 946-1660.



ADVISORY COMMITTEE — Seven members of the NASA Historical Advisory Committee gathered recently at MSC for the committee's fourth annual meeting. The committee is responsible for reviewing NASA historical programs in progress, recommending policies and means of accomplishing historical studies, and suggesting areas for historical research. Left to right are NASA Headquarters historian Dr. Eugene M. Emme, American University School of Public Administration dean Earl DeLong, A. Hunter Depree of University of California-Berkeley History Department, Robert L. Perry of Rand Corporation Economics Department, Committee chairman Prof. Melvin Kranzberg of Case-Western Reserve University, University of Texas History Department chairman Joe B. Frantz, and James L. Cate of University of Chicago History Department. Not present at the meeting were Raymond L. Bisplinghoff, head of the Massachusetts Institute of Technology Astronautics and Aeronautics Department, and Louis Morton of Dartmouth College History Department.

## **OMSF** Management Beefed Up by Mueller

strengthening the overall management of the NASA Office of Manned Space Flight Associate Administrator for Manned Space Flight Dr. George E. Mueller has appointed two deputy Associate Administrators to handle management and technical aspects of OMSF functions.

Named to the posts were OMSF Deputy Associate Ad-

#### **Earth Resources**

(Continued from Page 1)

During their stay at MSC. program participants will attend courses on the following subjects: 1) fundamentals and physical principles of remote sensors, 2) photography, television and photogrammetry, 3) radiommicrowave, 4) scanners, target signatures, and ground measurements, 5) radar and lasers and 6) data processing interpretation.

Upon completion of the 12week technical course the participants will then depart on a six-week field trip to various government and university centers to observe and study use of resource data in the fields of agriculture, forestry, geography, geology, hydrology and oceanography. Upon completion of the field trip they will return to MSC for further study.

NASA has contracted with the Institute of Science and Technology of the University of Michigan, Ann Arbor, Michigan to conduct the remote sensing techniques course at MSC.

In a realignment aimed toward ministrator-Management Frank Bogart and OMSF Deputy Associate Administrator-Technical Harold T. Luskin.

> Bogart will have direct supervision over activities of MSF Program Control, Management Operations and Field Center Development Offices and will provide guidance to the OMSF Public Affairs Officer and Legal Advisor.

Luskin will act as technical director and chief engineer of MSF programs and will assume broad responsibility for technical soundness of program content and implementation. He will exercise direct supervision over activities of MSF Mission Operations and Space Medicine Offices and will provide guidance to the MSF Experiments Office and Bellcomm. Luskin etry, spectrometry, and passive will assume his post effective March 18. He was formerly chief advanced design engineer at Lockheed-California Company.

Directors of the Apollo, Apollo Applications and Advanced Manned Missions Programs and directors of OMSF field centers-MSC, Marshall Space Flight Center and Kennedy Space Center-will continue to report directly to Muel-

"It is my plan," said Mueller, "that the Deputy Associate Administrator for Manned Space Flight (Edgar. M. Cortright) and the management and technical deputies will share with me the responsibility for the overall planning and direction of MSC programs."

#### **Credit Union Hours**

Bldg 11 Cafeteria: Mondays, Tuesdays and paydays 10 am-4:30 pm All other days - 10 am-2:30 pm Bldg 3 Cafeteria:

Wednesdays -- 11:30 am-1 pm (For share deposits, loan payments by cash or check. No checks will be cashed and no loan applications will be accepted by Credit

Union Representative.)

### **MSC** Computer Specialists **Conduct Texas Tech Course**

hour orientation course on computers and computer applications for administrators of the Texas Technological University at Lubbock this month.

The purpose of the course will be to familiarize administrators of the university with potential uses of computers as management and educational tools. It will cover computer uses in such areas as resources man-

### **AIAA Awards** Haley Medal To Grissom

Virgil I. Grissom March 26 will receive posthumously the American Institute of Aeronautics and Astronautics annual Haley Astronautics Award. The award, named for the late Andrew G. Haley, is made for an "outstanding contribution by test personnel who undergo personal risk in the advancement of spaceflight."

The Haley Astronautics Award consists of a \$500 honorarium, a medal and a certificate of appreciation.

Grissom was selected for his achievements in the Mercury and Gemini programs and for prelaunch testing and simulations for the first manned Apollo flight. He was spacecraft commander of the prime crew killed in a flash fire in the command module January 27, 1967 during a pad test.

The award ceremony will be held at a luncheon of the Second AIAA Flight Test, Simulation and Support Conference at the International Hotel in Los Angeles.

MSC experts in computer agement and financial administechnology will present a 15- tration, inventory and maintenance control, research and development, and data banks for student information.

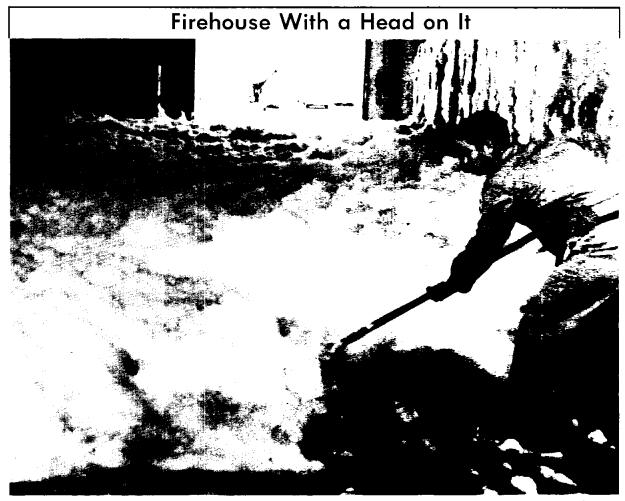
> The course will be conducted by Eugene H. Brock, Chief of MSC's Computation and Analysis Division; Thomas F. Woods, Chief of the Information Processing Technology Branch; and James L. Raney, Head of the Simulation Development Sec-

> As Chief of MSC's Computation and Analysis Division, Brock is responsible for the development and management of a high-speed digital computation, data reduction, and mathematical and engineering analysis capability to support the manned spaceflight programs of the Cen-

> He holds a BS in Mathematics from Texas Technological University, BS and MS in engineering from Texas A & M University; and has completed academic requirements for his doctorate at Arizona State University

> As Chief of MSC's Information Processing Technology Branch, Woods is responsible for Systems Programming on large-scale general purpose computers, smaller process control applications, and pilot trial of new techniques and hardware. Woods joined NASA in 1959. He holds a BS in Aeronautical Engineering from Boston University.

Raney, Head of the Simulation Development Section, manages the development and testing of computer programs for astronaut ground based simulators at MSC. He holds a BA in mathematics from the University of



FOAMFINGER — An MSC fireman squeegees against a seemingly overwhelming flood of high-expansion foam in the MSC Fire Station during a demonstration last week. The foam acts as a smothering and cooling agent for all types of fires and can be used to completely fill a room to snuff out a fire. The foam is mixed with water at the ratio of one gallon of foam to 1000 gallons of water and is nontoxic.