Langley Researcher

VOLUME 12, NUMBER 1 LANGLEY RESEARCH CENTER JANUARY 5, 1973

LOVE NAMED VON KARMAN LECTURER

Eugene S. Love

Eugene S. Love, Director for Space, has been selected to present the 10th von Karman Lecture on January 8 at the Ninth Annual Meeting and Technical Display of the American Institute of Aeronautics and Astronautics. The meeting will be held January 8-10 at the Sheraton-Park Hotel in Washington, D.C.

The von Karman Lecture, given in honor of Theodore von Karman, world famous authority on aerodynamics, was established in 1962. It is presented to honor its namesake and the individual chosen to give it. It is a traveling lecture, presented first at the Annual Meeting.

Love will speak on ''Advanced Technology and the Space Shuttle.'' He will examine selected topics in technology advancement related to the space shuttle. Contributions from long-range research prior to the advent of the ''shuttle-focused technology program'' of the past three years will be considered together with highlights from the latter. Love will confine attention to three of the shuttle's seven principal technology areas: aerothermodynamics/configurations, dynamics/aeroelasticity, and structures/materials. Some observations will be presented on the shuttle's origin, the need to sustain advanced research, and future systems that could emerge from a combination of shuttle and non-shuttle technology advancements.

Edgar M. Cortright, Center Director, will serve as General Chairman for the AIAA 9th Annual Meeting and Technical Display.

PETRONE HEADS MARSHALL CENTER

Dr. Rocco A. Petrone, Director of the Apollo Program at NASA Headquarters, will become the Director of the NASA Marshall Space Flight Center, Huntsville, Ala, succeeding Dr. Eberhard F. M. Rees who will retire Jan. 19.

Dr. Rees became Director of the Marshall Center March 1, 1970, succeeding Dr. Wernher von Braun with whom he had worked for some 30 years. Their association extends from the beginnings of guided rocketry and space activities through the achievement of landing men on the Moon.

Dr. Petrone became Apollo Program Director September 1, 1969. Prior to becoming Apollo Program Director, he was Director of Launch Operations at Kennedy Space Center. His career in rocket development and space programs

(Continued on page 4)

LANGLEY VISITOR CENTER FILM RECEIVES OUTSTANDING AWARDS

The motion picture ''A Man's Reach Should Exceed His Grasp,'' which was produced for showing at the Langley Visitor Center, has received eight special awards.

The Council on International Nontheatrical Events selected the film to receive its CINE Golden Eagle Certificate as evidence of its suitability for international festival use. In November William G. Carr, president of CINE, presented the award to Marvin W. Saunders, Photographic Branch, who was technical advisor on the film for Langley Research Center.

Other special awards included the following:

CINDY, which included a certificate and plaque with a figurine, was presented by Information Film Producers of America, Inc., Hollywood, California.

First prize in the category ''The Great Dates of the History of Aeronautics'' was awarded by the Biennial Premiere of Aeronautics and Space Films, Le Bourget, France.

U.S. Film Festival certificate.

Calvin Workshop Notable Film Award given by Calvin Productions, Inc., Kansas City, Missouri.

Blue Pencil Award presented by Federal Editors Association.

Certificate of Honor awarded by The Arts Council of Rockville, Maryland.

The Silver Phoenix presented by the Atlanta International Film Festival, Atlanta, Georgia.

CINE AWARD: William G. Carr (left), president of the Council on International Nontheatrical Events, presents the CINE Golden Eagle Award to Marvin W. Saunders, Photographic Branch. Saunders acted as the Langley Technical Advisor during the production of the Visitor Center film ''A Man's Reach Should Exceed His Grasp.''

HAPPENINGS

SMALL ISSUE. . .The Researcher staff took a few days off during the holiday season to join in the festivities; therefore, this issue is reduced to four pages. We expect to be back full-size January 19 with many of your favorite features that had to be omitted in this issue.

NOTE OF THANKS. . .The family of Charles B. Haight wishes to express their appreciation to friends for their many kindnesses during the illness and death of their husband and father. Charles retired from the Center last year and his wife, Roxie, works in Technical Editing Section.

NEW HEIRESS. . .Arriving in time to make the income tax deduction deadline was seven-pound, ten-ounce Kara Jessica. The young lady arrived on December 20 and the proud father is Larry Brumfield, Environmental and Space Sciences Division.

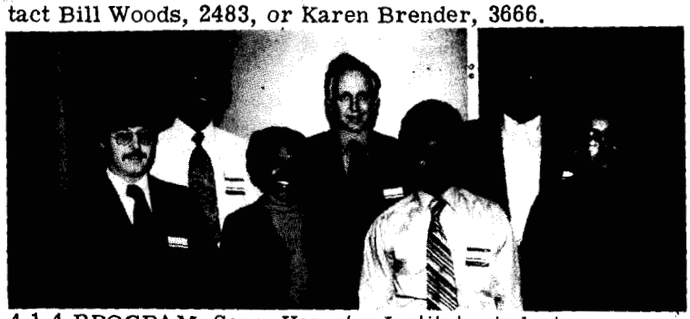
SKI TRIPS. . .The following ski trips have been planned for January - Jan 10. Bryce Mountain; Jan. 18 Masanutten Mountain; and Jan. 25 Homestead. Buses will leave Newmarket Shopping Center at 5 a.m. and arrive at the destination at 9 a.m. The return trip will leave at 5 p.m. and arrive home by 9:30 p.m. The cost is $20 including all equipment, transportation and lift ticket. If you want to go, just send a check made out to Richard Bennett to MS 205 and include your shoe size, height, and weight on the back of the check. For further information call 595-7456.

AIAA GROUP MEETS JAN. 18

The Hampton Roads Section of the American Institute of Aeronautics and Astronautics will meet on Thursday, Jan. 18 to provide information for the AIAA Action Team on Purpose.

Results of a recent questionnaire sent to all section members will be reviewed and debated.

The meeting will be held in the private dining room of the West Cafeteria at 5:30 p.m. The meeting will be preceded by a social period beginning at 4:45 p.m. Cold cuts and beer will be available at no cost. For reservations contact Bill Woods, 2483, or Karen Brender, 3666.



4-1-4 PROGRAM: Seven Hampton Institute students are participating in a joint program with LRC. They will be at the Center for three weeks in an internship-type arrangement. The 4-1-4 program is a three-semester arrangement that several hundred colleges have adopted. The three semesters are of 4 months, 1 month, and 4 months. During the one month semester students may go off campus and work in a position in their selected profession and they receive 3 hours of credit. Participating in the program are (from left): William M. Snider, Freddie Anderson, Joan Pratt, Walter Buhay, Carley Cain, Clifton F. Wood, and Robert Graham.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

WANTED

Ride from Grafton to W.A. on 8 shift. Haggerty, 3867

Two passengers from Seaford to W.A. on 8 shift. Childs, 3981 or 2491.

FOR SALE

Two 750-14 snow tires - $6 each. Miller, Gloucester 642-6329.

1966 Volvo 122S, 4-door - $400. Joplin, 851-4650.

1968 Oldsmobile Delta Custom, factory electronic ignition system, 8-track stereo tape player, bucket seats, vinyl roof, other extras - $1499. Outlaw, 838-6977 after 4:30.

3-bedroom, air conditioned house in Elizabeth Lake Estate - 2-car garage, 6% VA loan. Lowe, 764-7585.

High chair - $7; child's clothes tree - $3. Russin, 877-5067.

Two 8.25 x 14 Sears Allstate winter tires - one tire on spare rim - $25. Progar - 877-1366.

1961 Dodge Polara, 4-door sedan, air conditioned, many extras. Hubbard, 596-5108 after 5 p.m.

cafeteria menu

The following menu will be served in the cafeterias during the week of January 8:

Monday - Cheese chowder, skirt steak, roast pork, fried clams, chicken and dumplings. Snack bar - Turkey club, hot roast beef, ham steak and egg, NASA submarine.

Tuesday - Chicken gumbo soup, steamboat round, fried shrimp, wieners and sauerkraut, glazed ham. Snack bar - 3-D burger, pastrami, steak and egg, ham and cheese club.

Wednesday - New England clam chowder, beef liver, charbroiled chopped steak, crab cakes, chicken chow mein. Snack bar - Chile, hoagie, corned beef, mini steak.

Thursday - Vegetable soup, delmonico steak, meat loaf, broiled flounder, franks and beans. Snack bar - Turkey club, ham and cheese club, NASA submarine, steak and egg.

Friday - Minestrone soup, beef burgundy, fried chicken, cordon bleu, macaroni and beef. Snack bar - Bacon, lettuce and tomato, barbequed pork, grilled cheese, chicken salad.

The menu for the week of January 15 is as follows:

Monday - Cream of chicken soup, roast beef, Chinese egg rolls, fried chicken, spaghetti and meat balls. Snack bar - 3-D burger, pastrami, hoagie, ham steak and egg.

Tuesday - Corn chowder, stuffed pepper, delmonico steak, shrimp creole, baked lasagna. Snack bar - Chili, turkey club, hot roast beef, liverwurst and cheese.

Wednesday - Vegetable-beef soup, hot roast beef sandwich, veal parmesan, sauteed chicken livers, fish fry. Snack bar - NASA submarine, steak and egg, corned beef, ham salad.

Thursday - Bean soup, country style steak, stuffed cabbage rolls, seafood casserole, Austrian ravioli. Snack bar - Ham and cheese club, bacon, lettuce and tomato, turkey club, hoagie.

Friday - Cream of celery soup, delmonico steak, hot turkey with dressing, meat loaf, fish cakes. Snack bar - Hot roast beef, pastrami, NASA submarine, chicken salad.

SPECIAL AWARD: Helen H. Willey, 8-Foot Transonic Tunnels Branch, receives a Special Achievement Award from Mark R. Nichols, Chief of High-Speed Aircraft Division. Mrs. Willey was cited "for sustained superior performance in managing the mathematics unit of the 8-Foot Tunnels Branch and for providing the cohesive computational efforts necessary for the development of supercritical wing technology."

TECHNICAL PUBLICATIONS

The following technical papers have been published and distributed:

TN D-6964 - An Evaluation of Some Unbraked Tire Cornering Force Characteristics by Trafford J. W. Leland.

TN D-7088 - Lee-Surface Heating and Flow Phenomena on Space Shuttle Orbiters at Large Angles of Attack and Hypersonic Speeds by Jerry N. Hefner.

TM X-2667 - Wind-Tunnel Tests of a Single-Stage-to-Orbit Space Shuttle at Mach Numbers of 2.60, 3.85, and 4.64 by Ernald B. Graves.

TN D-7095 - Asymmetric Lateral-Directional Characteristics of Pointed Bodies of Revolution at High Angles of Attack by Paul L. Coe, Joseph Chambers, and William Letko.

TN D-6989 - Multimaterial Lamination as a Means to Retarding Penetration and Spallation Failures in Plates by John D. DiBattista and Donald H. Humes.

TN D-7098 - A Comparison of Techniques for Inversion of Radioray Phase Data in the Presence of Ray Bending by H. Andrew Wallio and Mario D. Grossi.

TN D-6963 - Wear and Related Characteristics of an Aircraft Tire During Braking by John Locke McCarty.

TM X-2663 - Criteria for the Optimal Design of Experimental Tests by George C. Canavos.

TN D-7070 - Experimental Performance of an Internal Resistance Heater for Langley 6-inch Expansion Tube Driver by Theodore R. Creel.

TM X-2633 - Aerodynamic Characteristics of an NASA Supercritical Wing Research Airplane Model With and Without Fuselage Area-Rule Additions at Mach 0.25 to 1.00 by Dennis W. Bartlett and Charles D. Harris.

TR R-394 - Davidon-Broyden Rank-One Minimization Methods in Hilbert Space with Application to Optimal Control Problems by Terry A. Straeter.

COURSES OFFERED EMPLOYEES

The second semester of the ODU graduate course in Physical Oceanography will be taught at the Center on Tuesdays from 1 to 3:45 p.m., beginning February 6. This course is an addition to those offered by ODU in the "green sheet" announcement dated Dec. 8. Interested individuals should process the green sheet application as soon as possible annotating "Ocean 505" to the listing of ODU courses. Registration will be held February 2. The course will cover descriptive methods of analyzing currents and water masses in oceans and their location and formation areas. Waves and tides will also be covered. Oceanography 504 is not a prerequisite for this course.

Two ODU undergraduate courses are being offered. They include Engineering 203, Materials Engineering, which will meet on Mondays and Wednesdays from 9 to 10:15 a.m. with Dr. Ronald A. Outlaw as the instructor, and Engineering 333, Heat and Mass Transfer, which will meet Mondays and Wednesdays from 10:30 to 11:45 a.m. with Dr. G. L. Goglia as the instructor. Application forms should reach the Training Office, extension 2517, by January 24.

The following two non-credit short courses are being offered:

Digital Systems Control - This course is designed for persons with a background in analog control systems and will treat both Digital Control Theory and Digital Devices and Techniques. It will stress application of hardware and interfacing of analog and digital controls.

Finite Element Analysis - Course topics will include algebra of simulation equations, the displacement method, idealizations of the finite element, various kinds of elements, assembly of elements, plate and shell elements, idealization of complex models, exercise using finite element method, and application to thermal stresses, vibrations, buckling, heat transfer, fluid flow, dynamics and nonlinear problems.

For further information call the Training Office, 2517.

A non-credit refresher mathematics course, Engineering Mathematics, is planned by George Washington University. This course will be directed to individuals interested in reviewing mathematical methods in engineering either to improve their job performance or to prepare for admission to graduate school. The course will cover portions of Differential and Integral Calculus, Ordinary Differential Equations, Series Solutions - Special Functions, and other topics depending on class interests. For further information call John Witherspoon, Training Office, 2517, or Dr. John L. Whitesides, Joint Institute for Acoustics and Flight Sciences, extension 2219.

RETIREMENT PARTY

Sidney Parker, Assistant Chief of Financial Management Division, who will retire after more than 26 years of Federal service, will be honored at a buffet luncheon from 12 noon to 1 p.m. on Friday, January 19 in the West Cafeteria private dining room. Cost of the buffet and gift will be $2.25 per person or $3.50 with spouse. Cost of gift only will be one dollar. Names and contributions should be sent by Jan. 12:

TO: Elsie F. Olive, MS 136

NAME _____ SECTION _____

WILL ATTEND _____ GIFT ONLY _____

DARDEN TO ADDRESS FGAA

Taylor Darden, a stockbroker with Paine, Webber, Jackson, and Curtis, will speak to the Virginia Peninsula Chapter of the Federal Government Accountants Association on Wednesday, January 17.

The meeting will be held at Plantation Barbecue, 2007 North Armistead Avenue, Hampton. A social period will begin at 6:30 p.m., followed by dinner at 7:15 and the program at 8 o' clock.

For reservations call Joe Haggerty, extension 3867, by noon January 15.

PETRONE HEADS MARSHALL

(Continued from page 1)

began in Huntsville where he participated in the development of the Redstone missile at the Army's Redstone Arsenal.

Dr. Rees was born April 28, 1908 in Trossingen, Wuertenberg, Germany. He received his scientific and engineering education in Stuttgart and at the Dresden Institute of Technology. After graduation he became assistant to the manager of a steel mill in Leipzig and his career in rocketry began in 1940 when he became technical plant manager of the German Guided Missile Center in Peenemuende.

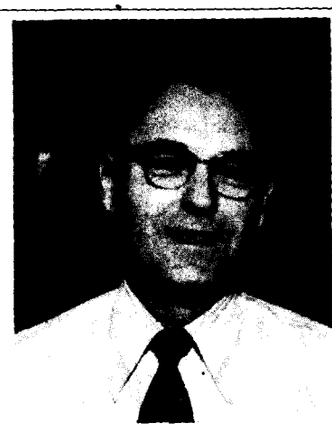
Dr. Rees came to the United States in 1945 with the 120-member German rocketry team and performed rocketry research for the Army at Fort Bliss, Texas, and White Sands Proving Ground, New Mexico. He moved to Huntsville in 1950 when the Army transferred its rocket activities to the Redstone Arsenal.

Dr. Rees served as Deputy Director of Development Operations of the Army Ballistic Missile Agency from 1956 to 1960 and he contributed heavily to the development of the Jupiter C launch vehicle which placed the first United States satellite in orbit January 31, 1958.

When the Marshall Center was formed in 1960, until he became its director in 1970, Dr. Rees served as Deputy Director for technical and scientific matters.

Dr. Petrone has had overall responsibility for the direction and management of the Apollo manned lunar landing program since September 1, 1969. He first became associated with NASA when he was assigned to what is now the Kennedy Space Center in 1960, on loan from the Army, as Saturn Project Officer. At Kennedy, he played a major role in the development of the enormously complex Saturn launch facilities, including the Vehicle Assembly Building, the launch towers, the tractor crawler, and the Mobile Service Structure. Later he assumed personal direction of launch operations and directed the launches of the first five manned Apollo flights, including Apollo 11.

Dr. Petrone is a native of Amsterdam, New York, and graduated from the U.S. Military Academy in 1946. He served in Germany from 1947 to 1950 and then resumed his studies at the Massachusetts Institute of Technology where he received a Masters Degree in Mechanical Engineering in 1951. In 1952 he was awarded a Professional Degree in Mechanical Engineering and in 1969 was awarded an honorary Doctorate of Science Degree by Rollins College.



ACHIEVEMENT AWARDS: Harry B. Topping (left), Operations Support Division, has received a Special Achievement Award ''for sustained superior performance in the preparation of and during stall/spin tests on the F-4 radio-controlled drop model.'' Leon A. Williams, Systems Engineering, was cited ''for sustained superior performance in his leadership of an engineering team effort to implement the application of NASA technology to public sector problems in oceanography.''

CAMERA CLUB MEETS JAN. 16

The Langley Camera Club will meet on January 16 at 7:30 p.m. in the Activities Building. The subject of the program will be ''Adventures in Indoor Color Slides.'' The theme of the color slide contest will be ''Objects of Art.''

The December contest was open category and the winners were:

First - ''Boy on the Pier'' by Robert L. Wright
Second - ''Fog Bound'' by Wright
Third - ''Silhouette'' by Deb Aichbhaumik
Fourth - ''Wax'' by Gautam Sen Gupta
Fifth - ''Sunset and Duck'' by Clay Rogers

★★★★★

Langley Researcher

VOLUME 12, NUMBER 2 LANGLEY RESEARCH CENTER JANUARY 19, 1973

LANGLEY PAPERS PRESENTED AT AIAA ANNUAL MEETINGS

Fourteen papers by Center staff members were presented last week at two conferences sponsored by the American Institute of Aeronautics and Astronautics. The AIAA 9th Annual Meeting and Technical Display was held January 8-10 at the Sheraton-Park Hotel in Washington, D.C., and the AIAA 11th Aerospace Sciences Meeting was held January 10-12 at the same hotel.

Edgar M. Cortright, Center Director, served as General Chairman for the AIAA 9th Annual Meeting and Technical Display and Eugene S. Love, Director for Space, presented the 10th von Karman Lecture. He spoke on ''Advanced Technology and the Space Shuttle.''

Other papers presented at the 9th Annual Meeting and Technical Display were as follows:

''Remote Sensing of Atmospheric Quality from Aircraft and Spacecraft'' by Dr. James D. Lawrence Jr. and Dr. Lawrence R. Greenwood, Head and Assistant Head, respectively, of the Environmental Quality Measurement Systems Office, Office of Director for Space.

''Shuttle Thermal Protection Systems'' by Louis F. Vosteen, Materials Division.

''Toward a Second-Generation Supersonic Transport'' by Laurence K. Loftin Jr., Chief Aeronautical Engineer.

''Research on Future Short-Haul Aircraft at the NASA Langley Research Center'' by John M. Riebe, V/STOL Aircraft Program Office, Low-Speed Aircraft Division, and Richard E. Kuhn, Assistant Chief, Low-Speed Aircraft.

''Aerothermodynamic Technology for Space Shuttle and Beyond'' by Arthur Henderson Jr., Associate Chief of Space Systems Division.

''Structural Technologies-Systems Challenges and NASA Thrusts'' by Dr. George W. Brooks, Director for Structures.

''Key Technology for Airbreathing Hypersonic Aircraft'' by A. L. Nagel, Head of Hypersonic Aircraft Systems Research Branch, Hypersonic Vehicles Division, and John V. Becker, Chief of Hypersonic Vehicles Division.

Papers presented at the 11th Aerospace Sciences Meeting were as follows:

''Effects of Non-Equilibrium Ablation Chemistry on Viking Radio Blackout'' by Dr. John S. Evans and Charles J. Schexnayder, Hypersonic Vehicles Division, and Dr. William L. Grose, Space Systems Division.

''Orthotropic Panel Flutter at Arbitrary Yaw Angles Experiment and Correlation with Theory'' by James W. Sawyer, Structures Division, and P. Shprykevich, Grumman.

''Measurements in a Transitional/Turbulent Mach 10 Boundary Layer at High-Reynolds Numbers by Ralph D. Watson, Dr. Julius E. Harris and John B. Anders Jr., Hypersonic Vehicles Division.

(Continued on page 2)

CENTER FACILITY TO BE USED BY EVMS FOR CANCER RESEARCH

Last week officials of the Eastern Virginia Medical School and Representative Thomas N. Downing inspected the Molecular Biophysics Laboratory which will operate as an EVMS research facility under a three-year agreement between the school and the Federal government.

The agreement is designed to make available to EVMS, being developed by the Norfolk Area Medical Center Authority, an equipped Biophysics Laboratory for cancer research.

Personnel under Dr. Donald Merchant, Professor and Chairman of EVMS's Department of Microbiology and Cell Biology, will conduct research for the medical school which expects to enroll its first class of students this fall.

Representative Downing was instrumental in arranging for EVMS's use of the laboratory, which has been working in areas of basic cancer research. Under the agreement, NASA will provide housing and utilities for the laboratory in its present location at Langley Research Center.

Clarence D. Cone will be in charge of EVMS research in the laboratory.

INSPECT FACILITY: Officials of the Eastern Virginia Medical School and Langley Research Center join Representative Thomas N. Downing (second from left) in an inspection of the Molecular Biophysics Laboratory, which will operate as an EVMS research facility. Shown with Representative Downing are (from left): Dr. Robert T. Manning, Dean of EVMS; Edgar M. Cortright, Langley Director; and Dr. Joseph L. Yon, EVMS Associate Dean for Management and Professional Affairs.

Happenings

NASA NIGHT. . .The Activities Association is pleased to announce Virginia Red Wings-NASA Night! American Hockey League action at its best, as the Red Wings (No. 2 in the AHL West) take on rough and tumble Nova Scotia (No. 1 in the AHL East) on Friday, February 9, in the Hampton Roads Coliseum. All tickets are reduced one dollar in price and are available NOW at the Activities Office, Building 1222. Take the whole family and enjoy an evening of exciting hockey action. Buy early for best seat selection!

ARCHERY CLUB. . .The Archery Club will meet at 7:30 p.m. on Tuesday, January 23 at the Activities Building. Included on the agenda will be the installation of new officers. Visitors are invited to attend.

TRIP TO GREECE. . .The NASA Employees Club plans a 1973 trip to Greece. The two-week trip will leave from Dulles Airport, Washington, D.C., on May 16 and fly directly to Athens, Greece. Return flight will be on May 30. Based on full complements, the flight alone can be taken for $245; the flight and a ground tour will be available for $545; and an optional 3 or 4-day boat tour of some of the Greek islands can also be arranged for an additional fee. Reservations should be made before March. For reservations and information, contact G. DeGennaro, Code FAP, NASA Headquarters.

AFGE NOTICE. . .The NASA Lodge 2755, American Federation of Government Employees, will meet on Wednesday, January 31 at 7:30 p.m. at the Central Labor Union Hall.

BOATING COURSE. . .Flotilla 63, U.S. Coast Guard Auxiliary in conjunction with the York County Recreation Advisory Board will present a 12-lesson course on Boating Safety and Seamanship at York High School. Registration and classes will start Tuesday, January 30 at 7:30 p.m. and end April 17. A fee of $3.50 will be charged to cover the cost of books and other expenses. For additional information, contact Fred C. Wilson, 877-4453.

QUESTIONS AND ANSWERS

Q. In the Christmas issue of the Researcher, one particular sentence in the Director's message especially interested me. The second paragraph begins, ''In some quarters Apollo 17 is being called the end of an area...'' I was curious as to whether the last word should have been typed as ''era,'' or whether I can view this as an early announcement of the next NASA personnel cutback.

A. We goofed again! The sentence should have read, ''In some quarters Apollo 17 is being called the end of an era—the close of the golden age of space exploration.''

Q. There are signs with the word ''official'' on parking spaces at many LRC buildings. What does it mean? Who may park in them?

A. According to Glen Ford, Management Support Division, the intent of the ''official'' parking signs is to provide personnel who use NASA vehicles in their work with a parking space. In most cases these spaces are utilized by those who have need to travel from facility to facility and make short stops for routine business. Most of the spaces are well utilized by NASA vehicle drivers.

Tomorrow is coming.

Buy United States Savings Bonds

PUT PART OF YOUR PAY RAISE INTO U.S. SAVINGS BONDS NOW!

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Using this dependable way to save assures that you'll put something aside every payday...and, almost before you know it, those few dollars you never missed from each paycheck will have grown into a sizeable nest egg.

So take a minute now to sign the form below, and you'll be saving from now on.

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Yes, I want to save part of my pay raise

Fill out this form and give it to your Attendance Clerk. She will see that you get an official authorization form.

Please send me a Payroll Savings authorization form so I can:

__Increase my present Payroll Savings allotment

__Start a new allotment

Name_____Section_____

Room Number_____Phone No. _____

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23365, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

HEADQUARTERS APPOINTMENTS

According to recent Headquarters announcements, William F. Stoney Jr., formerly of Langley, has been named Director of Earth Observations Programs, Office of Applications; William E. Lilly has been appointed Comptroller, and Joseph F. Malaga has been named Assistant Administrator for Institutional Management.

Stoney, Director (Engineering) of the Apollo Program Office since September 1968, suceeds Dr. John M. DeNoyer who accepted a position as Director of the Earth Resources Observation Systems Program of the U.S. Department of Interior's Geological Survey.

In his new assignment, Stoney is responsible for directing NASA's Earth resources, meteorological, and other Earth observation activities.

Stoney joined the Langley Research Center staff in 1949 and transferred to Headquarters in 1962.

In addition to budgetary and financial planning, analysis and control, Lilly will continue to be responsible for the Office of Facilities and the Office of Supply and Equipment Management.

Lilly joined NASA in 1960 as Chief of Plans and Programs, Office of Launch Vehicle Programs. He has served as Assistant Administrator for Administration since 1967.

Malaga's appointment recognizes the importance of effective utilization of institutional manpower resources, both civil service and support contract personnel. It provides better focus and visibility for the responsibility Malaga has had for this area as Director, Resources Analysis Division.

Reporting to Malaga will be the Director of Personnel, the Director of Occupational Medicine and Environmental Health, and the Director, Industrial Relations Office.

Malaga came to NASA from the Department of Defense in 1962.

Swap and Shop

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national orgin.)

FREE

Kittens, 8 weeks old. Sawyer, 838-1538.

FOR RENT

4-bedroom, 2-1/2-bath house with 2 car garage in Colonial Acres. Long, 851-9395.

WANTED

Good home for 5-month-old gray kitten. Liverman, 595-7588.

Car pool from Riverdale to W.A. on 7:30 shift. Davis, 3631.

Piano teacher for 4 children in Riverdale or Tanglewood area. Kallick, 838-3235.

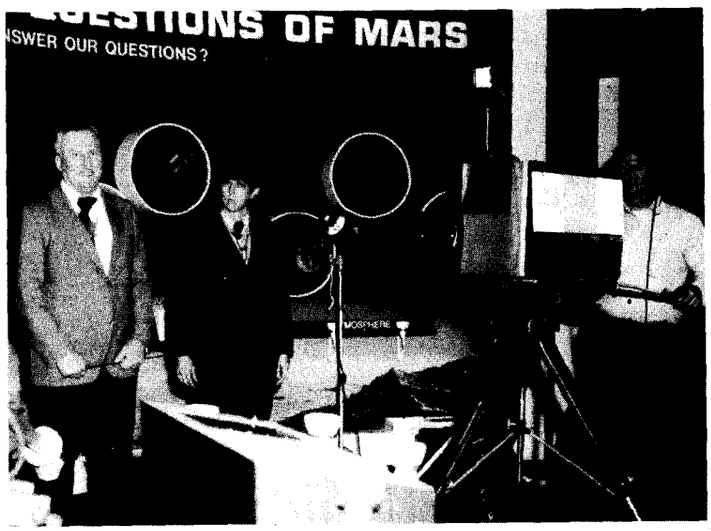
FOR SALE

20-inch Columbia bicycle, 3-speed, hand brakes - $20; electrical service box 100A - $25. Simmons, 826-5332.

Two pair of men's black figure ice skates, size 10 and 11 - $11 each. Crocker, 838-6393.

1968 Oldsmobile Delta Custom, factory electronic ignition system, 8-track stereo tape player, bucket seats, vinyl roof, 43,000 miles, other extras - $1300 firm. Outlaw, 838-6977 after 4:30 p.m.

Heath kit SB-303 solid state receiver - $350. Kastelberg, 851-0446 after 4 p.m.



TV PROGRAMS: The Langley Educational Programs Services in cooperation with the Central Virginia Educational Television Corporation is developing several space related television programs. The first in the series deals with the Viking Project. Shown during the filming at the Visitor Center are (from left): Dr. G. D. Sands, Viking Project Office; David Brummett, Central Virginia Educational Television Corporation; and Dick Hall, Production Manager for CVETC. Other CVETC employees associated with the production include Guy Spiller, chief engineer; Roy Moore, audio; Wayne Parsons, director; and Bob Jones, producer. These programs will be shown state-wide and will be available nationally through NASA's Educational Programs Division, Washington, D.C.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are open:

73-3 Clerk-Stenographer, GS-312-4 with promotional opportunity

73-4 Supply Management Officer, GS-2003-11 or 12

73-5 Clerk-Stenographer, GS-312-4 or 5

73-6 AST, Technical Resources Management, GS-801-11 or 12

73-8 Supervisory Engineering Technician, GS-802-12

73-7 Chief, Research Facilities Engineering Division, GS-801-15

73-9 Supervisory Engineering Technician, GS-802-11 with promotional opportunity

For information on position locations, closing dates, and areas of consideration, contact the Staffing and Special Programs Branch, extension 2233.

Candidates should list the number and title of the position they are applying for, and should list all experience that is applicable to the position.

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1968 Ford Galaxie 500 convertible with factory air conditioning, power disc brakes, power steering, glass window in top, bench seats, 302-V8 engine - 60,000 miles - $857 or best offer. Graves, 722-0041.

Kingston 12-string guitar with extra strings - $45; girl's 20-inch bicycle - $14; boy's 20-inch bicycle - $11. Williams, 851-0675.

1965 Dodge Polara station wagon, manual transmission, 318-V8 engine, power steering - $250. Champine, 596-3931.

STAFF MEMBERS ON PANEL

The last meeting of the Hampton Roads Chapter of the National Contract Management Association was devoted to a panel discussion on ''The Effects of Socio-Economic Clauses in Government Contracts.''

Appearing as guest panelists were George T. Malley, Chief Counsel for I RC, and Alvin F. Anderson, who heads the Center's EEO Office. Also appearing on the panel were F. Hunter Creech, Secretary and Chief Counsel for the Newport News Shipbuilding and Dry Dock Company, and Robert E. Witte, partner in the law firm of Witte & Witte, New York City, and NCMA's Northeastern Region vice president. Acting as moderator was Leonard J. Crosby, Contract Manager for Wyle Laboratories and vice president of the NCMA Southeastern Region.

Discussion revolved primarily around the impact of EEO and minority enterprise aspects of Government procurement. A variety of philosophical views were presented and debated.

The next meeting will feature a talk on ''International Contracts, A New Role for the Contract Manager'' by William C. Hise, Manager of International and Commercial Contracts for Page Communications Engineers of Vienna, Virginia.

More information on the NCMA may be obtained from Ted Bright, Procurement Division, extension 3247.

TECHNICAL PUBLICATIONS

The following technical papers have been published and distributed:

TN D-7067 - An Actuator Extension Transformation for a Motion Simulator and an Inverse Transformation Applying Newton-Raphson's Method by James E. Dieudonne, Russel V. Parrish and Richard E. Bardusch

TN D-6870 - Ring-Baffle Pressure Distribution and Slosh Damping in Large Cylindrical Tanks by Harland F. Scholl, David G. Stephens and Phillip K. Davis

TM X-2666 - Supersonic Aerodynamic Characteristics of an Air-to-Air Missile Configuration with Cruciform Wings and In-Line Tail Controls by William J. Monta

TM X-2641 - An Annotated Bibliography of Pyrrone and BBB Publications by Harold D. Burks

TR R-397 - An Analysis of the Relaxation of Laminar Boundary Layer on a Flat Plate after Passage of an Interface with Application to Expansion-Tube Flows by Roop N. Gupta

TN D-7060 - Effect of Wing Sweep, Angle of Attack, Reynolds Number, and Wing Root Fillet on the Interference Heating to the Wing Windward Surface of an Entry Vehicle Configuration by Louis E. Clark

TN D-7071 - Low-Speed Aerodynamic Characteristics of an Airfoil Optimized for Maximum Lift Coefficient by Gene J. Bingham and Allen Wen-shin Chen

TN D-7109 - Effect of Reynolds Number and Engine Nacelles on the Stalling Characteristics of a Model of a Twin-Engine Light Airplane by Vernard E. Lockwood

TM X-2674 - Effects of Wing-Pivot Location and Forewing Configuration on the Low Speed Aerodynamic Characteristics of a Variable-Sweep Airplane Model by Jarrett K. Huffman

TM SX-2682 - Effect of Inlet Cowl External Profile and External Stores on the Drag of a Fighter Airplane Model with Two-Dimensional Ramp Inlets by Donald L. Maiden.

EEO HIGHLIGHTS

The EEO Committee is composed of employees from various areas of the Center and functions as an extension of the EEO Office. They are a first line of communication for EEO complaints and inquiries. If answers or satisfaction to an EEO inquiry or complaint cannot be obtained from an employee's line supervisor, the employee can make an informal inquiry or complaint, either orally or in writing, to this committee or any of its members. The committee also makes recommendations for improvement of the EEO policy or practices to the EEO Officer and the Center Director.

EEO COMMITTEE: Members of the EEO Committee are (from left): James L. Williams, John J. Cox, Christine Darden, Malcolm P. Clark, Alvin F. Anderson, Wilbur Fichter, Rosa C. Webster, Coefield Silver, Horace E. C. Bellamy and Jane Hess. Members not shown: Mary W. Jackson, Harold Mehrens and Jean Elliott.

★★★★★

TM SX-2649 - Lateral-Directional Characteristics of a 1/10-Scale Free-Flight Model of a Variable-Sweep Fighter Airplane at High Angles of Attack by Peter C. Boisseau.

TM X-2634 - Tabulated Pressure Measurements on an NASA Supercritical-Wing Research Airplane Model With and Without Fuselage Area Rule Additions at Mach 0.25 to 1.00 by Charles D. Harris and Dennis W. Bartlett

TM X-2632 - Effect of Nozzle Lateral Spacing on Afterbody Drag and Performance of Twin-Jet Afterbody Models with Cone Plug Nozzles at Mach Numbers up to 2.2 by Bobby L. Berrier

TM X-2681 - Aerodynamic Characteristics at Mach Numbers from 0.40 to 2.86 of a Maneuverable Missile with Cruciform Trapezoidal Wings and Aft Tail Controls by William A. Corlett

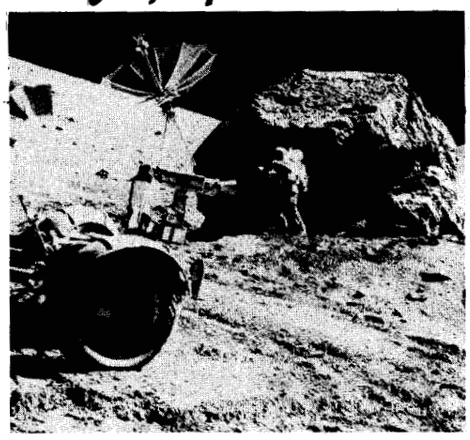
TN D-7097 - Numerical Method for Design of Minimum-Drag Supersonic Wing Camber Constraints on Pitching Moment and Surface Deformation by Russell B. Sorrells and David S. Miller

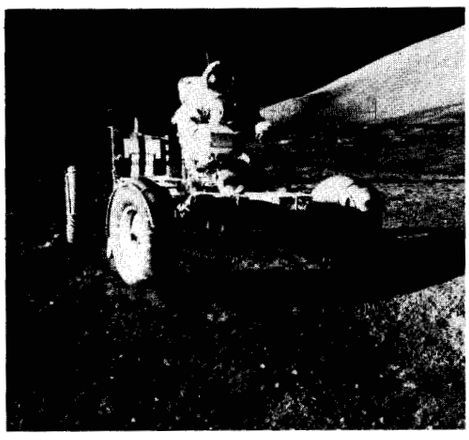
TM X-2683 - Thermal Correction of Deformation in a Telescope Mirror by Marvin D. Rhodes

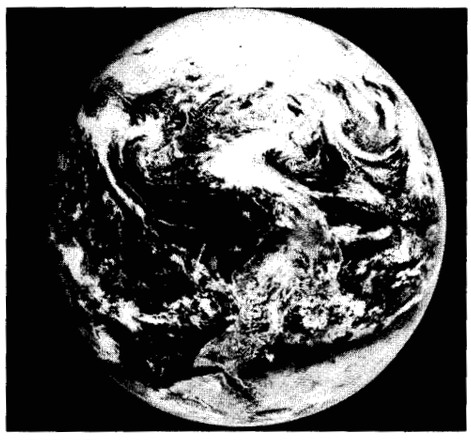
TM X-2675 - Wind-Tunnel Investigation of an Unswept Airfoil with a 0.098 Chord Blowing Flap by Thomas R. Turner.

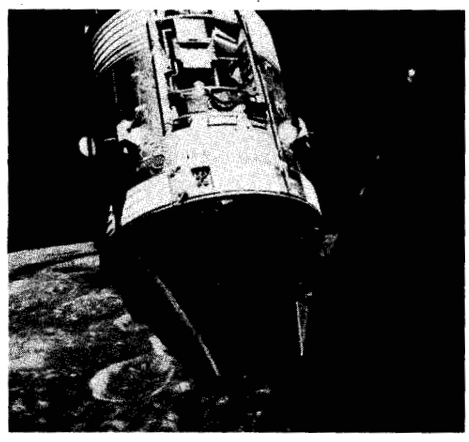
TM X-2662 - Aerodynamic Characteristics at Mach Numbers from 1.60 to 4.63 of a Variable Sweep Fighter Model with Wing Sweep Angles of 44 and 71 Degrees by Milton Lamb, M. Leroy Spearman and Dorothy H. Tudor

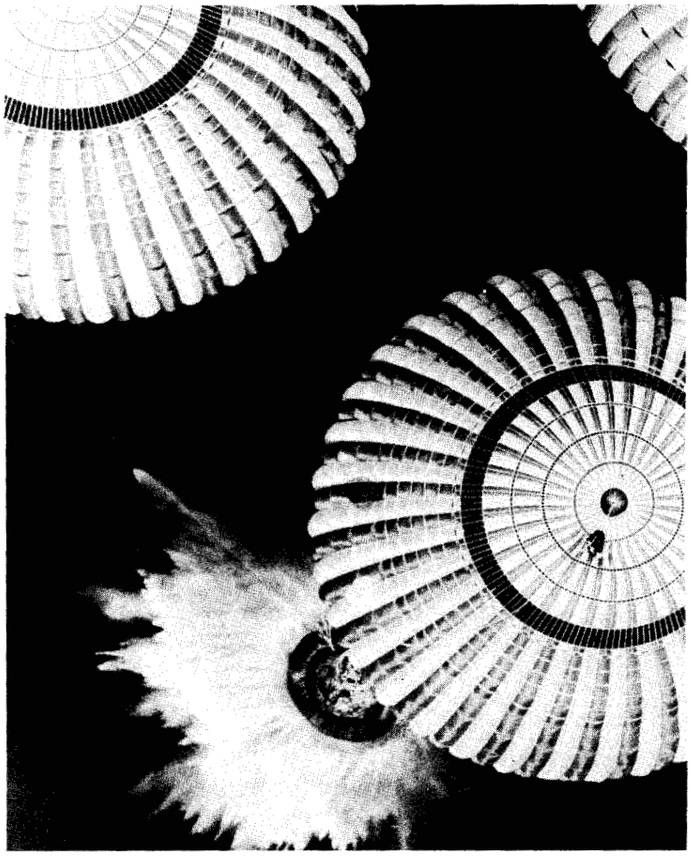
Pictorial Views of Apollo 17 Moon Mission

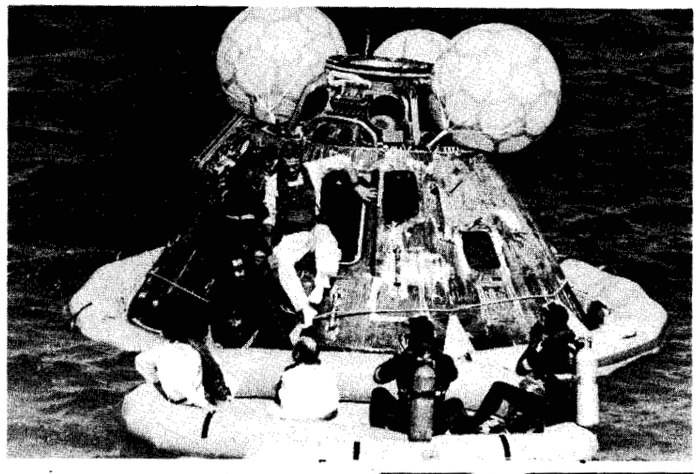












SNOW SCENES: The first snow of the season blanketed the Peninsula January 8 and several Center photographers recorded the event on film. Fred Jones, Photographic Branch, snapped the picture of a young deer (upper left) just before he took off into the brushes. The other scenes were taken by Staff Photographer Bob Nye and Alton Moore, Photographic Branch. Langley Air Force Base recorded an accumulation of 8 inches of snow during the storm.

TWO STAFF MEMBERS DIE

James A. McClammy Jr., Electrical Engineering Technician in Fluids/Electrical Unit, Systems Engineering Division, died January 3 in a local hospital.

McClammy was born November 7, 1914 in Rocky Mount, North Carolina. He served in the U.S. Army from June 8, 1943 to November 8, 1943. He joined the Center staff on April 3, 1946 as an Electrician.

Marcella G. Dobbins, an Army employee who served as secretary of the Structural Integrity Branch, Materials Division, Directorate for Structures, died on December 23. She had eight years of Federal service and transferred from Headquarters, CONARC, to the Langley Directorate, USAAMRDL, in October 1970.

ALMOST everyone can steer the ship if the sea is calm.

LANGLEY PAPERS PRESENTED

(Continued from page 1)

''Orbit Analysis for Coastal Zone Oceanography Observations'' by Edwin F. Harrison and Richard N. Green, Space Application and Technology Division.

''Fluid Undercutting in the Successive Channel Flow of Two Gases'' by Robert W. Guy and Renaldo V. Jenkins, Hypersonic Vehicles Division.

''Effects of Resonant Tesseral Gravity Coefficients on Viking-Type Orbits'' by Harold R. Compton, Environmental and Space Sciences Division, James R. Schiess, Analysis and Computation Division, and William J. Breedlove Jr., Old Dominion University.

''An Automated Method for Determining the Flutter Velocity and the Matched Point'' by Kumar G. Bhatia, NRC-NASA Postdoctoral Resident Research Associate.

Personnel Profiles

By

Allan C. Hanrahan

''Your Move, Bobby Fischer''

Chess. The mind conjures up different definitions of the word depending on who you are. Chess is considered by most people to be simply a game; by others it is considered an intellectual pursuit, a sport, or a mental exercise, and to those unfamiliar with it chess is a mystery or a pastime in which they are singularly uninterested.

However, our guest this issue, Mr. Henry A. Smith (known by his friends as ''Hacksaw''), says of chess, ''You might say that chess sort of rules my life.''

Taught to play some thirty years ago by a fellow worker at the Center, Mr. Smith once took chess - the playing of it, anyway - more seriously than he does now. Now his main impetus is ''to try to get more youth interested in the game,'' he declared.

He is president of the Peninsula Chess Club, which, incidentally, meets Tuesday nights at the Warwick High School cafeteria, and is a past president of the Va. State Chess Fedation as well as past state director for the U.S. Chess Federation, the organization that oversees all the national chess tournaments and is responsible for sending Bobby Fischer to Iceland. More about him later.

Henry was once secretary-treasurer of the Eastern Virginia Chess League, for a time published a chess newsletter for the State Chess Association, and one year was rating statistician for that same organization. In addition, he is now the advisor to the Peninsula District High School Chess League. So, you can see that when he says chess sort of rules his life, he's not exaggerating too much, especially when you learn that he is also involved in organizing tournaments for the Air Force, Army, and local students. The student tournament will be held in February.

Of course, Henry devotes much time to his wife, Betty, whom he met in high school up in Cumberland, Md., where he grew up (he was born in York, Pa., in August of 1921), and they have five sons: David, 28; Michael, 26; Steve, 25; Chris, 23; and Jerome, 20. And there are three grandchildren.

Henry came to the Center in January of 1942 and graduated from the Apprentice School as an Aircraft Model Builder. He is presently a Program Management Specialist in the Computer Management Branch of ACD.

He was involved in Scouting for more than fifteen years - while his boys were growing up - but aside from chess admits to only reading as a particular interest. An outgrowth of that interest is book collecting and, oh yes, collecting chess sets. At last count he had more than thirty!

Earlier, Bobby Fischer's name was mentioned. Yes, you guessed it: Smith once played Fischer but he hastened to add that he was one of forty-eight people whom Fischer was playing simultaneously.

''And he still beat me,'' said Henry. ''The strange thing is, he did everything I wanted him to do and he still beat me! But I lasted forty-two moves so I felt good about that.''

Smith was generous in his praise of Fischer and we were inclined to agree with him when he said, ''Fischer has done a lot for chess.''

So has Henry A. ''Hacksaw'' Smith.

One final note: For all those interested, there is also the Hampton Chess Club which meets on Friday nights at the Riverdale Apartments recreation hall.

RETIREMENT PARTIES

Roy Steiner, Aerodynamic Loads Branch, Loads Division, who recently retired after more than 31 years of Federal service, will be honored at a buffet at 7:30 p.m. on Friday, February 2, in the West Cafeteria private dining room. Cost of the buffet and gift will be $2 per person or $3 per couple. Cost of gift only will be one dollar. Names and contributions should be sent by January 30

TO: P. J. Bobbitt, MS 244

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____

Helen H. Willey, Supervisory Mathematician, 8-Foot Tunnels Branch, will be honored at a retirement party on Wednesday, February 7 from 4:45 to 7 p.m. in the Activities Building.

Cost will be $4 per person, $7 per couple, with contribution for gift only one dollar.

Persons planning to attend, please reply by January 26. Send names and contributions

TO: Helen K. Johnson, MS 359

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____

★★★★★

cafeteria menu

The following menu will be served in the cafeterias during the week of January 22:

Monday - French onion soup, Hungarian beef goulash, broiled Salisbury steak, stuffed pork chops, broiled chicken. Snack bar - Ham steak and egg, hot roast beef, turkey club, NASA submarine.

Tuesday - Cream of mushroom soup, beef teriyaki, meat loaf, breaded veal, beef enchiladas. Snack bar - Hot chili, pastrami, steak and egg, hoagie.

Wednesday - Vegetable beef soup, delmonico steak, beef pot pie, fried chicken, chili con carne. Snack bar - 3-D burger, ham and cheese club, barbequed pork, NASA submarine.

Thursday - Chicken rice soup, fiesta beef kabobs, fried shrimp, pork chop suey, ham croquettes. Snack bar - Corned beef, bacon, lettuce and tomato, NASA submarine, turkey club.

Friday - Bean soup, beef tips over noodles, meat loaf, fried or broiled fish, grilled cheese sandwich. Snack bar - Pastrami, hot roast beef, chicken salad, grilled cheese.

The menu for the week of January 29 is as follows:

Monday - Cream of potato soup, business man's lunch, fried clams, southern fried chicken, baked lasagna. Snack bar - 3-D burger, corned beef, steak and egg, ham and cheese club.

Tuesday - Chicken gumbo soup, beef stroganoff, veal parmigiano, glazed ham, fish cakes. Snack bar - Pastrami, turkey club, hoagie, hot roast beef.

Wednesday - New England clam chowder, delmonico steak, meat loaf, chicken cacciatore, franks and beans. Snack bar - Chili, steak and egg, NASA submarine, bacon, lettuce and tomato.

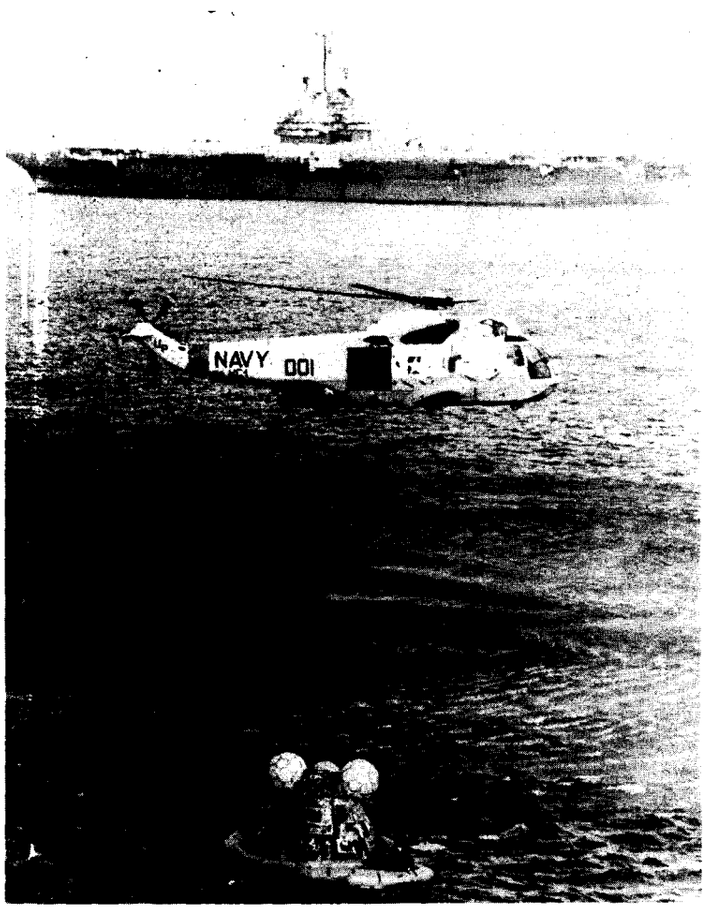
Thursday - Clam bisque, roast veal, seafood platter, sauteed chicken livers, chuckwagon steak. Snack bar - Mini-steak, hot roast beef, barbequed pork chicken salad.

Friday - Split pea soup, cubed steak, barbequed pork sandwich, fried or broiled fish, macaroni and beef. Snack bar - Ham steak and egg, pastrami, NASA submarine, turkey club.

★★★★★

A ''handicapped golfer'' might be one who plays golf with his boss.

The amount of sleep required by the average person is about an hour more than he actually gets.



APOLLO 17 RECOVERY: Main elements of Apollo 17 recovery operations highlight this view shortly after splashdown at 2:25 p.m. EST December 19. They are the Apollo 17 spacecraft, prime recovery helicopter and prime recovery vessel, the USS Ticonderoga.

can you solve this problem?

To increase the efficiency of firefighting, a device for eliminating or dispersing smoke is required. Presently, large fan blowers of up to 3 hp capacity are used but are inadequate besides being heavy and cumbersome for firemen to carry. Refer to NY-1. Contact the T.U. Office, extension 3281, for the complete problem statement or if you have a potential solution.

Langley Researcher

VOLUME 12, NUMBER 3 LANGLEY RESEARCH CENTER FEBRUARY 2, 1973

NEW LANGLEY MASTER PLAN

An updated facilities Master Plan for LRC has recently been completed and will be distributed to designated supervisory personnel in the near future. The 103-page brochure is broken down into sections with each section devoted to a separate subject.

The sections are titled as follows: LRC Mission and Capability, Installation Description, Regional and Area Data, Geology and Meteorology Land Use, Buildings and Structures, Utilities, Traffic Facilities, Landscaping and Plant, and Personnel Protection.

In this publication, there is a fairly comprehensive overview of the Center's physical plant with explanatory graphics and narrative. In effect, it provides a succinct statement of where we are and what we are, and it projects an image of the Center three years and five years in the future.

The concept of master planning was officially adopted by NASA in 1965. The intent of master planning is to encourage orderly planning and proper attention to the elements to be considered in the use of land and facilities. Since needs change and programs are far from static, a master plan to remain valid and useful must be periodically revised and updated. Current directives establish a three-year revision cycle.

As an example of the type of information contained in the Master Plan, the following is extracted from the Landscape Section:

"...For the visitor, his first impressions, and most probably his lasting images, of the facility are those made upon entering and as he travels to his destination, suggesting

(Continued on page 5)

INDUSTRIAL ARTS CONFERENCE HELD AT CENTER JANUARY 26-27

Approximately 80 Virginia teachers attended a space technology conference at Langley Research Center Jan. 26-27. The conference was the beginning of a cooperative teaching project between Virginia industrial arts educators and NASA.

The two-day program was held to help develop curriculum materials on the study of space technology for use by industrial arts teachers throughout the state.

The project was sponsored by NASA and three colleges, Virginia State College, Petersburg; Norfolk State College; and Virginia Polytechnic Institute and State University, Blacksburg. The colleges are working in cooperation with the Virginia State Department of Education at Richmond.

Guests were welcomed to the conference by Dr. Arvid Van Dyke, Project Director, Virginia State College, and T. Melvin Butler, Langley Director for Center Development and External Affairs.

The first day's meeting featured information on the Viking Project, NASA's unmanned spacecraft scheduled to orbit and land on Mars in 1976. Managers and engineers from the Langley Center gave technical briefings on Viking launch vehicle operations, and operation of the Viking orbiter and lander spacecraft.

The second day of meetings was concentrated on developing a curriculum for teaching Viking technology, and explaining the special project to all participants.

In addition to the meetings, tours were conducted of Langley technical facilities and the Visitor Center. General discussions and question/answer sessions were also held.

SPACE TECHNOLOGY CONFERENCE: Dr. George D. Sands, Viking Project Office, shows a model of the Viking spacecraft to a group of Virginia teachers who attended a space technology conference at the Center last week. Dr. Arvid Van Dyke left,) Virginia State College, was Project Director for the two-day conference.

HAPPENINGS

HAZARDOUS WEATHER. . . There are several weather conditions which can affect the operation of this Center such as high winds, hurricanes, floods, and snow. When weather conditions necessitate suspending or interrupting operations at the beginning of the work day, announcements will be made over radio stations WVEC (Hampton), WGH (Newport News), WTAR (Norfolk), WBCI-FM (Williamsburg), and WMBG-AM (Williamsburg). WMBG-AM in Williamsburg broadcasts only from 7:15 a.m. to 5:15 p.m. daily. All other stations are open and broadcast 24 hours each day.

NEW HEIR. . .Word has been received at the Center that Artie Lassiter, who retired from the Center staff a couple of years ago, became the father of a six-pound son, John, on January 16. Artie now lives in Ahoskie, N.C.

APPOINTED TO BOARD. . .Director Edgar M. Cortright has accepted an invitation to serve as an Associate Advisor on the Air Force Scientific Advisory Board. The Board provides a link between the Air Force and the nation's scientific community by serving as a means of communicating the most recent scientific information as it applies to the Air Force.

SKI TRIPS. . .Three ski trips have been planned by the NASA Ski Club for February. They are: Thursday, Feb. 8 Massanutten Mountain; Wednesday, Feb. 14 Massanutten Mountain, and Thursday, February 22 Bryce Mountain. The bus leaves Newmarket Shopping Center at 5 a.m. and arrives at the mountain at 9 a.m. The return trip leaves at 5 p.m. and arrives home by 9 p.m. To get on a trip just send a check for $20 to Richard Bennett, MS 205, and put your shoe size, height, and weight on the back of the check. For further information call 595-7456.

NASA NIGHT. . .Hockey fans are reminded that Virginia Red Wings-NASA Night will be held on Friday, February 9 when the Red Wings take on Nova Scotia at the Hampton Roads Coliseum. All tickets are reduced one dollar in price and are available through February 8 at the Activities Office, Building 1222. Take the whole family and enjoy an evening of exciting hockey action.

COURSE OFFERED. . .The Naval Reserve Officers School 5-9(M), Naval Reserve Training Center, Newport News, is offering a course in Value Engineering. The course is offered to all interested officers, regular or reserve, active or inactive, in any branch of the services. For further information call 838-3570, extension 42, or 244-3063.

Can You Solve This Problem?

A positive closing, easy opening, miniaturized tubing clamp to be used inline before the urine collection bag during emptying of the bag. It should be near flat for minimum bulge and non-abrasive for skin comfort. Refer to CRH-5. Contact the T.U Office, extension 3281, for the complete problem statement or if you have a potential solution.

★★★★★

YOU are young at any age if you are planning for tomorrow.

SOMEONE defined income tax as ''the fine you pay for thriving too fast.''

4-1-4-PROGRAM: Robert Graham (left) and Walter Buhay, Hampton Institute students, work with a computer in the Space Technology Division, during their three-week training period at the Center. The 4-1-4 program is a three-semester arrangement that several hundred colleges have adopted. The three semesters are of 4 months, 1 month, and 4 months. During the one month semester students may go off campus and work in a position in their selected profession and they receive 3 hours of credit.

BROTHERHOOD CITATION DINNER

As part of the national observance of Brotherhood Week, the local community will honor three of its citizens at a Brotherhood Citation Dinner to be held at the Hotel Chamberlin at 6:30 p.m. on February 22. The three persons to be honored are Caleb D. West Jr., Sister Mary Margaret and William Roos. They have been chosen for their personal efforts in behalf of the objectives of the National Conference of Christians and Jews; namely, giving to others the same rights, respects, and dignity that one wants for himself.

The subscription price for the dinner is $30 per person and the public is cordially invited to attend. The net proceeds of the dinner will be used to help carry on the year-round educational program of the National Conference of Christians and Jews in Virginia.

T. Melvin Butler, Director for Center Development and External Affairs, is serving as a member of the dinner committee. Members of the staff interested in attending the dinner may make reservations by calling Butler, 2932.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23365, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

73-10 Payroll Clerk, Financial Management Division, Voucher Processing Branch, Payroll Section, GS-544-3 or 4 with promotional opportunity. Area of consideration is Langley Research Center.

73-11 Freight Rate Specialist, Management Support Division, Property Management Branch, Transportation and Stores Section, GS-2131-8 or 9. Area of consideration is Management Support Division.

73-12 Program Analyst, Programs and Resources Division, Institutional Programs Group, GS-345-9 or 11 with promotional opportunity. Area of consideration is LRC.

73-13 Engineering Technician, Fabrication Division, Aerospace Model Development Branch, Dynamic Model Development Section, GS-802-11. Area of consideration is the Aerospace Model Development Branch.

73-14 Production Controller, Fabrication Division, Materials Technology Branch, Materials Processing and Development Section, GS-1152-9 or 10. Area of consideration is the Fabrication Division.

73-15 Clerk-Stenographer, Plant Engineering Division, Construction Engineering Branch, GS-312-5. Area of consideration is LRC.

73-16 Clerk-Typist, GS-322-4 or Clerk (Typing), GS-301-5, Flight Dynamics and Control Division, Simulation and Human Factors Branch. Area of consideration is LRC.

EEO HIGHLIGHTS

The Office of Equal Employment Opportunity is happy to feature Captain William M. Snider II, U.S. Army, in this issue. Captain Snider, a student at Hampton Institute, has been working in the EEO Office during the month of January. He is one of seven students from Hampton Institute who have been participating in a work/study program with various branches of the Center staff. Captain Snider has been studying Government Equal Employment Policies as part of his curriculum leading to a degree in Management.

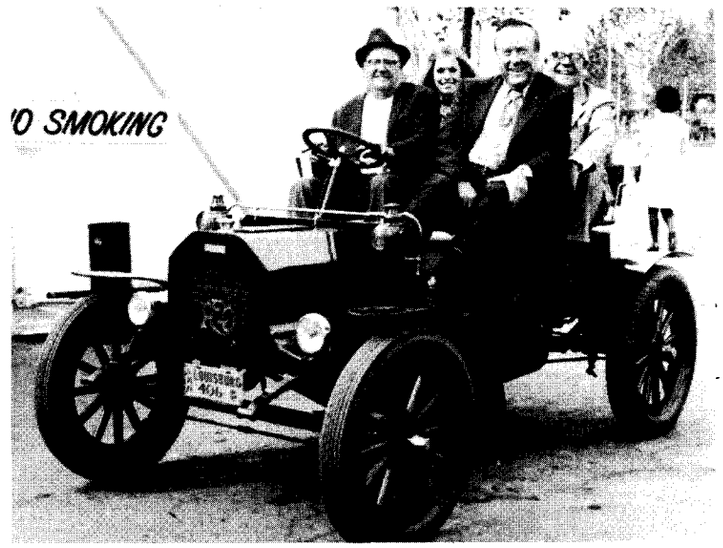
While his major efforts have been in the area of contract compliance, he is receiving an overall orientation of Federal Equal Employment Opportunity regulations, policies, and procedures. We wish Captain Snider the very best as he completes his degree requirements.

The EEO Office welcomes all ideas and suggestions. The invitation for each employee to stop by the EEO Office for a chat and a cup of coffee or tea is still open. We now offer chocolate also. The doors of opportunity are open. Come in!

COLLOQUIUM SERIES NEWS

Dr. Joseph Smargorinsky, Director of the Geophysical Fluid Dynamics Laboratory, National Oceanic and Atmospheric Administration, will be the guest lecturer for the Colloquium Series on February 12 at 3 p.m. in the Activities Building.

Through the use of high speed computers, attempts are being made to make large-scale models of the Earth's atmosphere, which include its interaction with the Sun's energy and the underlying boundaries of land masses and bodies of water. The physical basis for such models and their potential application for extended weather prediction will be discussed. The title of the talk is ''Global Atmospheric Simulation Models - Problems, Progress, Prom-



IN DAYS GONE BY: While staffing the NASA exhibit at the North Carolina State Fair held in Raleigh last fall, Axel T. Mattson (front seat) and Edward T. Maher (back seat), Office of the Director for Center Development and External Affairs, met Ernest H. ''Mac'' McFarland of Louisburg, N.C., and his 1904 Reo. They are shown here taking a ride around the fair grounds with one of the young escorts. Also with the group was Martin A. Weiner, Plant Engineering Division. ''Mac'' made many trips back to the NASA exhibit to discuss the space program with his Langley friends. During one visit, it was revealed that Mac and his Reo came to the opening of the Langley Visitor Center in 1971. Mac and his new friends kept in touch. Last month this friendship ended when word was received from R. W. McFarland that his father had died unexpectedly at the age of 81.

COMING EVENTS

The following events will take place in the Activities Building during the next two weeks:

Feb. 2 - Happy Hour 3:45 to 7:30 p.m.
Feb. 3 - Basketball practice and games 9 a.m. to 5 p.m.
Gus Lodge Retirement Party 7 p.m.
Feb. 4 - Basketball 1 to 6 p.m.
Feb. 6 - Club Night 4:30 to 10 p.m.
Feb. 7 - Helen Willey Retirement Party 5 to 7 p.m.
Feb. 8 - Basketball 5 to 10 p.m.
Feb. 9 - Basketball 5 to 10 p.m.
Feb. 10 - Basketball 9 a.m. to 2 p.m.
Feb. 11 - Basketball 1 to 6 p.m.
Feb. 12 - Basketball 6 to 10 p.m.
Feb. 13 - Club Night 4:30 to 10 p.m.
Feb. 14 - Basketball 5 to 10 p.m.
Feb. 15 - Bingo 8 p.m.

★★★★★

ONE wouldn't mind the ''pay-as-you-go'' tax so much if he knew what he was paying and where it was going.

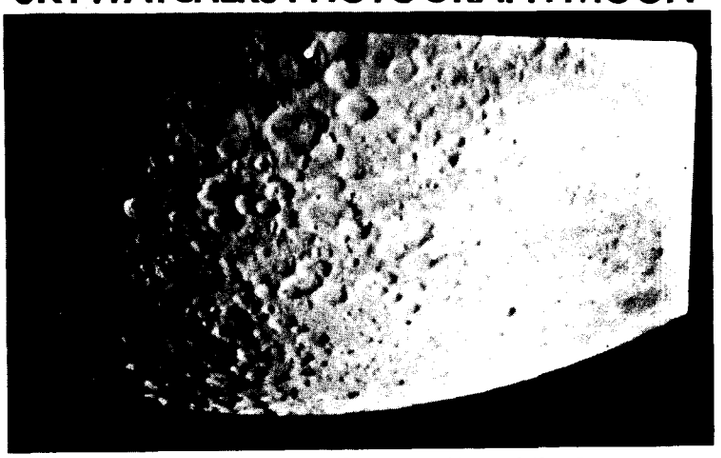
A FATHEAD is one person who cannot be helped by going on a diet.

★★★★★

ises.''

Because of many requests, the video tape of Dr. Elmer Green's lecture on ''Biofeedback for Mind-Body Self-Regulation'' will be shown at 3 p.m on February 6 at the Activities Building.

SKYWATCHERS PHOTOGRAPH MOON



The heavily cratered southern portion of the Moon near first quarter is shown in the photograph above. The photo was taken with the 16-inch reflecting telescope of the Langley Skywatchers Astronomy Club. One of the most prominent craters in this photo is Deslandres, at upper left along the terminator, which shares a common wall with Walter, to its right.

The walls of both of these craters are aligned with the global grid pattern of lunar lineaments, northwest and to southeast and southwest to northeast.

The system of bright rays covering most of the area emanates from the shadow-filled crater Tycho which is on the terminator below and to the left of Deslandres. Its bright, layered western wall stands out in sharp contract to the lunar darkness. The largest craters to the right of Tycho are Orontius, Stofler and Maurolycus, in that order. Located below and to the right of Tycho is another large crater, Maginus. Many smaller craters and hills are visible on its floor.

These are only a few of the Moon's many interesting features that members of the Astronomy Club have photographed. The club's observatory located behind the Activities Building is open for public viewing sessions every Thursday evening from 8 until 11 o' clock.

GOODMAN HEADS GOLF GROUP

New officers for the NASA Golf Association are: Ray Goodman, president; Tom Hall, vice president; and George Palko, secretary-treasurer.

The association is open to all NASA employees and retirees with membership restricted to 75 members.

The first match will be played at Elizabeth Manor Golf and Country Club in Portsmouth on April 6, and the second match will be with the Norfolk Naval Shipyard at Langley on May 3.

Former members are required to send their dues ($5) by March 15. After that date new members will be accepted. Dues should be sent to George Palko, MS 227. List your name, mail stop, home phone and NASA phone.

NASA BOWLING NEWS

Chattahoochies lead A League with 44 wins and 20 losses. Trailing in a close second are Clean Ups with 32 wins and 22 losses. Ed Swanson leads the men with a 265 game and 700 set. Meg Lynch is tops for the women with a 237 game and 647 set.

Audio Ventures lead B. League with 48 wins and 24 losses. Northrup Flyers are in second with 41-1/2 wins and 30-1/2 losses. Floyd Keafer leads the men with a 272 game and Walt Vohl has high set of 668. Leading the members of the fairer sex is Brenda Hooks with a 260 game and 686 set.

MEET YOUR EEO COUNSELORS

Dr. James A. Hutchby, Instrument Techniques Section, Instrument Research Division, is one of four new Equal Employment Opportunity Counselors.

Dr. Hutchby is a native of Newport, Rhode Island. He received his B.S. degree in Electrical Engineering from Auburn University and his Ph.D. in Electrical Engineering from North Carolina State University. He served as a teaching assistant for one year at N.C. State.

He joined the Center staff on August 3, 1970, and his overall interests are centered on semiconductor material and device research aimed at understanding and improving the performance of electronic devices.

Dr. Hutchby is author or co-author of nine technical reports. He is a member of Eta Kappa Nu, Tau Keta Pi, and Phi Kappa Phi, all honorary fraternities, and Sigma Xi, a professional fraternity.

He is married to the former Elizabeth L. Reavis and they have two sons - John who is three years old, and James who is one year old.

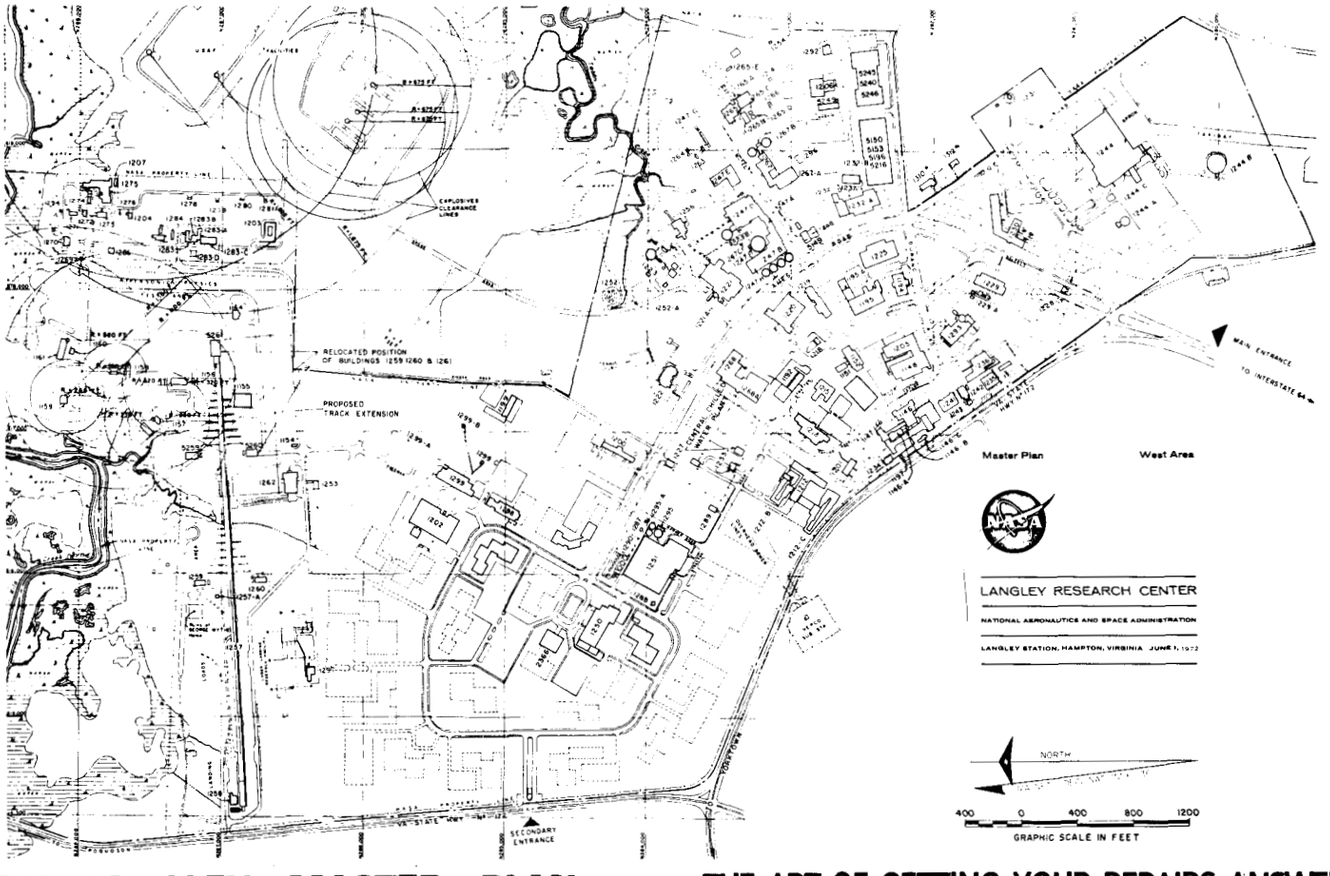
Dr. Hutchby likes to spend his spare time reading and participating in community affairs.

NEW SAFETY AND EMERGENCY PREPAREDNESS PUBLICATIONS

Three new Management Manual Instructions which more clearly define the Center's safety program and explain individual and organizational responsibilities in an integrated format have been published. These three instructions are LMI 1700.1, "Safety Program," LMI 1700.2, "Safety Assignments;" and LMI 1700.3, "The Executive Safety Board and Its Committees."

In addition, a new handbook entitled "Emergency Preparedness - Employee's Guide" was published on December 1972, as LHB 1040.3. This handbook provides employees and contractors working at the Center with instructions for responding to emergencies and other situations which could develop into emergencies if not properly handled.

These publications are one result of the work of the Adhoc Facilities and Operations Safety Board appointed by the Director in November 1971. Chairman of this board is Oran W. Nicks, Deputy Director.



NEW LANGLEY MASTER PLAN

(Continued from page 1)

the importance of the streetscape. Added to this is the visitor's need to rely on visual cues that provide simple, easily defined points of orientation to guide him to and from his chosen destination. Therefore, the proposed road patterns (see graphic) as outlined previously is the basic or foundation for future growth at Langley. The proposed landscaping will be instrumental in expressing and articulating this system of primary, secondary and service roads."

"The following is a basic outline of proposed landscape elements which must be developed if Langley is to have a rational and orderly environment, presenting a consistent character or image. Canopy, or shade trees and flowering trees, should become the landscape fabric for the Center. With these two basic plant types, nearly all planting considerations can be satisfied. Shade trees have probably the greatest impact on shaping the physical and psychological environment by providing shadow patterns on the ground which break up the monotony of paving and grass, thus making them the single most important landscape element."

"The area of entry (Main Gate) and spine road should become the most easily identified zone in terms of circulation. The entry zone is to be expressed with a major bosque of shade trees, which will be apparent when approaching from Armistead Avenue..."

To assist in the development of the Center landscaping program, Fred Heutte, internationally known landscape designer and horticulturist, has been retained as a consultant. Many of you may know of Heutte's work in the city of Norfolk where he developed the Gardens by the Sea and other distinctive horticultural displays.

The LRC Master Plan was developed under the direction of personnel in the Plant Engineering Division, Systems Engineering and Operations Directorate. Implementation of portions of the plan is underway in the vicinity of the Heating Plant (Building 1215) and the Cafeteria (Building 1213). As funds become available, additional projects will be initiated which will materially change and improve Langley's plant.

THE ART OF GETTING YOUR REPAIRS ANSWERED

If you have a need for services involving maintenance, repairs, modifications, or alterations to a facility, see your Facility Coordinator and ask him for a Langley Form 69. Fill in the required information and return the form to him and he will take it from there.

At the bottom of the form, under the heading "Instructions," you will note the manner in which your request will be processed; also note that the Facility Coordinator will be informed of the disposition of your request.

If you are uncertain as to the identity of your Facility Coordinator turn to pages 101 through 104 of the Langley telephone directory for a listing by facility. Langley Management Instruction 1700.3 also contains the names of Langley Facility Coordinators and a listing of their principal responsibilities.

★★★★★

AS A GENERAL rule, anything that is shouted or anything that is whispered is not really worth listening to anyway.

IT'S TRUE that the proper use of common sense would prevent a lot of divorces but then it would also prevent a lot of marriages.

★★★★★

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of February 5:

Monday - Puree of bean soup, beef liver and onions, chopped steak, chicken and dumplings, shrimp creole. Snack bar - Ham steak and egg, NASA submarine, pastrami, turkey club.

Tuesday - Corn chowder, braised short ribs of beef, meat loaf, baby flounder, spaghetti with meat sauce. Snack bar - 3-D burger, steak and egg, ham and cheese club, hoagie.

Wednesday - Vegetable beef soup, delmonico steak, veal parmesan, Chinese egg rolls, creamed dried beef on toast. Snack bar - Hot roast beef, bacon, lettuce and tomato, NASA submarine, corned beef.

Thursday - Chicken noodle soup, corned beef and cabbage, skirt steak, chicken cacciatore, wieners and sauerkraut. Snack bar - Turkey club, barbequed pork, NASA submarine, ham steak and egg.

Friday - Cream of potato soup, beef burgundy, Italian meat loaf, broiled or fried fish, sauteed chicken livers. Snack bar - Chili, hot roast beef, pastrami, chicken salad.

The menu for the week of February 12 is as follows:

Monday - Chicken and rice soup, roast of beef, glazed ham, baked lasagna, tuna noodle casserole. Snack bar - Steak and egg, pastrami, ham and cheese, hoagie.

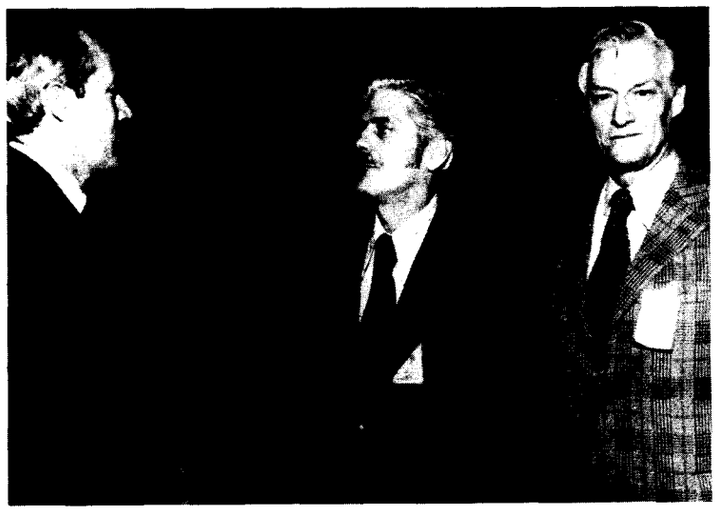
Tuesday - Fisherman's chowder, steamboat round, cordon bleu, Maryland fried chicken, fried clams. Snack bar - Bacon, lettuce and tomato, NASA submarine, ham steak and egg, turkey club.

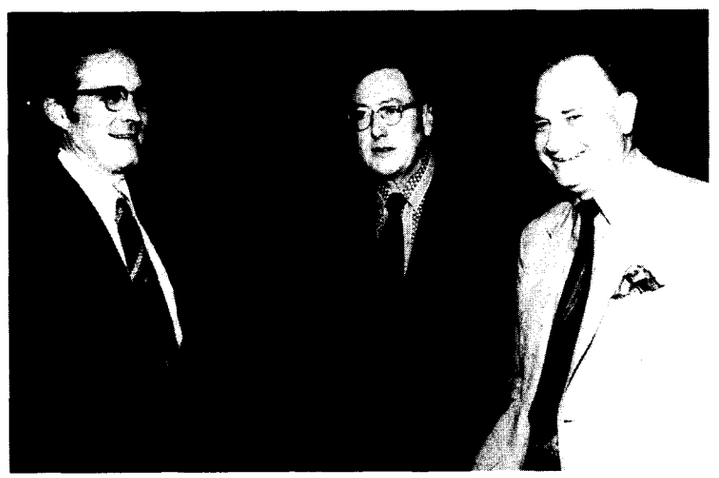
Wednesday - Vegetable beef soup, delmonico steak, stuffed cabbage rolls, barbequed spare ribs, franks and beans. Snack bar - 3-D burger, barbequed pork, salami, hot roast beef.

Thursday - Tomato soup, braised beef tips, hot turkey and dressing, fried oysters, macaroni and beef. Snack bar- Pastrami, turkey club, ham and cheese club, NASA submarine.

Friday - Minestrone soup, Swiss steak, meat loaf, shrimp Newburg, fried chicken. Snack bar - Steak, corned beef, NASA submarine, grilled cheese.

FOOTBALL CHAMPS: Boozers won the NASA Touch Football Championship with a record of 7 wins, 0 losses, and 1 tie. Members of the championship team are kneeling (from left): Charlie Miller, Bill Debnam, Ed Phillips, George Lawrence, and Carl Carroll. Standing - Dave Duxbury, Jim Ward, Ray Midden, Jim Norris, and Charlie Woerner. Absent was John Whitesides.





NUMBER ONE: It was business mixed with pleasure at the Fabrication Division's first ''State of the Division'' meeting and subsequent ''happy hour,'' ''ginger ale get-together'' or whatever, depending on the type of thirst. Enjoying the session in the top photo are Annie Coleman (left) and Brenda Sanders. Optimism was the mood and division pride was the theme as Division Chief D. R. Hayes (middle photo - right) and Assistant Chief J. L. Miller (center) outlined the division's organization and objectives and gave an overview of its past, present, and future after which the Division Technical Assistant, Dr. John Buckley (left), exhorted the division to ''Charge!'' E Barton Geer (bottom photo - left), Head of the Systems Engineering and Operations Directorate, was also on hand to personally meet the division, give it a verbal pat on the back for past performance, and reassure the division in regards to the coming year. Shown with him are Joseph Boyle (center) and James H. Parks, Assistant Director of SEOD. ''The first but not the last'' (such meeting), stated Hayes.

Personnel Profiles

By

Allan C. Hanrahan

Greet the Gracious Grandmother

The youthful lady who graces this space this issue is newly-arrived in the ranks of grandmotherhood and extremely pleased and proud of the position.

Betty P. Joyner, a twelve-year employee of NASA, is a secretary in the Hypersonic Research Engine Project Office of the Hypersonic Vehicles Division and has been mentioned before in this space by way of her husband, James O. (Jimmy) Joyner, who was one of those gentlemen featured in the ''Profile'' about the Hampton Lions Club Jug Band members who are employed at the Center.

Mrs. Joyner is definitely involved with that interest of her husband and demonstrates it by accompanying him on every one of the trips the Jug Band takes. Of course, the wives are required to pay their own way but she is undeterred by that because she ''adores traveling,'' she related. For instance, this past September they spent thirty-one days in Europe. The first two weeks they spent visiting their daughter, Gregg, and son-in-law who were living at the time in a Thirteenth Century Scottish castle, complete with Earl and Lady (the landlords)! Then Betty and her husband traveled to London and began a seventeen-day tour of other European countries; an experience they thoroughly enjoyed.

Yes, Betty enjoys being on the go but she also does quite a bit of sitting. She can be found sitting at her desk at work, of course, and sitting in a chair at home, reading - - a foremost pastime of hers. She can also be found sitting at her sewing machine; she makes all of her clothes (and makes a right attractive model, don't you think?). And, she can be found sitting at a potter's wheel, "throwing a pot." Now, lest you misunderstand, ''throwing a pot'' describes the operations wherein clay, by means of a potter's wheel and the potter's hands, is manipulated and formed and fashioned into a pot, bowl, vase or whatever and the activity is truly art. Over the past four years Betty has taken classes - seven in all - in both ceramics and ''pottery throwing'' and has become quite adept at both as can be seen from the photograph (another achievement by the camera artist, Bob Nye).

''Ceramics,'' Betty said, ''is a craft that anyone can learn fairly quickly who really wants to but pottery is an art that takes a long time to learn. It takes feeling. It's hard to explain but when the work is going like you want it to you can feel it.''

Betty, a native of Coal Run, Pennsylvania, has lived on the Peninsula since 1943, been married since September 1948 - - ''...over twenty-four happy years,'' she said - - and has a son, James Jr., in addition to the daughter mentioned earlier who, incidentally, just returned last Friday from Scotland with her husband and Betty's new granddaughter. It is a surety that happiness reigns supreme in the Joyner household these days.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

WANTED

Girl's 26-inch bicycle, 3-speed, hand brakes. Newman, 851-1883 after 5 p.m.

Shop Manual for 1963 Mercury Comet V-8. Miller, 722-7625.

FOR SALE

1971 Kinney Caravan 15-foot travel trailer, self-contained - $1095. Moore, 851-2223.

1971 Holiday travel trailer, 22 feet, air conditioned, full bath, sleeps four; also His and Hers 3-speed bicycles. Kelly, 877-1564.

White wedding gown trimmed with seed pearls, crystal beads and Alcenon lace, size 9-10 - less than half price. Reid, 851-2670.

1973 Honda (350 CL3), still in warranty - includes many accessories. Johnson, 825-4677.

Oriental desk, display case, sofa, and glass top wrought iron table with 6 chairs. Phillips, 898-6988.

2 girl's bicycles - one 20-inch for $12 and one 26-inch 3-speed for $17. Youngblood, 877-1224.

40 feet of 36-inch high welded wire, green vinyl coated fence, 2 x 2-1/2-inch mesh - $10. Spitzer, 3081.

Baldwin Orgasonic electric organ - $600 or best offer. Edwards, 722-1744.

13-foot sailboat and Gator trailer - $375. Montgomery, 851-4674.

New classical guitar with hard shell and other accessories - $70. Ozkul, 838-4995.

Morse portable deluxe 200 sewing machine with attachments -$60; Polaroid 210 with flash attachment and carrying case - $25. Druen, 826-1371.

Bronze Thai tableware, service for 12; also unique 3-D art work. Schiess, 595-5200.

26-inch AMF boy's bicycle - $15; Singer model 285K straight needle portable sewing machine - $35; two 2 x 6-foot olive green plastic decorative room dividers in wood frame - $30. Rountree, 877-9421.

1965 Ford Galaxie 500, 2-door hardtop, power steering - $150. Anspach, 877-4281.

1971 Maverick Grabber, wide oval tires, 302 V-8 engine, straight shift, vinyl roof. Stainback, 596-6294.

★★★★★

IT'S 4:30! DO YOU KNOW WHERE YOUR TRAVEL ORDERS ARE?

Questions and Answers

Q. When I go to the Dispensary for medication, why does the nurse ask me for my Social Security number?

A. According to James C. Tingle, Health Officer, your Social Security number is required to complete the NASA Occupational Medical Statistical Report, NASA Form 1375. The original, bearing your name and Social Security number, never leaves the Health Unit. The Social Security number aids in positive patient identification in case of two or more individuals bearing the same or very similar names. The duplicate of the form is masked so that neither name nor Social Security number is legible.

Q. What is the rationalization for a Personnel Newsletter published by the Personnel Division when the Researcher could, and often does, cover much of the same material? Could not such personnel information be included in the Researcher at a lower overall cost and on a more timely basis?

A. Civil Service rules and regulations require that employees be informed of their rights and obligations periodically. Some of these procedures must be published as often as semi-annually. We welcome the utilization of the Personnel Newsletter to relieve Langley Researcher of having to run these long procedure and policy articles. We feel Langley Researcher should devote its space to more current events. Questions dealing with specific Civil Service rules and regulations are welcomed by the Questions and Answers column.

Q. Would it be possible to add two stops to the shuttle bus service on its return route - one on Gregg Road (in front of the Photo Lab) and one at the corner of Stratton Road and Moffett Road (next to Reproduction)? This would afford easier access to two much used facilities. It would also cut down on automobile circulation in this area.

A. According to Dale Emswiler, Plant Engineering Division, the shuttle bus service has been implemented on a trial basis to improve services and reduce traffic conditions. The suggested changes will be considered along with others to further improve employee transportation requirements. Updated schedules and additional pick-up points will be published as services progress. Suggestions to improve services are welcome at anytime.

IT IS all right to swallow your pride occasionally because it is one of the few things today that is calorie-free.

SEARCHING for perfection is a good idea but it's seldom found by looking into a mirror.

★★★★★

Langley Researcher

VOLUME 12, NUMBER 4 LANGLEY RESEARCH CENTER FEBRUARY 16, 1973

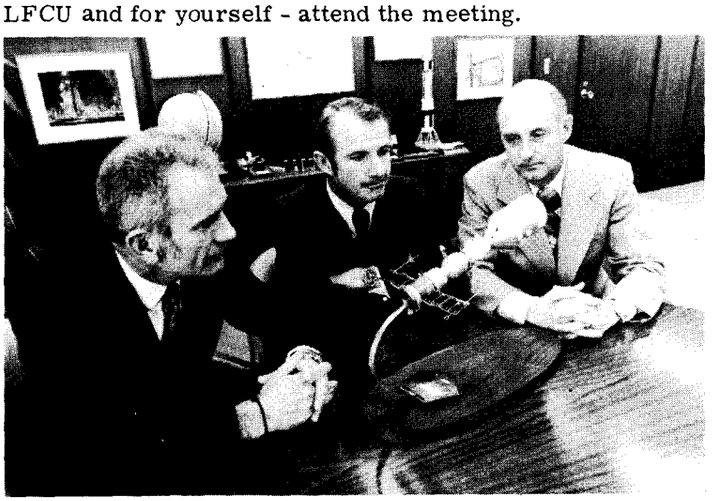
CREDIT UNION GOES NOSTALGIC

The 37th Annual Meeting of the Langley Federal Credit Union will be held this year pretty much back where it all began - the NASA Activities Building, four blocks north of the LFCU office on Ames Road. The date is Thursday, February 22, and the time is 7:30 p.m.

The Activities Building will be the only truly ''looking back'' of the evening. The year 1972 is the subject of the meeting, of course, and will be brought into focus by Bob Girouard, President. Assets grew from 15.9 to 22.1 million dollars or 39.2%. Also under ''business'' will be the election of four directors from seven nominees. Matters are complicated more this time by the fact that the choices include both a woman and a non-commissioned officer - the first of either in many a year. Biographies will be distributed with each ballot. You must be 16 and a member in your own name to vote.

Refreshments including canapes, finger sandwiches, dip, coffee and coca cola will be served by the attractive ladies of the LFCU staff attired as befits George Washington's birthday. And the General himself will distribute the many worthwhile prizes at the evening's end.

In between these two events, those attending will be entertained by the internationally-famous Hampton Lions Jug Band. Straight numbers, talented vocalists, comic relief, and specialty acts come hot and fast. Do your bit for the LFCU and for yourself - attend the meeting.



JOINT SPACE FLIGHT: The selected prime crewmen for the Joint United States-Soviet Union Earth Orbital Space Flight are (from left): Astronauts Donald K. Slayton, Docking Module Pilot; Vance D. Brand, Command Module Pilot; and Thomas P. Stafford, Commander. Backup crewmen are Astronauts Alan L. Bean, Ronald E. Evans, and Jack R. Lousma. Target launch date for the mission is July 15, 1975. The Soyuz spacecraft will be launched first from the Soviet Union and the Apollo launch from the Kennedy Center will follow.

NATIONAL ENGINEERS WEEK PLANNED BY LOCAL GROUPS

''Engineering. . .A Better Environment Through Technology'' has been selected as the theme for the 1973 National Engineers Week which will be observed February 18-24. John Daniel, Flight Instrumentation Division, and John Westbrook, Newport News Shipbuilding and Dry Dock Company, have been selected co-chairmen of the annual event.

Westbrook said the theme was based on the fact that ''we in the engineering profession are most desirous of maintaining our environment and improving the quality of life. We are gravely concerned about the widespread illusion that a clean environment can be obtained by reducing or abolishing our dependence on technology. For most environmental problems require engineering and technological solutions - dozens of them. During National Engineers Week, engineers throughout the nation will discuss the challenges of stimulating technological innovation for a better environment while at the same time meeting human needs.''

The local observance will end with a dinner on Friday, February 23 at the Ramada Inn on Route 17. A social period will start at 6:30 p.m., followed by dinner at 7:30 and an address at 8:30 by William J. Love, keynote speaker. Tickets are six dollars per person (not including social hour) and may be purchased from Roy Brissenden, 3838, or Tom Foughner, 2661.

The event is sponsored by the Hampton Roads and Williamsburg Chapters of the following national engineering societies: American Institute of Aeronautics and Astronautics, American Society of Heating, Refrigeration and Air Conditioning Engineers, American Society for Quality Control, Institute of Electrical and Electronics Engineers, Virginia Society of Professional Engineers, American Helicopter Society, Society for American Military Engineers, American Society for Naval Engineers, American Institute of Industrial Engineers, American Society for Nondestructive Testing, American Society for Mechanical Engineers, Engineers Club of the Virginia Peninsula, and Society of Naval Architects and Marine Engineers.

Assisting in the planning of the annual observance are the following committee chairmen:

Publicity - Tom Foughner, Roy Brissenden and H. B. Henderson
Dinner - Silas Lacy
Engineer of the Year - John Daniel
Speakers - Clifton Loveland and Doug Ensor
Tickets and Program - Doug Ensor and Anthony Izzo
City Proclamation - George Windrow
Ticket Coordination - Ray Schaver
High School Activities - Ed Swanson, Capt. Michael Miller and Ray Schaver.

Happenings

SEVEN MILLION REACHED. . .The Langley Visitor Center has had visitors from all 50 states and several foreign nations. Approximately 200,000 people have seen the Visitor Center even though many local residents are unaware of its existence. The Langley Educational Program operations through the media of television, educational television, radio, teacher workshops, conferences, school assembly and classroom programs, has been seen by over 7,000,000 people. Each NASA Center has an educational program with regional responsibilities. The Langley Center is responsible for Virginia, West Virginia, North Carolina, South Carolina and Kentucky.

GOLF NOTICE. . .In the last issue of Langley Researcher the NASA GOLF Association announced that membership is restricted to 75 members. This restriction has been lifted and there is no limit to the number of members who may join the association. Membership is open to all NASA employees and retirees.

AUTO TAGS. . .Starting March 1, Virginia State and Hampton City tags may be purchased at the Phoebus American Service Station, 201 E. Mellen Street, Phoebus. This agency will be open every day from 8 a.m. until 6 p.m. except Sunday. Last day to purchase tags is April 15.

SHRINE HOCKEY NIGHT. . .Shrine Hockey Night will be held at the Norfolk Scope when the Red Wings meet Richmond at 7:30 p.m. on April 1. Chartered C.R.T. busses will leave Riverdale Shopping Center at 6 p.m. for Scope. Round trip will be only one dollar. Price of game tickets are three and four dollars and they may be purchased from Burley Miller, Activities Building, extension 2183.

LECTURE PLANNED. . .Robert L. Clifford, former Economic Advisor, United Nations Development Assistance Programs, will speak on the United Nations Development Program on Monday, February 26, at 7:30 p.m. in Newport Hall, room 110, Christopher Newport College. The public is invited to attend. The lecture is being sponsored by the Peninsula Chapter of the United Nations Association.

NAGS MEETING. . .The Hampton Roads Chapter of the National Association of Government Secretaries will meet on Tuesday, February 20 at 6:30 p.m. at Sammy's Steak House on Warwick Boulevard. Jerry Lafferty, Silva Mine Control Center, Hampton, will be guest speaker. For reservations contact Evelyn Myers, extension 2611.

AFGE NOTICE. . .The NASA Lodge 2755, American Federation of Government Employees, will meet on Wednesday, February 28 at 7:30 p.m. at the Central Labor Union Hall.

WINS HONOR. . .Mary LaPrade, daughter of Virginia LaPrade of the Office of Scientific and Technical Information Programs, has been awarded the Lucile M. Wright Citizenship Award which is sponsored annually by the Girls Clubs of America. Mary was cited for her display of sportsmanship, cheerfulness, cooperativeness, willingness, and concern for others. She has received a number of other awards - in 1969 she was awarded the Moose Youth Citizenship Plaque for her outstanding volunteer service to the Girls Club; she won a campership to Junior Camp at Camp Iron Rail, Beverly, Massachusetts; and in 1971 she was the winner of the Junior Regional Cooking Contest.

find yourself:

THE PAYROLL SAVINGS PLAN

U. S. SAVINGS BONDS

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23365, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

NASA CONDUCTING SURVEY

Between February 12-23, a randomly selected group of employees is being asked to respond to a NASA-wide survey and a smaller group to participate in subsequent group discussions. The purpose of this effort is to assess the NASA internal environment. Those selected will receive a short questionnaire asking for anonymous comments on several factors in the current work environment and on their level of interest for each factor.

After the questionnaire has been completed, a small number of employees will be asked to discuss, in two groups, the more important factors identified in the questionnaire. One group of younger employees will meet with Robert S. Walton and a senior group will meet with Dr. John Duberg.

The results of the survey will be reviewed by the Personnel Management Review Committee (PMRC) of which Dr. Duberg is chairman, and its Subcommittee on Young Employees (SYE), of which Walton is immediate past chairman. The findings will be fed back to the Center. The PMRC is composed of senior management officials from several NASA centers and Headquarters who are responsible for providing the Administrator with policy guidance and feedback on significant personnel management issues.

The SYE was established by the PMRC to advise them primarily in the area of utilization and development of young professionals. Questions about the survey or the PMRC and SYE should be directed to Dr. Duberg or Walton.

More detailed information on the PMRC and its subcommittee is contained in NMI 1152.26 and 1152.37, respectively.

ODU AERONAUTICS PROGRAM

The Thermal Engineering Group at Old Dominion University will sponsor a meeting at VARC promoting the Ph.D. Program in Aeronautics.

Since the Thermal Engineering faculty is deeply involved in aeronautics-related instruction and research, all current and prospective Ph.D students will meet at 7:30 p.m. on Thursday, February 22, at the Virginia Associated Research Campus (VARC). Informal discussion will focus on topics such as aeronautics emphasis areas, degree requirements, possible new courses, directions for research, and future plans.

Dr. Gene Goglia, Graduate Program Director in Thermal Engineering, urges that all interested persons attend. Graduate program directors in engineering mechanics, civil, and electrical engineering are invited to attend with their graduate students in order to have full participation for discussion of this advanced graduate program.

For further information call Dr. A. Sidney Roberts, Assistant Dean of Engineering at VARC, 877-9231.

CLEARANCE REGULATIONS

Center employees are reminded that Management Manual Instruction 3296.1 of December 11, 1972, established clearance procedures for persons who are terminating their employment with Langley Research Center.

Employees who are resigning, retiring, transferring, or terminating employment are required to obtain clearances during their last five working days. Langley Form 116 ''Employee Final Checkout Record,'' which is now a stock item, is to be utilized for this purpose. This form, the employee's T & A Report, and Cost-Time Card are to be brought to the Staffing and Special Programs Branch, Personnel Division, Building 587, Room 119, by 1 p.m. on the last day of employment.

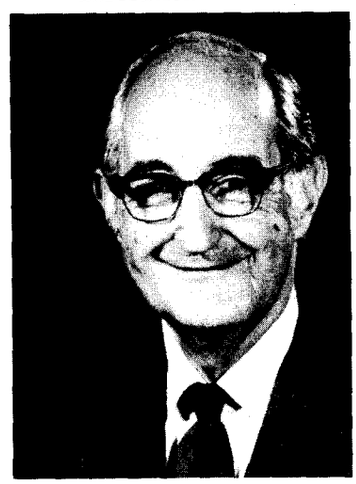
Failure to follow these procedures and to surrender all Government property may cause the separating employee's final paycheck to be withheld pending a determination of liability.

STAFF MEMBERS RETIRE

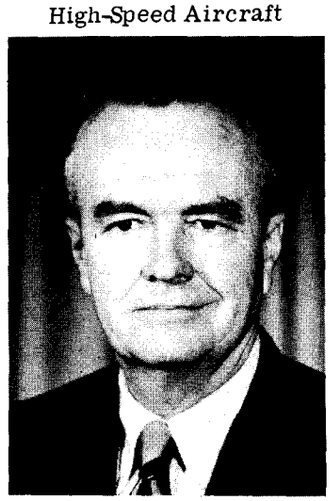
John J. Nettles
Management Support

Maurice C. Roberts
Fabrication

Helen H. Willey
High-Speed Aircraft



Harry N. Henry
Plant Engineering



Dr. Richard A. Hord
ESSD

Philip Donely
Office of Director

★★★★★

EEO HIGHLIGHTS

Preliminary Analysis of Employee Questionnaire

During the process of the Internal Evaluation of the Equal Employment Opportunity Program, each employee was asked to voluntarily respond to a 10 point questionnaire designed to elicit reactions as to the overall awareness of the Center's program. The following responses in the respective categories indicate significant awareness and knowledge of our efforts:

Q. Do you feel that you have received adequate information about the Equal Employment Opportunity Program at LRC? 989 YES - 104 NO

Q. Are you aware that an Affirmative Action Program has been developed and implemented to ensure equal opportunity for all LRC employees? 896 YES - 191 NO

Q. Did you know that there is an EEO Committee, composed of individuals from all areas of the Center, to handle EEO problems and complaints? 1060 YES - 33 NO

Q. If so, have you been made aware by your supervisor or other means of the committee's programs and activities? 784 YES - 279 NO

Q. Did you know that in addition to the EEO Committee there are individual EEO Counselors throughout the Center who are available for counseling at any time? 1019 YES - 73 NO

Q. Have you at any time been offered the opportunity to participate in EEO discussions or meetings with your supervisor and fellow employees? 343 YES - 728 NO

Q. Did you know that you can see an EEO Counselor or visit the EEO Office during working hours without using annual leave? 944 YES - 149 NO

Q. Do you read the ''EEO HIGHLIGHTS'' column in the Langley Researcher? 877 YES - 218 NO

Q. If so, do you think there is adequate coverage of EEO activities in this newspaper? 914 YES - 46 NO

The EEO Office would appreciate any comments relevant to EEO matters which you might care to make.

Total Number of Questionnaires Circulated	3,405
Total Number of Employee Responses Tabulated	1,101
Percentage of Employee Participation	32.3%

EMPLOYEES DONATE BLOOD

The Bloodmobile made its first visit of the year to the Center on January 31 and staff members donated a total of 199 pints of blood.

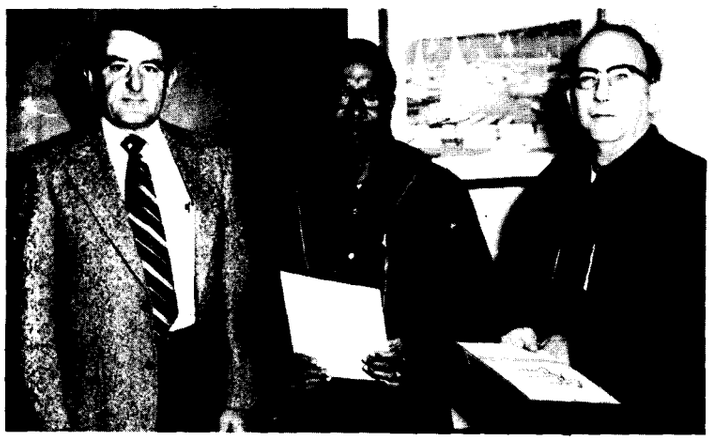
Joseph A. Siefring completed his quota to become an eight-gallon donor. Reaching the six-gallon mark were C. Michael Hudson and George Kerner. Five-gallon donors were Phillip E. Everhart, Harold Stanley, Alvin J. Lunsford, and Billie Short.

Fred Eubank, David Vohringer and A. J. Voitlein were credited with four gallons and three gallon donors were Elizabeth Gillis and Ben Tingelhoff.

Two gallon pins were presented to Fred Matthews, John Bryant, Charles Bryan, Robert Spruill, Mildred Hartman, Kenneth Crocker and James Coutts.

Receiving one gallon pins were Stuart Fleshner, Thomas Leffel, Leo Johnson, Lewis Horsley, Calvin Barnes, Gary Giles, Charles Fields, Robert Baals, James A. Martin, and Mickey Rowe.

Assisting during the visit were Dr. F. C. Wingfield and Dr. Webb Jones.



ACHIEVEMENT AWARDS: In the top photo Earl F. Stahl (second from right), Chief of Operations Support Division, presents awards to (from left): Benjamin J. Schlichenmayer for his ''superior performance in the preparation of and during stall/spin tests on the F-14 radio-controlled drop model,'' to Ronald L. White for his work on the F-15 radio-controlled drop model, and to Harry B. Topping for his work on the F-4 radio-controlled drop model. In the center photo, Baxter C. Carr, Chief of Plant Engineering Division, presents awards to James F. Pressey (center) and George W. Holden ''for sustained superior performance and high productivity in providing carpentry support to many minor construction projects at LRC.'' In the bottom photo, Vernard E. Lockwood receives his award from Edward C. Polhamus, Head of Subsonic Aerodynamics Branch, HSAD. Looking on is Donald D. Baals, Assistant Chief of High-Speed Aircraft Division. Lockwood was cited ''for his sustained superior performance resulting in aerodynamic research contributions leading to improved low-speed performance, stability, and control characteristics of arrow wing supersonic transport configurations.''

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of February 19:

Monday - H O L I D A Y

Tuesday - Cream of mushroom soup, stuffed green pepper, chuckwagon steak, chicken chow mein, fried shrimp. Snack bar - Ham and cheese club, pastrami, NASA submarine, hot roast beef.

Wednesday - New England clam chowder, beef teriyaki, stuffed pork chops, veal parmesan, macaroni and wieners. Snack bar - 3-D burger, turkey club, ham steak and egg, corned beef.

Thursday - Chicken gumbo soup, meat loaf, ham steak, fried chicken, beef pot pie. Snack bar - Barbequed pork, steak and egg, NASA submarine, bacon, lettuce and tomato.

Friday - Bean with bacon soup, beef kabobs, barbequed pork, fried or broiled fish, beef enchiladas. Snack bar - Turkey club, pastrami, chicken salad, grilled cheese.

The menu for the week of February 26 is as follows:

Monday - Cream of chicken soup, hot roast beef sandwich, roast pork, broiled Salisbury steak, clam croquettes. Snack bar - Ham steak and egg, hot roast beef, braunschweiger and cheese, hoagie.

Tuesday - Cheese chowder, delmonico steak, beef stroganoff, chicken and dumplings, fried clams. Snack bar - 3-D burger, ham and cheese club, barbequed pork, bacon, lettuce and tomato.

Wednesday - Vegetable beef soup, meat loaf, beef chop suey, crab cakes, sauteed chicken livers. Snack bar - Pastrami, steak and egg, NASA submarine, turkey club.

Thursday - Turkey noodle soup, country style steak, barbequed chicken, breaded veal, chili con carne. Snack bar - Salami, tuna fish, hot roast beef, ham and cheese club.

Friday - French onion soup, Hungarian goulash, stuffed flounder, spaghetti with meat sauce, wieners and sauerkraut. Snack bar - NASA submarine, barbequed pork, corned beef, bacon, lettuce and tomato.

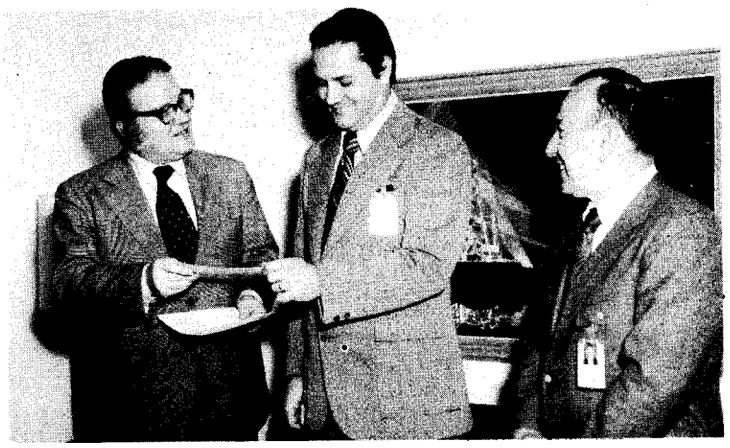
BASKETBALL STANDINGS

A LEAGUE

Team	Won	Lost
Beavers	6	0
ACD	6	1
KNADS	7	2
Charlie Brown's All-Stars	5	2
Net Nuts	5	2
Raiders	3	4
8-Foot	2	6
Westside	2	7
Alchemists	1	6
Ballers	1	8

B LEAGUE

Team	Won	Lost
Vikings	7	0
Hookers	7	2
B-Bombs	5	3
C & S	5	3
Overhangs	4	3
Gougers	3	3
Army	2	5
Half-Aces	2	5
Zips	2	7
Hoop Troop	1	7



TECHNOLOGY AWARD: Dr. John E. Duberg (left), Associate Director, presents a cash award to Dr. Cecil E. Kirby, Research Facilities and Engineering Division, for a Tech Brief entitled ''Promotion of Dropwise Condensation of Ethyl Alcohol, Methyl Alcohol, and Acetone by Polytetrafluorethylene.'' John Samos, Technology Utilization Officer, looks on.

Can You Solve This Problem?

An inexpensive, ''hand free'' light detector capable of differentiating among levels of light is needed by the blind. Possibly, a sensing device could be developed which could be mounted on the frame of dark glasses typically worn by the blind. Refer to AEB-3. Contact the T.U. Office, extension 3281, for the complete problem statement or if you have a potential solution.

CONGRATULATIONS

The following persons are to be congratulated for their contributions or suggestions to the Technology Utilization and Applications Programs Office toward the solution of biomedical and public sector problems: Vernon Alley, Hugh S. Watson Jr., Charles S. Rawles, Charles B. King, Robert S. Dunning, Don E. Barthlome, W. H. Phillips, J. A. Osborn, James Monteith, Cary Spitzer, and John R. Johnson.

MERIT PROMOTION NOTICE

The following Merit Promotion Announcements are currently open:

73-17 Head, Electrical Support Branch, Operations Support Division, GS-1601-13 with promotion opportunity. Area of consideration is the Systems Engineering and Operations Directorate. Closing date is today.

73-18 Clerk (Stenography), Fabrication Division, Materials Technology Branch, GS-301-05. Area of consideration is the Center. Closing date is February 22.

73-19 Supervisory Engineering Technician, Fabrication Division, Aerospace Model Development Branch, Composite Model Development Section, GS-802-11 with promotional opportunity. Area of consideration is the Aerospace Model Development Branch. Closing date is February 23.

73-20 Assistant Accounting Officer, Financial Management Division, GS-510-14. Area of consideration is the Center. Closing date is February 23.

★★★★★

USUALLY it's true that the less a man knows the longer it takes him to explain it.

BEST WAY TO AVOID COLDS

For those people worried about catching colds (again) this season, the Health Insurance Institute provides the following medically acceptable information:

Right now you are probably covered from head to foot with cold viruses, especially in your nose, mouth, and throat.

But don't worry. They will not necessarily make you ill. Your body, you see, has learned to live with them.

They may make you ill if you let yourself get run down, eat improperly, not get enough rest.

That's when these viruses overcome your natural resistance to them.

That's when your disease fighters - - a protein in the blood called gamma globulin, certain white blood cells, and specialized cells in the tissues themselves — are not enough.

And that's why, after years of notions, lotions, potions, trial and error, many physicians today agree on this simplistic cold technique: the best way to avoid colds is not to let yourself get run down.

If you do, chances are you'll get a cold. And when you do, you may as well resign yourself to living through it. And though it will ordinarily last about two weeks, there is little you can do about it.

For instance, aspirins will only provide symptomatic relief. An antihistamine may provide a little help - - but only if your sinuses are blocked.

As for ''cold shots,'' practically, they do not exist. Several years ago a few cold vaccines were on the market. They proved ineffectual and are scarcely used today.

Then there are the antibiotics. They proved ineffectual and are scarcely used today. According to authorities, they don't kill viruses and won't cure either a cold or the flu.

Still they are sometimes prescribed to treat complications such as an infected ear, sinus or throat, which are caused by bacteria. And antibiotics will kill bacteria.

Sometimes, too, a doctor will prescribe penicillin in response to the pressure placed upon him by his patient. Though it will not cure the cold, it often eases the mind.

All this, however, does not mean that if you think you have a cold you should not see your doctor.

The reason for this, says the institute, is that you may only think you have a cold but instead you have something treatable.

You may, for example, be suffering from allergies or from an infection, both of which may cause runny noses, watery eyes, sore throats, coughs and achy muscles.

But if you are sure you have a common run-of-the-mill cold and would like to do something for it, here is a number of medically recommended precautions suggested by the Institute:

Go directly to bed. Stay there.
Try a hot lemonade for your throat.
Keep dry and warm.
Hope for the best.

★★★★★

DON'T be afraid to go out on a limb - - that's where the fruit is found.

YOU cannot be responsible for what people think about you, but you are responsible for giving them reasons to think what they do.

MEET YOUR EEO COUNSELORS

Katherine W. Hennessy is a Math Technician in the Structural Mechanics Branch of Structures Division. She is primarily concerned with programming and related work of structural analysis.

Katherine is a native of Greenwich, New York. She attended public school in Greenwich and joined the Center staff on April 3, 1957. Since starting her NASA career, she has been assigned to the Unitary Plan Wind Tunnel, Flight Reentry Project Office, Engineering Division, and Structures.

She received a special award for her work as financial chairman of the Center's 1973 Combined Federal Campaign and was also a recipient of the Project Fire Group Achievement Award. She is the author or co-author of eight technical reports and is a member of the Society of Aeronautical Weight Engineers.

In the hobby line she enjoys oil painting and needlecrafts.

She is especially proud of her son and daughter. Son Joe, who was married in January 1972, is better known as Dr. Joseph P. Hennessy. He leaves March 1 for his residency in psychiatry at the University of Hawaii. Daughter Annette attended Christopher Newport College. She was also married last year and she is presently enjoying being a housewife.

FGAA TO HEAR MILLER

The FGAA Peninsula Chapter's February 21 meeting will consist of a panel discussion by Department of Labor officials. Richard E. Miller, Associate Assistant Secretary for Financial Management, and Lee Thorn, Director of the Office of Financial Policy and Systems, will discuss financial management in the Department of Labor and changing concepts in financial management.

The meeting will be held at Plantation Barbecue, 2007 North Armistead Avenue, Hampton. A social period will begin at 6:30 p.m., followed by dinner at 7:15 and the program at 8 o'clock.

For reservations call Joe Haggerty, extension 3867, by noon February 19.

★★★★★

ABOUT the only thing that is free of charge nowadays is a run-down battery.

IF YOU want to be liked by others then you must pretend to be taught many things you already know.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

LOST

Spaulding basketball at Activities Building on Jan. 24. Tomaine, 2866 or 877-1301.

Tan, fur-lined hood (type that zips onto coat) in vicinity of Viking Office. Carter, 3081 or 877-9025.

WANTED

Used boat trailer for 23-foot boat. Ward, 868-6042 after 5.

To rent 6 or 8-place Winnebago or comparable motor coach for period of March 8 through March 11. Hansbrough, 851-5369.

Girl's 26-inch bicycle, 3-speed with hand brakes. Newman, 851-1883 after 5 p.m.

Ride or driving combination from Dutch Village to W.A. on 8 shift. Wulf-Mathies, 2576.

FOR SALE

Zenith 21-inch color TV - $65; 12-foot aluminum semi-v with steering -$45; 18-foot k/cb sloop, sleeps 2; 1967 Olds Vista cruiser, 3 seats. Shaughnessy, 595-2024.

Sears 20-inch Spyder bike, 5-speed - $45. Carmines, 826-2894.

HO diesel streamline locomotive, cars, street-car trolley; about 100 feet track, switches and accessories - $25. Hewes, 596-4742.

Mediterranean design dining set with table and 6 chairs - No-mar table top - $200 or best offer. Saunders, 826-1123.

3 x 6-foot Formica top library table - $75. Usry, 723-0683.

1966 Rambler American, 2-door, A/T, 2 snow tires; portable 2-speaker stereo; 2 electric irons, electric popcorn popper. Hennessy, 596-7535.

Western Flyer pop-up camper - $250; child's swing set - $12. Williams, 838-3451.

RCA Whirlpool air conditioner, 220 v, 14,500 btu - $85. White, 877-3459.

Lady's white gold Waltham watch - $25. Phillips, 868-9484.

1972 Chevrolet Impala custom coupe, 2-door, vinyl top, power accessories, AM-FM stereo. Don, 838-2254.

Maple twin size bed frame - $25; box spring - $20; baby crib - $20. Eggers, 595-1686.

1967 Ford wagon - $750. Mulqueen, 877-8263.

New 6,000 btu air conditioner; Black and Decker battery powered 18-inch reel lawnmower. Reid, 851-2670.

Amana Radarange - $350. Childs, 898-6719.

TECHNICAL PUBLICATIONS

TN D-7103 - Mixing-Height Measurement by Lidar, Particle Counter, and Rawinsonde in the Willamette Valley, Oregon by M. Patrick McCormick, S. Harvey Melfi, Lars E. Olsson, Wesley L. Tuft, William P. Elliott and Richard Egami

TM X-2702 - Subsonic Aerodynamic Characteristics of a Fighter Aircraft Model with a Conventional Delta Wing and a Cranked Tip Delta Wing at Angles of Attack up to 40 Degrees by Jarrett K. Huffman and William P. Henderson

TM X-2676 - An Investigation of Optical Feedback to Extend the Frequency Response of Solid-State Detector Systems by Stephen J. Katzberg

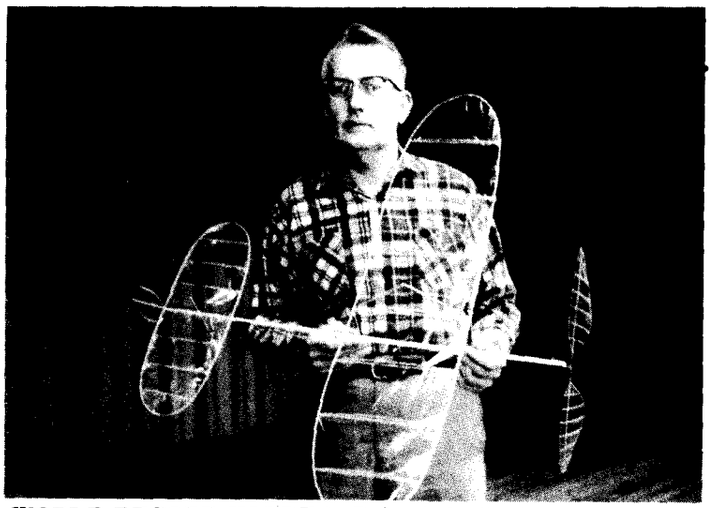
TN D-7099 - Effect of Wing Design on the Longitudinal Aerodynamic Characteristics of a Wing-Body Model at Subsonic Speeds by William P. Henderson and Jarrett K. Huffman

TM X-2704 - Effects of High-Temperature Brazing and Thermal Cycling on Mechanical Properties of Hastelloy X by Dennis L. Dicus and John D. Buckley

TR R-395 - A Study of Beryllium and Beryllium-Lithium Complexes in Single-Crystal Silicon by Robert K. Crouch, James B. Robertson and T. E. Gilmer Jr.

TN D-7114 - Extraction of Longitudinal Aerodynamic Coefficients from Forward-Flight Conditions of a Tilt-Wing V/STOL Airplane by James L. Williams

TN D-7132 - Some Loading Conditions Imposed by Ground Turning Maneuvers with Three Jet Transport Airplanes by Albert W. Hall



WORLD RECORD HOLDER: Robert J. Platt, Materials Division, is show with his model airplane which recently set a world record for indoor models under an eight meter ceiling. The record flight was 22 minutes and 10 seconds.

PLATT SETS WORLD RECORD

The Federation Aeronautique Internationale keeps world records for all sorts of flying machines, even for the fragile ultra-light indoor model airplane. On December 30, Robert J. Platt, Materials Division, set a new world's record for indoor models under an eight meter ceiling with a flight of 22 minutes and 10 seconds.

Platt's model had a wing span of 33 inches and weighed less than 1/10 ounce, including the 105-inch-long rubber band motor. The model was built of lightweight balsa and externally braces with tungsten wire and monofiliment dacron. The covering material is a very thing film much lighter than any known paper. In cruising flight the large 18-inch propeller turns less than one revolution per second.

Platt has also set several U.S. indoor model records.

Many of the model airplane world records are held by iron curtain countries, especially by the Russians. In the past five years, the flight duration record for indoor models under an eight meter ceiling has been set three times by Jira Kalina of Czechoslovakia. During that period the record was held briefly in this country by Stan Chilton of Wichita, Kansas, with a flight of over 17 minutes. In May 1969, Harold Crane, Research Aircraft Flight Division, brought the record back to the U.S.A. with a flight of 20 minutes and 21 seconds. But within a few months Kalina raised the world record to 21:06.

★★★★★

LANGLEY CAMERA CLUB

The Langley Camera Club will hold its annual banquet tomorrow night at 6 o' clock at the Colonial Restaurant on Jefferson Avenue. Featured will be the slide-of-the-year contest.

The next regular meeting will be held Tuesday, February 20 at 7:30 p.m. in the Activities Building. A color slide, open category contest will be held.

The theme for the January contest was ''Objects of Arts'' and 34 slides were entered. Larry Seale served as judge and selected the following winners:

First - ''The Composition'' by Deb Aichbhaumik
Second - ''Neptune's Son'' by Clay Rogers
Third - ''Gondolier'' by James J. Buglia
Fourth - ''Faces'' by Robert L. Wright
Fifth - ''Blue Deer'' by Bobby Wright, son of R. L. Wright
Sixth - ''Fort Jesus'' by Abe Leiss

LOCAL CULTURAL ACTIVITIES

As a service to staff members, Langley Researcher will publish a list of cultural activities scheduled to take place in the community:

Feb. 19-22 - Flower Show School, sponsored by VPI Cooperative Extension School, Hotel Chamberlin, Old Point Comfort.

Feb. 20-25 - ''Disney on Parade'', Hampton Coliseum

Feb. 25 - Hampton Institute Musical Arts Society, ''Camilla Williams, soprano,'' Ogden Hall, 8:15 p.m.

Feb. 28-March 3 - William and Mary Theatre, ''Brigadoon,'' Phi Beta Kappa Hall, 8:15 p.m.

NASA BOWLING NEWS

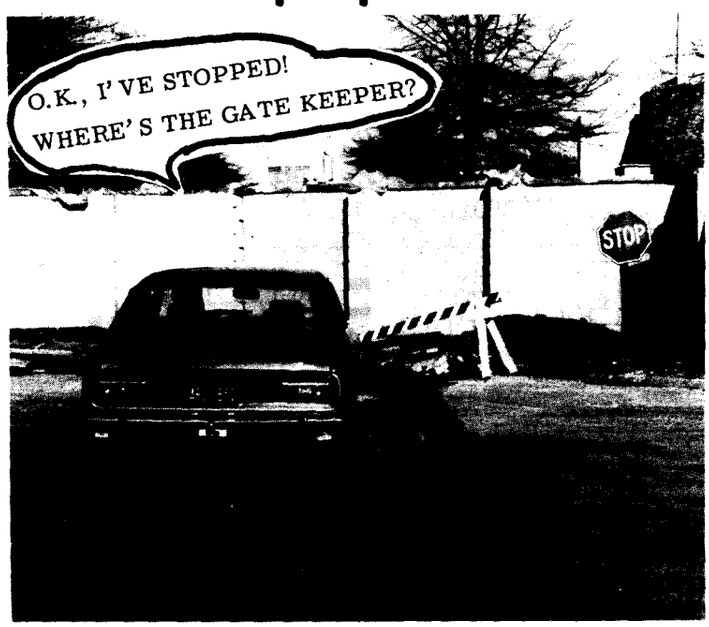
Chattahoochies are in first place in A League with 46 wins and 22 losses. Clean Ups are in a close second with 47 wins and 25 losses. Top scores for the week were rolled by McCreary Beasley with a 591 set, Jim Henry with a 225 game, Barbara Williams with a 508 set and Janice Phelps with a 203 game.

Audio Ventures lead in B League with 49 wins and 31 losses and Northrup Flyers and Born Losers are tied for second with 46-1/2 wins and 33-1/2 losses each. Top bowlers were Jesse Timmons with a 639 set, Ed Menkes with a 229 game and Pam Hopkins with a 571 set and 211 game.

★★★★★★

SOME wives have a terrible memory - - they never forget anything.

words in peoples' mouths



NOTE OF THANKS

Ilona Gambill, Louise Storm, Elva Rollins, Lou Agee, and Shirley Davis, the Travel Office girls who were featured on this page February 2, wish to thank their many friends and co-workers who enjoyed the picture as much as they did. They received numerous remarks and cartoon-type drawings as a result of the picture being published.

RETIREMENT PARTY

John Nettles, Management Support Division, will be honored at a retirement party on March 17 at the Langley NCO Club. A social hour will start at 6 p.m. followed by a prime rib dinner at 7 p.m. Cost per person, not including social hour, will be six dollars per person. Names and contributions should be sent by March 8

TO: Claude Watts, MS 201

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____

MOST of us can keep a secret but the people we tell it to can't.

Langley Researcher

VOLUME 12, NUMBER 4 LANGLEY RESEARCH CENTER MARCH 2, 1973

ASTRONAUTS VISIT CENTER: Astronaut Ronald E. Evans holds up an autographed color photograph of the Dec. 7, 1972, liftoff of Apollo 17 which he presented to the staff in appreciation for their contributions to manned space flight. Looking on are Astronauts Harrison H. Schmitt and Eugene A. Cernan.

APOLLO 17 ASTRONAUTS VISIT LANGLEY CENTER TO THANK STAFF

At their own request, Apollo 17 Astronauts Eugene A. Cernan, Ronald E. Evans, and Dr. Harrison H. Schmitt visited the Center Tuesday to thank staff members for their contributions to manned space flight.

Cernan, who was the first to speak, said, ''We stood on the shoulders of giants as we shot for the stars'' and he pointed out that many of those giants were in the audience.

He further stated, ''You here at Langley have a tremendous tradition. NASA really got its birthright here and it is something we are all proud of.''

He also spoke of what he termed NASA's ''legacy to preserve idealism and freedom in the universe. Our nation can lead mankind into many more peaceful days. This is the true tradition of Apollo.''

Evans spoke about his reactions on seeing the Earth on his way to and back from the Moon. ''It's a beautiful Earth,'' he said. ''It's my home - your home. We realized there is only one Earth and we must protect that Earth. . . now we have to continue to maintain and utilize our natural resources here on Earth. That's your duty now.''

Schmitt emphasized Langley's work on Lunar Orbiter ''which played an important part in bringing science into the Apollo program.''

Schmitt also said there was ''no question that Langley has to go into history as the ancestral home of manned space flight.''

The three Astronauts presented Center Director Edgar M. Cortright with a replica of the plaque left on the Moon by the Apollo 17 crew and a color photograph of the Dec. 7, 1972, liftoff from Cape Kennedy.

CLARENCE C. POE RECEIVES FIRST ANNUAL REID AWARD

The first annual H. J. E. Reid Award was presented last week to Clarence C. Poe Jr., honoring him as the author of Langley Research Center's most outstanding technical paper entered in the Reid Award competition for 1972.

The award, consisting of a certificate and an honorarium of $1,000, was presented by Center Director Edgar M. Cortright at a luncheon held at the Center.

The Reid Award was established in 1972 to honor the memory of the late Dr. Henry J. E. Reid, Director of Langley Research Center from 1926 to 1960, by recognizing the author of the outstanding technical paper of the year.

Mrs. Reid and their son, H. J. E. ''Jack'' Reid, Jr., a scientist in the Flight Instrumentation Division, were guests at the luncheon.

Poe, an engineer in the Materials Division, received the award for a Technical Report entitled ''Stress-Intensity Factor for Cracked Sheet With Riveted and Uniformly Spaced Stringers.'' During his seven years at Langley, Poe's research featured analytical and experimental studies of fatigue crack propagation through stiffened panels typical of the metal structures of aircraft and space vehicles.

His award-winning paper departed from much simpler examples of crack behavior in flat metal sheets to consider a variety of practical problems of direct application to aircraft design.

The work reported by Poe is based on the analytical

(Continued on page 5)

REID AWARD: Clarence C. Poe Jr., Materials Division, is the recipient of the first annual H. J. E. Reid Award, which is presented to the author of the most outstanding technical paper. Shown looking at his certificate are Mrs. H. J. E. Reid and Center Director Edgar M. Cortright.

HAPPENINGS

LANGLEY COLLOQUIUM. . .Dr. Gertrude Schmeidler, Department of Psychology, City College of New York, will speak on ''ESP: A Not So Uncommon Sense'' at the Colloquium on March 12 at the Activities Building. Dr. Schmeidler is probably best known for her extensive testing of students and other groups in quantitative tests to determine the relation of interpersonal and personality factors to ESP. The talk will be given at 3 p.m., followed by a discussion at 4 p.m.

SKI TRIPS. . .NASA Ski trips scheduled for March are as follows: Wednesday, March 7 - Homestead; Thursday, March 15 - Bryce Mountain. Cost is $20 per person including equipment rentals, transportation, and lift ticket. The buses will depart from Newmarket Shopping Center at 5 a.m. and arrive at the mountain by 9 a.m. Departure time will be at 5 p.m. and arrive home by 9:30. To reserve your seat send your check to Richard Bennett, MS 205. Be sure to list on the back of your check your shoe size, height, and weight.

NEW HEIR. . .Celebrating the arrival of a seven-pound, fifteen-ounce son, Eric Michael, on February 6 is Raymond M. Taylor, Operations Support Division.

THANKS STAFF. . .Polly R. Shea, who recently had open heart surgery, wishes to thank the blood donors who gave blood in her name during a Bloodmobile visit and to her many friends who have sent her cards and flowers.

BROCHURES. . .The 1973 Basic Surgical-Medical Benefits Brochures for the Service-Benefit Plan (Blue Cross) has been received at the Center and copies will be distributed to all staff members within a few days.

CONGRATULATIONS. . .Dr. John E. Duberg, Associate Director, has been selected an honorary member of Sigma Tau Fraternity, an honorary engineering society. He was selected ''in recognition of your outstanding contributions to the engineering sciences and engineering education.''

WELCOMES ASTRONAUTS: Center Director Edgar M. Cortright escorts Apollo 17 Commander Eugene A. Cernan to the Hangar. Directly behind Cernan is Ronald E. Evans.

TECHNOLOGY AWARDS: Dr. John E. Duberg (left), Associate Director, presents cash awards for Tech Briefs to (from left): David S. Vann, Stacey M. Mills, Max Tongier Jr., Seymour Salmirs, Charlie E. Dameron, and George M. Wood Jr. Tech Briefs are published through NASA's Technology Utilization Program for nation-wide distribution.

HOW TO PREVENT GETTING OLD

When driving down the highway, always drive at top speed. It shows everyone that you are not a plodder, and when you have a wreck it makes a spectacular sight for the audience.

When approaching a railroad crossing, never stop, look, or listen. It gives people the impression you are afraid.

When backing up, never check to see what is behind you. People will get the impression you have lost confidence in your driving ability.

Never give the right of way to the other fellow. After all, you must let people know your time is more important than theirs.

Never stop at stop signs. They were only made for the other drivers and, after all, if other people know you are on the road, they will keep out of your way.

When skidding, always lock your brakes; it makes you do such fancy tricks.

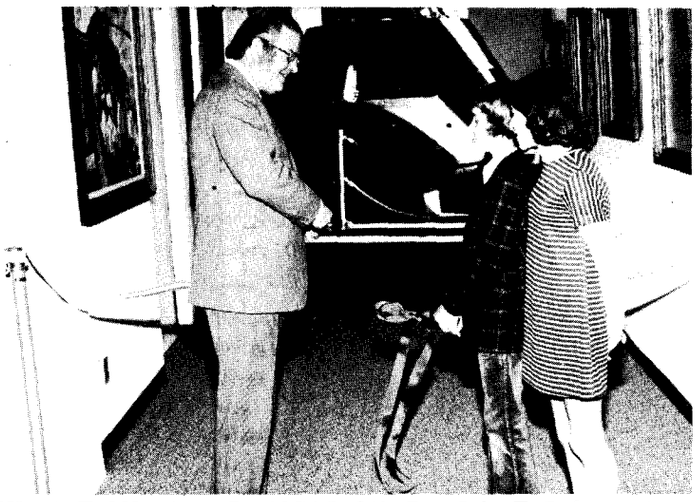
Always speed through restricted areas where kids are playing. It gives a chance to see if the kids today are as nimble as you used to be.

On the other hand, if you think this is a pretty good world to live in and you want to enjoy it for a long time to come, just use a little common sense when driving your vehicle. After all, a man can spend a lifetime gaining experience and acquiring wisdom -- and become an out-and-out fool in just a minute.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23365, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.



EXHIBITION HALL DEDICATION: Dr. John E. Duberg, Associate Director, is assisted in cutting a ribbon to inaugurate use of the new Exhibition Hall at the Langley Visitor Center by two students from the Luther W. Machen School in Hampton - Jamey Prescott and Patty Walton. The new addition to the Visitor Center houses the Apollo 12 Command Module, the Lunar Orbiter Spacecraft, and a number of pieces of art commissioned by NASA through some of the nation's outstanding artists.

UPWARD MOBILITY COURSES

A tentative listing of courses to be offered during working hours at the Center, as part of the Upward Mobility Program, for the spring quarter of Thomas Nelson Community College, was announced in the January issue of the Personnel Newsletter.

Plans are now firm for the following courses: Psychology 128, Human Relations, beginning Wednesday, March 28; English 180, Fundamentals of Business English, beginning Thursday, March 28; and SPDR 136, Speech Communications, beginning Tuesday, April 3.

Registration deadline for these courses for employees who have not previously taken a credit course at Thomas Nelson is March 18. For employees already enrolled in the Upward Mobility Program and who have previously taken a course for credit at Thomas Nelson, the deadline for registration is March 22.

Questions concerning the TNCC requirements for the Comparative Guidance and Placement Program tests, as well as information regarding the Upward Mobility Program and registration forms for enrollment at TNCC for courses to be offered either at night or during working hours at Langley, should be directed to Eloise McGehee, extension 2838, MS 309, Building 586, Room 130. Through special arrangements with TNCC, it is now possible for employees who wish to enroll in credit classes at night at TNCC to register for them at LRC.

Can You Solve This Problem?

A flexible pressure transducer to noninvasively measure carotid artery pressure in humans is needed. The transducer must be flexible, should be comfortable to wear, and be linear from D.C. to 10 Hz. Refer to AVA-2. Contact the T. U. Office, extension 3281, for the complete problem statement or if you have a potential solution.

WEST CAFETERIA TO PROVIDE NEW BUFFET SERVICE MARCH 19

Commencing Monday, March 19, the West Cafeteria will inaugurate a new service for those Center staff members who prefer a light lunch or those who have official visitors and like a quieter atmosphere in which to continue business discussions.

Steve Hayes, Cafeteria Manager, has been working with members of the Langley Cafeteria Committee to bring about this new service which will be provided in Room 131, which has been referred to as the Private Dining Room and is adjacent to the main cafeteria area.

In the smaller dining room, there will be a self-service type of buffet, from which one might select a light entree, a green vegetable, salad, soup or prepared sandwiches, as well as coffee, tea, milk and dessert. All prices will be a-la-carte.

This new service is part of a continuing program by the Cafeteria management and the Cafeteria Committee to provide a well balanced and coordinated food service at the Center, taking advantage of the facilities and capability at hand. Hayes hopes that the new service will attract a sufficient number of customers to keep it available. He pointed out that on rare occasions it may be necessary to utilize the Private Dining Room for an official function so that the special buffet service cannot be provided, but advance notice will be given when such is the case.

Incidentally, Hayes stated that he is always interested in having constructive suggestions from the patrons of the Center Cafeterias and they may be sent to him at any time at Mail Stop 197, or they may be sent to any of the following members of the Langley Cafeteria Committee: James R. Dinkins, Chairman; R. B. Forrest, Joyce Gray, Edward T. Maher, Benjamin O. Smith, and Robert Wright.

Constructive suggestions are always useful and they will receive serious consideration.

EEO HIGHLIGHTS

The 1973 Affirmative Action Plan for Langley Research Center has been approved by the Civil Service Commission (Philadelphia Region). This innovative and comprehensive plan contains a series of positive activities and proposals for implementation during this calendar year. All employees may discuss the contents with their supervisors, EEO Counselors, EEO Committee members and/or the EEO staff. Copies are available in the EEO Office.

One significant requirement of our AAP is that we compile a list of employees who are involved in agency boards and community programs. We know that there are many employees involved in such activities, of whom we have no knowledge. Let's try to improve LRC's image in the community by making our works known. Why not pick up the phone and let this office know what you are doing in this area.

Janet M. McKenzie, Contract Compliance Specialist, was recently presented a Special Achievement Award for "her sustained superior performance in the performance of duties equivalent to an Administrative Assistant to the Equal Employment Opportunity Officer.

The Civil Service Commission EEO Evaluation Review at Langley is scheduled for March 19-23. Representatives from OAST, NASA Headquarters and the Civil Service Commission (Philadelphia Region) are expected to participate.

Dr. Belinda H. Adams

Thomas Dale Bess

Samuel M. Dollyhigh

Dave E. Eckhardt, Jr.

SIX RECEIVE ADVANCED DEGREES

Six staff members recently received advanced degrees through the Center's graduate study program.

Belinda H. Adams received a Ph.D. in Business Administration (with specialty in Quantitative Methods) from the University of North Carolina at Chapel Hill in December. She is the first woman employee to receive a Ph.D. through the Center's graduate study program. Dr. Adams entered on duty at the Center in July 1963 after receiving a B.S. in Mathematics from the University of Mississippi. She is assigned to the Analysis and Programming Branch of the Business Data Systems Division.

Four received Masters Degrees from George Washington University in February through the part-time residency program at the Center.

Thomas Dale Bess, Space Effects Section of Space Applications and Technology Division, received a M.S. in Mechanical Engineering; Samuel M. Dollyhigh, Advanced Configurations Branch of High Speed Aircraft Division, M.S. in Aeronautics (Fluid Mechanics); Dave E. Eckhardt Jr., Systems Development and Applications Section of Analysis and Computation Division, M.S. in Electrical Engineering (Computer Science); and Richard M. Hueschen, Radar Systems Section of Flight Instrumentation Division, M.S. in Electrical Engineering.

In addition, Klaus Zaepfel, Aircraft Instrumentation Development Section of Flight Instrumentation Division, received a Master of Engineering (Electrical) from Old Dominion University in January.

NASA BOWLING NEWS

The NASA Bowling Conference has voted to change bowling houses. For the 1973-74 season they will move to Century Lanes at Buckroe Shopping Center.

Clean Ups lead A League with 55 wins and 25 losses and Mets are in second place with 49-1/2 wins and 30-1/2 losses. Brick Hughes rolled a high individual game for the season with 272. He had a 666 set. Max Williams may have established a new record - he bowled five strikes in a row followed by 5 splits for a total of 175.

Audio-Ventures lead B League with 53 wins and 35 losses. Northrup Flyers trail in second place with 50-1/2 wins and 37-1/2 losses. Top bowlers for the week were Jim Richardson with a 238 game and 619 set. Leading the women were Rudeen Smith with a 211 game and Pat Taylor with a 565 set.

Richard M. Hueschen

Klaus Zaepfel

TECHNICAL PUBLICATIONS

The following technical papers have been published and distributed:

TM X-2693 - Longitudinal Aerodynamic and Propulsion Characteristics of a Propulsive-Wing V/STOL Model at High Subsonic Speeds by Leland B. Salters and James W. Schmeer

TM X-2701 - Low Subsonic Aerodynamic Characteristics of a Shuttle Orbiter Having 35° Trapezoidal Wing and 75° Inboard Glove by Bernard Spencer and George M. Ware.

TN D-7104 - Heat-Transfer and Pressure Distribution Tests on Hemisphere-Cylinders in Methane-Air Combustion Products at Mach 7 by Irving Weinstein

TN D-7089 - Evaluation of Flow Properties Behind 120° and 140°-Included-Angle Cones and a Viking '75 Entry Vehicle at Mach Numbers from 1.60 to 3.95 by Clarence A. Brown and James F. Campbell

TN D-7090 - A Technique for Designing Active Control Systems for Astronomical Telescope Mirrors by W. E. Howell and J. F. Creedon

TM X-2695 - Stability and Control Characteristics of a Fighter Configuration With a Cranked Leading-Edge Wing Planform at Mach Numbers 1.60 to 2.86 by Samuel M. Dollyhigh

TM X-2671 - High-Altitude Flight Test of a Disk-Gap-Band Parachute Deployed Behind a Bluff Body at a Mach Number of 2.69 by Clinton V. Eckstrom and Darrell R. Branscome.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

LOST

''Old Timer'' pocket knife, 3 blades, with initials JBT engraved on handle. Tyndall, 3234.

WANTED

Punctual, non-smoking driver from Hidenwood-Glendale area to W.A. on 8 shift. Clevenson, 596-8319, or Miller, 595-0731.

FOR SALE

1967 Columbia Defender raised deck fiberglas sloop, 28 feet, 6 inches long, mainsail, jib, 150 Genoa, and spinaker plus extras. Anderson, 898-5983.

1966 Chrysler station wagon, air conditioned, power accessories. McWithey, 877-2836.

Boy's 20-inch Sting-Ray Schwinn bicycle - $30. Cross, 723-2562.

Lot with 100 feet on James River, just under two acres, five miles from Smithfield. Wood, 596-3445.

1966 Pontiac Tempest station wagon, luggage carrier, 61,000 miles, AM-FM radio - $150. Shaw, 877-6064.

Antique Empire style mahogany dining table - 54 inches diameter - $150. Gowdey, 595-6520.

18-foot Sunstar sailboat with twin keels, motor, sleeps 4. Davis, 838-0650.

Sears Screamer No. 1 bicycle, 5-speed - $25; also 150-gallon oil tank - $15. Forrest, 868-9446 after 5 p.m.

24,000 btu Norge air conditioner - $150. Clair, 851-0850.

AKC Brittany Spaniel pups. Curfman, 723-2464.

1968 Plymouth Satellite station wagon, 3 seats, air conditioned, power accessories. Baber, 229-8687.

20-inch Spyder bike, 5-speed. Carmines, 826-2894.

1970 Volkswagon bug, 1600 series - $1225. Sen Gupta, 826-9673.

Royal manual typewriter - $50; 1973 Spalding Davis Cup tennis racket, new - $15. Price, 898-6868.

1956 Plymouth with '58 V8 engine, floor shift - $150. Coleman, 826-3334.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

73-21 - Construction Inspector, GS-809-9

73-22 - Construction Representative, GS-809-9 with promotional opportunity

73-23 - Mechanical Engineering Technician, GS-802-7 with promotional opportunity

73-24 - Electrical Engineering Technician, GS-802-10 with promotional opportunity

73-25 - Electrical Engineering Technician, two positions, GS-809-9 with promotional opportunity

73-26 - Project Assistant, GS-1601-7, 8, or 9

73-27 - Electronics Technician, GS-856-10 with promotional opportunity

73-28 - Supervisory Engineering Technician, GS-802-11 with promotional opportunity

For information on position locations, closing dates, and areas of consideration, contact the Staffing and Special Programs Branch, extension 2233.

Candidates should list the number and title of the position they are applying for and should list all experience that is applicable to the position.

CAMERA CLUB WINNERS: The Langley Camera Club held its annual slide-of-the-year contest last week. Contest judge Marcus Ritger (left), James River Camera Club, congratulates Gautam Sen Gupta who won first place with his ''Winter in Wales.'' David A. Willment (right), retired Center employee who also served as a judge, congratulates Boyd Perry III whose ''Gold and Blue'' won second place. Runners-up were: third place - ''Red's Pier'' by Clay Rogers; fourth - ''Neptune's Son'' by Rogers; fifth - ''Fog Bound'' by Robert L. Wright; and sixth - ''Crabber'' by Wright. The photograph was taken by Bill Conkling, Camera Club member.

POE RECEIVES REID AWARD

(Continued from page 1)

aspects of his research and included development and use of a complex computer problem. It includes numerous design charts for ready use in the design of aeronautical and space structures; designers using the results of his research can tailor their structures to assure maximum safety including the effects of fatigue or inadvertent damage.

Poe subsequently verified his analysis by conducting experiments on large specimens simulating aircraft wing construction to demonstrate agreement between theory and experiment.

Selection of the winning paper was made by a committee headed by Dr. John E. Duberg, Langley Associate Director, from a group of nominations submitted by the Center technical directorates.

Honorable mention certificates were awarded to W. B. Kemp, Aeronautics Directorate; R. C. Montgomery and H. G. Hatch, Electronics Directorate; R. N. Green, L. H. Hoffman, and G. R. Young, Space Directorate; and W. F. Hunter, Systems Engineering and Operations Directorate.

Poe is a native of Appomattox and was graduated in 1961 from Virginia Polytechnic Institute and State University with a B.S. degree in Engineering Mechanics. In 1969 he was awarded a M.S. in Engineering Mechanics by VPI&SU.

From 1961 to 1966 he was employed by The Boeing Company, Seattle, Washington, as a stress analyst. He has been a member of the Center staff since January 1966, and is now on temporary assignment to the Aeronautical Systems Office, working on a project to install an engine nacelle built of fiber-reinforced composites on a commercial airplane.

ALAN BEAN DISCUSSES SKYLAB

(The following interview was held with Alan Bean, a veteran of the Apollo 12 moon flight, who will lead the second Skylab research team in August and September, 1973)

Q. What is Skylab? How many visits are planned and how long will each last?

Bean: Skylab will be America's first space station. It's going to be in space 270 miles up orbiting the Earth every 93 minutes, and we're going to use it for eight months. In these eight months, we're going to have three missions of three men each. One day after the Skylab space station orbits in May, we'll send a crew up for 28 days. Two months later we'll send up another crew for 56 days, and a month later we'll send up another crew for 56 days. So, roughly, five months out of eight months we'll have a crew up there.

Q. How will Skylab be launched and what equipment is involved?

Bean: The space station itself is going to be launched unmanned. It will go up on the same Saturn-V booster that was used for our moon flights. The third stage, in this case, will not be filled with fuel to push the command and service module and LEM to the moon, but will rather be empty. Inside this third stage, we'll have a workshop that's being built right now.

What we try to do in Skylab is use the Apollo hardware left over from our lunar program and somehow modify it as cheaply as possible to get the ability to stay in space for a long term. With it we've come up with a really exceptional space station that we hope is going to answer many questions that need to be answered now for the future of space flight and also for the future of how we're going to use space to help the man in the street.

Q. What is the purpose of Skylab?

Bean: Well, we have three missions. The first and probably the most important one is to see what man himself can do in the long term at zero G. We know that someday men from this planet are going to visit other planets in the solar system and probably visit the stars. One of the questions is: How will they survive?

The second mission deals with Earth resources. We're going to take a look at the Earth from the vantage point of space, get the big picture of Earth so to speak. Hopefully, we're going to be able to learn to monitor the resources of the Earth, to monitor pollution, for example. Many of the problems that plague the Earth at the moment are worldwide in nature, and of course space is the only thing that gives us a worldwide picture.

Third, we're going to spend a lot of time studying the Sun and other celestial bodies. The Sun particularly. All our energy, fossil fuels and everything came from the Sun, and we'd like to understand it better. We'd like to understand the processes that are going on on the Sun -- maybe we'll be able to utilize some of these processes to improve the way we generate energy here on Earth.

Q. What is the nature of the Earth resources experiments?

Bean: We're kind of excited about the Earth resources experiment because we think that one of the real advantages space is going to have in the future of man on Earth is the ability from the vantage point of space to look down at the Earth and measure things that cannot be measured otherwise.

For example, we know that pollution is not just a problem on a small scale. Pollution that's in Los Angeles today will be in Phoenix day after tomorrow. It'll be in Dallas, Texas, the day after that.

So what we hope to do is look down at the Earth with suitable sensors, let's say infrared sensors, microwave sensors, and various other frequency bands including visual cameras and from this data hopefully we'll be able to look at crops and tell whether they're diseased or not, look at some and see if they need irrigation, look at some of the forests that we don't normally get close to and see how they're doing. We can determine the run-off that's going to happen due to spring thaws from the snows in the mountains, find fish in the ocean -- many things.

We don't really know exactly all the things we can do now with Earth resources because it's in it infancy, but we do know the potential is there and the job in Skylab is to see how man fits into it, bring back this data, let the scientists look at them and see if we can figure out best how we're going to use it.

We like to think that this is going to be the most apropos to the man in the street, the farmer, the weatherman - all of us.

SLEEP TIGHT: Charles Conrad Jr., who will lead the first research team aboard Skylab next May, shows how he will sleep during the 28 days in space. The upright restraint will prevent the weightless astronauts from drifting around while they sleep.

Personnel Profiles

By

Allan C. Hanrahan

From Dip-Stick to Slip-Stick

Seventeen years ago George F. Klich was making a good living managing a service station, and yet at the age of forty-one he quietly decided to become an engineer. Why? ''Well, I had always wanted to go further in school'' (than high school), he said, ''and thought I'd give it a try.'' And since his future with service stations was not chock full of career advancement potential, he took the first step. He enrolled in William and Mary-VPI in Norfolk (now known as Old Dominion University) in 1956 and became an Engineering Co-op at the Center in 1957.

He continued to manage the service station for the two years he was at Norfolk but gave it up when he matriculated at VPI from which he received his B.S. degree in Mechanical Engineering in 1961. That was the same year, coincidentally, when his daughter, Anne, graduated from high school.

George and his wife, Dorothy, (who went back to work to help him through college) have two other children, David and Stanley, ages twenty-six and eighteen, respectively. David also graduated from VPI and is a Lieutenant in the Navy while Stanley is now attending high school and planning to attend Bluefield College. In addition, there are two grandchildren.

Klich is a native of present-day Newport News, was graduated from Morrison (now Warwick) High School and served in the Marine Corps during World War II.

A co-worker of his said that in addition to being ''a quiet, unassuming person,'' George was ''a person of many interests and talents.'' George stated that at the present time woodworking claims the greater part of his time (and he does do some beautiful work, an inlaid piece in particular), but for a while - - up until the cold weather anyway - - he was quite interested in growing roses. He has a beautiful yard for it, living as he does overlooking the James River near Huntington Park.

George is an Engineer in the Structural Cooling Section of the Structures Division, and it appears that Amoco's loss was NASA's gain.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of March 5:

Monday - Chicken noodle soup, beef liver and onions, baked chicken, stuffed cabbage rolls, shrimp creole. Snack bar - Ham steak and egg, NASA submarine, pastrami, turkey club.

Tuesday - Tomato soup, broiled steamboat round, meat loaf, fried cordon bleu of veal, cheese omelette. Snack bar - 3-D burger, steak and egg, ham and cheese, hoagie.

Wednesday - Fisherman's chowder, corned beef and cabbage, broiled short rib of beef, Chinese egg rolls, wieners and sauerkraut. Snack bar - Hot roast beef, bacon, lettuce, and tomato, NASA submarine, corned beef.

Thursday - Turkey noodle soup, boiled ham, broiled flounder, delmonico, macaroni and beef. Snack bar - Turkey club, barbequed pork, NASA submarine, ham steak and egg.

Friday - Cream of celery soup, spaghetti with meat sauce, chopped steak, suateed chicken livers, grilled cheese sandwich. Snack bar - Chili, hot roast beef, pastrami, chicken salad.

The menu for the week of March 12 is as follows:

Monday - Vegetable soup, chicken chow mein, chuck steak, fried clams, franks and beans. Snack bar - Steak and egg, pastrami, ham and cheese, hoagie.

Tuesday - Corn chowder, fried scallops, beef stroganoff, baked Virginia ham, turkey a la king. Snack bar - Bacon, lettuce and tomato, NASA submarine, ham steak and egg, turkey club.

Wednesday - Chicken gumbo soup, broiled red snapper, rump roast, chicken with dumplings, chili con carne. Snack bar - 3-D burger, barbequed pork, salami, hot roast beef.

Thursday - Vegetable beef soup, fried oysters, broiled flank steak, pork chop suey, macaroni and wieners. Snack bar - Pastrami, turkey club, ham and cheese, NASA submarine.

Friday - Chicken and rice soup, broiled or fried chicken, meat loaf, broiled cod fish, veal scallopini. Snack bar - Steak, corned beef, NASA submarine, grilled cheese.

NICKS TO SPEAK AT JOINT MEETING

Oran W. Nicks, Langley Deputy Director, will be guest speaker at the Eighth Annual Joint Meeting of the American Society for Nondestructive Testing, American Society for Metals, American Society for Quality Control and American Welding Society.

Nicks will speak on ''The Year 2000.'' During the past 30 years, advances in technologies have resulted in significant changes to our way of life. In his talk Nicks will look ahead to the year 2000, with emphasis on the dramatic activities which are forecast in Earth orbit and on the Moon. He will discuss how the influence of air transportation on transoceanic travel for pleasure foretells a similar occurrence for trips to Earth orbit and to the Moon when low cost transportation is available.

The meeting will be held March 12 in the West Area Cafeteria. A social hour will start at 6 p.m., followed by dinner at 7 p.m. and the meeting at 8 o'clock.

Members of the societies, guests, and their wives are invited to attend. Reservations may be made by calling Jerry Deaton, extension 3940.

LOCAL CULTURAL ACTIVITIES

March 4 - Peninsula Choral Society, ''A German Requiem'' by Brahms, St. Andrew's Episcopal Church, 4 p.m.

March 8 - William and Mary Concert Series, '' The Intimate PDQ Bach,'' Phi Beta Kappa Hall, 8:15 p.m.

March 10 - Newport News Chapter, American Association of University Women, '' Mowgli, Boy of the Jungle - - The Nicolo Marionettes,'' Ferguson High School, 10 a.m. and 2 p.m.

March 10-11 - Peninsula Community Theater Rainbow Players, '' The Original Breman Band,'' Parkview Elementary School, March 10, 1 and 3 p.m.; March 11, 2 and 4 p.m.

March 11 - Jewish Community Center Chamber Music Society, '' Dean-Drinkill Duo,'' Temple Sinai, 8:15 p.m.

March 11 - William and Mary Music Department Faculty Recital, F. Donald Truesdell, piano, Phi Beta Kappa Hall, 8:15 p.m.

March 14 - Clayton-Grimes Biology Club, College of William and Mary, '' Bermuda - Land and Sea, with William Jahoda,'' Phi Beta Kappa Hall, 7:45 p.m.

March 14-16 - Peninsula Junior Arts Series, '' The Prince and the Pauper,'' Warwick High School Auditorium, 3:30 p.m.

REFRESHER PHYSICS COURSE

A non-credit course entitled ''Survey of Modern Physics'' will be conducted by Dr. Hans C. von Baeyer and other members of the William and Mary Physics Department, beginning at 7 p.m. on March 22 at VARC. The class will meet for three hours each Thursday evening for approximately 13 weeks.

This survey course will cover fundamentals, quantum electronics, scattering, and atmospheric physics.

Interested individuals should discuss this course with their supervisors, notify their Division Training Coordinator, and call the Training Office, extension 2517.

RETIREMENT PARTY

Robert E. Little, Fabrication Division, will be honored at a retirement party on March 30 in the West Cafeteria private dining room. A social hour will start at 6 p.m. followed by a buffet at 7 p.m. Cost per person, not including social hour, will be three dollars. Names and contributions should be sent by March 22

TO: Frank Lawrence, MS 216

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____

ACHIEVEMENT AWARDS: In the top photo Samuel J. Ailor (left), Assistant Head of Scout Project Office, presents Special Achievement Awards to Thomas L. Owens (center) and Walter G. Hoggard for their performance '' in the supervision of a study to determine the most cost effective means of providing small launch vehicle requirements over the next decade.'' In the bottom photograph Robert L. Goodrich (second from left) receives an award from T. Melvin Butler, Director for Center Development and External Affairs. Looking on are Henry A. Fedziuk (left), Chief of Scientific and Technical Information Programs, and William H. Guy, Head of Photographic Branch. Goodrich was cited for his sustained superior performance '' in carrying out his duties as a Scientific and Technical Photographer which has resulted in the excellent photographic documentation of many of the Center's research programs.''

Langley Researcher

VOLUME 12, NUMBER 5 LANGLEY RESEARCH CENTER MARCH 16, 1973

FLORIDA VACATION PLANNED

The Activities Association is pleased to announce five days and four nights in sunny Florida. Tour Kennedy Space Center where Skylab I and II vehicles are being prepared for launch. Spend one full day and two nights on the beach at Daytona Beach; two full days and two nights in the Magic Kingdom of Walt Disney World with accommodations at the Contemporary Resort; and see the floral brilliance and water ski show of Cypress Gardens.

This trip is open to all NASA employees, contractors, and their immediate families. Per person cost is: Adult (double occupancy) $195; single occupancy $250; junior (12-17, occupying room with adults) $139; child (3-11, occupying room with adults) $128.

Prices include round trip jet air fare, all ground transportation, four nights lodging, Kennedy Space Center Tour, Walt Disney World Polynesian Luau, and Cypress Gardens. (Meals, other than luau, and Walt Disney World admissions not included.)

Reservations may be made at the Activities Office, Building 1222, NOW and until Tuesday, March 27. Full payment must accompany reservations and is non-refundable unless a waiting list exists. Space is limited, so make your reservations early.

KILGORE TO ADDRESS FGAA

Edwin C. Kilgore

Edward C. Kilgore, NASA Deputy Associate Administrator-Management for Aeronautical Research and Technology, will speak to the Federal Government Accountants Asociation on March 21. The subject of Kilgore's speech will be "Research Management."

The meeting will be held at Plantation Barbecue, 2007 North Armistead Avenue, Hampton. A social period will begin at 6:30 p.m., followed by dinner at 7:15 and the program at 8 o' clock.

Guests are welcome, however, a limited number of reservations will be available. For reservations call Joe Haggerty, extension 3967.

OBSERVE CROSSWALKS

Recently the Security Police have been receiving complaints on vehicle operators failing to yield to pedestrians in crosswalks.

LAFB Regulation 125-9, paragraph 3b(1) requires all vehicle operators to yield the right of way to pedestrians in crosswalks. Any person failing to comply with this base regulation will be cited.

LANGLEY CENTER HOST TO SELECT GROUP OF COMMUNITY LEADERS

A select group of community leaders were recently guests at a Community Night which was hosted by Center officials and held at the Visitor Center. Included in the group were representatives of the city, state and federal governments, educational institutions, military installations and private industry.

Center Director Edgar M. Cortright told the guests that the Center is generally available for a number of tasks such as consulting services, special studies and analysis, education and training, and personnel interchange.

Cortright outlined many of the things which Langley was doing in the area of ''miscellaneous spin-off''. He asked the community leaders to think about the services which Langley might be able to offer them.

Among specific work being done at present, Cortright mentioned the work on life support systems for a space station now being transferred to applications for the recycling of household wastes, reducing them by reprocessing to almost nothing. He also mentioned a project done in connection with the State Highway Department on the problem of currents as they affect the construction of bridges. This was partially solved through use of buoys tracked by radar.

The Langley Director also touched on advanced structural analysis through NASA's NASTRAN program, micro analysis of pin implants in bone surgery, and grooved highways, a spinoff from the grooved runways which Langley pioneered.

The problem of noise and what can be done about it was discussed and Cortright pointed out that Langley's $5 million Aircraft Noise Reduction Laboratory will probably be in operation by this fall. It will be the only fully integrated lab of its kind in the country.

COMMUNITY NIGHT: The Center was recently host to a select group of community leaders. Shown listening to an explanation by T. Melvin Butler (right), Director for Center Development and External Affairs, are E. M. Cortright, Center Director; Richard M. Bagley, Virginia General Assembly; and Frank G. Bell, WVEC-TV.

HAPPENINGS

NEW HEIRESS. . .Announcing the birth of an eight-pound, six-ounce daughter, Deanna Lynn, on February 4 is Charles T. Wooley, Flight Dynamics and Control Division.

TENNIS NEWS. . . The Tennis Club is conducting its spring membership drive. A ladder tournament is scheduled for May and additional tournaments will be held throughout the summer. Persons interested in joining the club should contact Charles Bryant, 3446, or Bill Compton, 2308.

HOCKEY NIGHT. . .Staff members are reminded that the deadline for buying tickets for the Shrine Hockey Night at the Norfolk Scope is Tuesday, March 20. The Red Wings meet Richmond at 7:30 p.m. on April 1. Tickets may be purchased from Burley Miller, Activities Building, 2183.

HOME IMPROVEMENT. . .The Safety Office has available for short term loan a book entitled ''Home Improvement.'' Call 3310 for scheduling.

SEMINAR FOR SECRETARY. . .A Seminar for Today's Secretary, sponsored by the Peninsula Chapter of The National Secretaries Association (International) will be held Wednesday, March 21, at the Holiday Inn on Mercury Blvd. A dinner will be held at 6:30 p.m. followed by the following speeches: ''How to Save Your Boss'' by Dr. Vincent Wallen, Chief, Psychology Service, Veterans Administration Center; ''You Too Can Read Rapidly'' by Paul L. Onasch, Research and Development Director, Arkell Safety Bag Company; and ''Charm - It Opens Doors'' by Bobby Becker, Co-Hostess, Dick Lamb Show.

INSTRUMENTATION DISPLAY. . .The Industrial and Test Instruments Divisions of Honeywell Inc. will display several of the latest additions to their line of recorders and osciliographs on March 27 and 28 in Building 1230, Room 225. Among the operating instruments will be the new 195-196 DAZAS Laboratory recorders, Model 112 Select-O-Print multipoint recorders, 1856 FOCRT Recorder for facsimile Contourogram, mapping and spectrum analyzer hard copy readout and Model 1858, DC to 5,000 Hertz, 18 channel graphic recording system.

RAZOR BLADES. . .The use of stock razor blades, unprotected, continues to present a problem at the Center. Holders, which help considerably to make the use of this sharp instrument safer, are available from First Aid. A holder will not make the use of the blade totally safe, and a reasonable amount of care must continually be used.

CORRECTION. . .The Management Manual Cancellation Notice, T.S. 566, dated March 2, 1973, which cancelled LMI 1100.9, ''Steering Committee for Space Radiation Effects,'' contained an error. The T.S. number of the cancelled instruction was 452 rather than 425.

ALUMNI BANQUET. . .The Apprentice Alumni Association of the Newport News Shipbuilding and Dry Dock Co. will hold its annual banquet on Friday, March 30, in the Virginia Room of the Chamberlin Hotel. R. E. McGee, President of Tenneco, will be the guest speaker. A social hour will start at 6:30 p.m., followed by dinner at 7:30 and the meeting at 8:30.

COMPLETION CEREMONY: A completion ceremony was held March 9 for the Phase II Public Service Careers Trainees and the Phase V OEO Clerical Trainees. Eight PSC Trainees (top photo) received certificates for completing a two-year program which included classroom instructions and on the job training. They are (from left): Alice Eley, Louise Hollomond, Elizabeth Bowles, Paula Scippio, Nita Langford, Angela Batts, Blanche Johnson, and Gloria Rivera. Nine OEO Trainees (bottom photo) received certificates for completing a one-year program. They are: India Curry, Brenda Copeland, Shirley Brown, Marie Ashe, Gloria Evans, Pamela Jenkins, Joann Harris, Gloria Williams and Blanche Files.

LOCKS MUST BE REMOVED

Due to the limited number of lockers available for sport participants in the Activities Building, no permanent locks will be allowed after closing hours on Friday, March 30.

Locks may, of course, be used on lockers, but should not remain over night.

All locks remaining after closing on March 30 will be removed and the locker contents stored until claimed.

COIN CLUB MEETS MARCH 20

The Langley Research Center Coin Club will meet March 20 at 7:30 p.m. in the Activities Building. A slide show on gold coins will be featured with a raffle and auction rounding out the evening. Guests and prospective new members are invited to attend.

The club is currently sponsoring a coin raffle to raise operating funds. Prizes include two gold coins and five silver dollars. Inquiries may be made to any member or officer of the club.

RETIREMENT PARTY

A retirement party will be held for Harry M. Lawrence, Flight Instrumentation Division, on Wednesday, March 28, at Pier I Restaurant in Hampton. A social hour will start at 5:30 p.m. with a buffet dinner scheduled for 7 o'clock. Cost of the dinner and gift, not including the social hour, will be five dollars per person. Contributions should be sent

TO: E. M. Bracalente, MS 490

Name_____ Section_____

Will Attend_____ Gift Only_____

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of March 19:

Monday - Cream of mushroom soup, beef burgundy, veal parmesan, business man's lunch, shrimp cakes. Snack bar - Liverwurst and cheese, NASA submarine, ham steak and egg, turkey club.

Tuesday - French onion soup, stuffed peppers, Chinese egg rolls, Salisbury steak, cheese omelette. Snack bar - 3-D burger, chili, ham and cheese club, hot roast beef.

Wednesday - Crab bisque, beef teriyaki, meat loaf, broiled or fried fish, beef and macaroni. Snack bar - Barbequed pork, bacon, lettuce and tomato, NASA submarine, mini steak.

Thursday - Turkey noodle soup, delmonico steak, pizza pie, roast turkey, fish cakes. Snack bar - Hoagie, chicken salad, barbequed beef, turkey club.

Friday - Bean with bacon soup, beef ka-bobs, broiled turbot, beef pot pie, broiled or fried chicken. Snack bar - Ham and cheese club, grilled cheese, steak.

The menu for the week of March 26 is as follows:

Monday - Split pea soup, boiled corned beef and cabbage, barbequed beef spare ribs, fried clams, ham omelette. Snack bar - Pizza pie, hot roast beef, NASA submarine, ham steak.

Tuesday - Cream of chicken soup, country style steak, baked lasagna, chicken and dumplings, franks and beans. Snack bar - 3-D burger, turkey club, chili, ham and cheese.

Wednesday - Vegetable beef soup, delmonico steak, boiled ham, meat loaf, sauteed chicken livers. Snack bar - Barbequed pork, bacon, lettuce and tomato, NASA submarine, chicken salad.

Thursday - Minestrone soup, beef liver and onions, broiled freshwater trout, creamed beef on toast, stuffed tomato bake. Snack bar - Hoagie, barbequed beef, ham and cheese club, steak and egg.

Friday - New England clam chowder, rump roast, broiled or barbequed chicken, spaghetti with meat balls, fried shrimp. Snack bar - Pizza pie, NASA submarine, turkey club, barbequed pork.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

73-29 AST, Experimental Facility Techniques, GS-801-13 with promotional opportunity

73-30 Program Management Specialist, GS-301-7, 9, or 11 with promotional opportunity

73-31 AST, Flight Vehicle Acoustics, GS-861-11 or 12

73-32 AST, Flight Vehicle Acoustics, GS-861-11 or 12

73-33 AST, Fluid and Flight Mechanics, GS-861-12 or 13

73-34 AST, Materials Engineer, GS-806-12, 13, or 14

73-35 AST, Technical Management, GS-801-12 or 13

For information on position locations, closing dates, and areas of consideration, contact the Staffing and Special Programs Branch, extension 2233.

Candidates should list the number and title of the position they are applying for, and should list all experience that is applicable to the position.

■■■■■

WHEN looking for ''secret faults,'' remember you can begin at either end of the word SIN and always find ''I'' in the middle of it.

COMMUNITY LEADERS: Among the guests during the Center's Community Night was Charles E. Hastings (left), Teledyne-Hastings-Raydist. A former Langley employee, Hastings talks over old times with Dr. John E. Duberg, Associate Director. Caught by the camera in the bottom picture are Congressman Thomas E. Downing, T. Melvin Butler, Director for Center Development and External Affairs, and Lloyd U. Noland Jr., Noland Company.

CREDIT UNION MEETING: It's too late now, but those who did attend LFCU's 37th Annual Meeting missed a worthwhile event. The evening ended with cokes, coffee and sandwiches topped off by the above ''cookie'' table. All items were baked by staff members as their freely-given contribution to the occasion. Needless to say, they were deservedly appreciated. Gracing the table are (from left): June Owens, Sue Shores, LaNell Tarr, Margaret Colvin, Jean Yokum, Assistant Manager, Thelma Cullum, Ruth Junkelman, and Meredith Schnoover. Other highlights of the meeting included entertainment by the Hampton Lions Jug Band; presentation of worthwhile prizes by David Throckmorton (alias General George Washington); a silver-dollar start on a CU account to all attendees under 16; and the election of three new directors: Janet Campbell, CMS Robert N. Harris, and William L. Williams. A 5-3/4% dividend and a 10% interest refund were declared for 1972.

EEO HIGHLIGHTS

This is the first in a series of articles designed to inform Langley employees of the Affirmative Actions and Proposals constructed to strengthen the capacity of the Center to maintain an effective and aggressive equal employment opportunity program.

The first action item in the 1973 Affirmative Action Plan is concerned with Organization and Resources.

It is the responsibility of the EEO Officer and EEO Committee to review and update Management Instructions that assign specific responsibility and authority for Equal Employment Opportunity Program Management in consultation with various offices in the Langley organization. The target date for these actions was January 1.

It is the responsibility of the Director and the EEO Officer to secure sufficient manpower resources to carry out effective EEO programs and ensure that their designation be publicized throughout the Center. These programs include the 16-point program for Spanish-surnamed and the Federal Women's Program. The target date for these actions was January.

Training sessions for EEO Officer, EEO Counselors, and other appropriate personnel will be planned and conducted. These sessions will cover personnel procedures including position classification, reduction-in-force, personnel policies, and merit promotion. The Head of the Training and Educational Services Branch and an EEO designee will be responsible for these sessions. The target dates for these actions: October 1972 and March 1973.

* * * * * * *

The NASA Human Rights Seminar is scheduled for LRC during early spring. This is an excellent ''cook-book'' approach which should be actively engaged in.

* * * * * * *

The Contractor EEO Council is well on its way toward improving relationships with support contract employees. We look forward to greater participation of minorities and females in their work force.

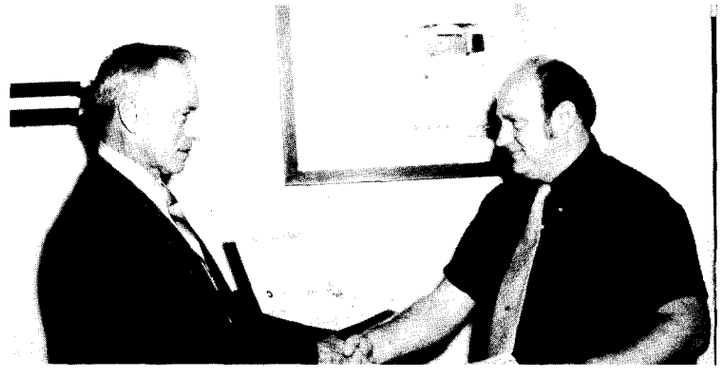
BASKETBALL STANDINGS

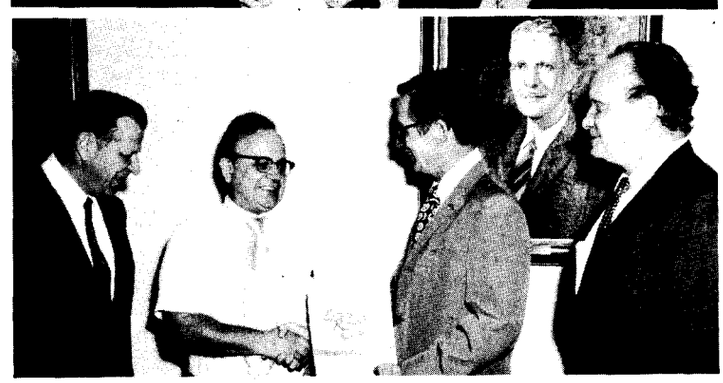
A LEAGUE

Team	W	L	Pct.
Beaver	12	1	.923
ACD	12	2	.857
KNADS	12	3	.800
Charlie Brown's All-Stars	9	6	.600
Raiders	7	6	.538
New Nuts	6	8	.429
Westside	6	9	.400
Alchemists	3	12	.200
Ballers	3	12	.200
8-Foot HTST	2	13	.133

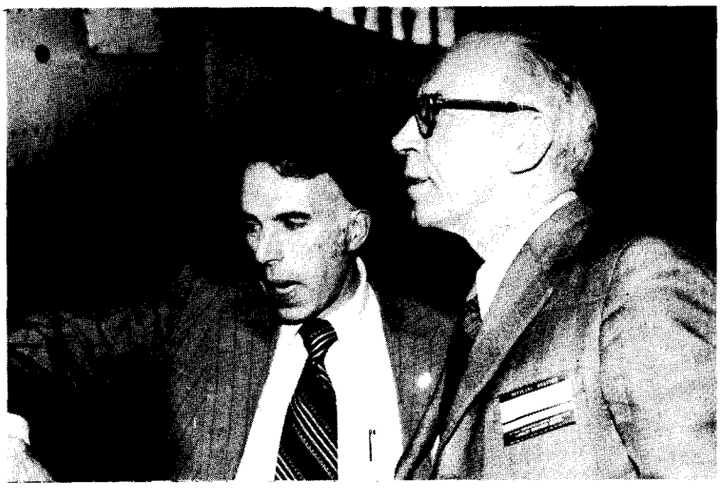
B. LEAGUE

Team	W	L	Pct.
B-Bombs	12	3	.800
Vikings	10	3	.769
C & S	11	5	.688
Hookers	10	6	.625
Overhangs	9	6	.600
Half-Aces	6	9	.400
Army	5	9	.357
Gouggers	5	9	.357
Hoop Troop	3	11	.214
Zips	3	13	.188





ACHIEVEMENT AWARDS: In the top photo John P. Reeder (left), Chief of Research Aircraft Flight Division, presents a Special Achievement Award to Robert M. Peterson for his ''imaginative innovation leading to the implementation of expanded airborne computer capability that enabled early demonstration of automatic helicopter landing and improved efficiency of research operation.'' In the center photo John P. Campbell (left), Chief of Low-Speed Aircraft Division, presents awards to Ernie L. Anglin and Charles E. Libbey while M. O. McKinney (right), Head of Dynamic Stability Research Branch, looks on. Anglin was cited for his ''personal dedication to the study of stall/spin characteristics of airplanes'' and Libbey received his award for ''providing exceptionally effective direction to the study of spin-entry characteristics by his outstanding personal dedication to the program.'' In the bottom photo T. Melvin Butler (second from right), Director for Center Development and External Affairs, presents an award to Walter H. Lee for his performance as a ''Printing Specialist which has contributed immeasurably to the reproduction and distribution of scientific and technical information for this Center and NASA Headquarters.'' Looking on are H. A. Fedziuk (left), Head of Office of Scientific and Technical Information Programs, and Fred N. Rector, Head of Publications Branch.



CONGRESSIONAL VISITORS: Several Congressmen and their associates visited the Center March 2 and toured a number of research facilities. Shown in the top left photo with Director Edgar M. Cortright is Congressman Ken Hechler (West Virginia), Head of the Subcommittee on Aeronautics and Space Technology. In the top right photo Congressman Barry Goldwater Jr. (California) and Congressman John Conlan (Arizona) look over a display. Robert E. Bower (lower left), Director for Aeronautics, shows a supercritical wing to Mr. and Mrs. Goldwater. In the lower right photo Lee H. Person (right), Research Test Pilot in the Operations Branch of Research Aircraft Flight Division, talks with Congressman Conlan, Cortright, and Congressman Heckler.

Swap and Shop

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

FREE

3 black male cats, 7 months old. Miller, 826-2018 after 4.

FOUND

Blue, lightweight jacket in Conference Room, Building 1232A. May be picked up at Safety Office, Bldg. 1195T.

LOST

Lost in mail - maintenance manual for F-8 aircraft, entitled ''Airframes,'' NAVAIR 01-45HHA-4-1. Egan, 2695.

Will the person who borrowed '' Numerical Initial Value Problems in Ordinary Differential Equations'' by C. W. Gear please return it to Roland Bowles, MS 125B.

FOR SALE

25-inch Magnavox black and white TV console. Nye, 596-8845.

3-bedroom, 2-bath rancher on wooded corner lot in Beechwood - air conditioned, garage, sundeck. Smith, 877-6868.

G.E. stereo console, 8-speaker, transistor, walnut cabinet-$100. Agnew, 838-0415.

1965 Buick Wildcat, air conditioned, powered accessories, AM-FM radio - $525. Weller, 595-7401.

1969 Volkswagon bus with many extras - $1850. Lucy, Va. Beach 464-5685 after 5:30 p.m.

Four acre lakefront lots near Barhamsville. Alley, LY6-7875.

Dynaco FM-3 stereo tuner, EICO mono 22-watt (RMS) amplifier, EICO mono preamp. Dvorak, 898-6772 after 4.

Aquarium outfit with 2 tanks and many accessories - $65. Moore, 868-9709.

1972 Honda CB-350 with 2 helmets. Hall, 596-5896 after 5.

Girl's 20-inch bicycle - $12. Youngblood, 877-1224.

1967 MGB convertible - $700; also Grundig radio and hi-fi combination - $60. Sabo, 595-9537.

1967 Impala V-8 hardtop coupe, air conditioned and powered accessories - $975. Redman, 898-6250.

1965 Plymouth, 4-door, V-8. Pilny, 838-2801 after 6.

1968 Plymouth Fury II, 4-door sedan, 318 V-8, air conditioned, powered accessories - $975. Moore, 851-2223.

WANTED

Ride from Powhatan Park, off Briarfield Road, to E.A. on 8 shift. Lawson, 2237

HABIT or custom causes people to do more things today than does reason.

LIFE RAFT RESULT OF TECHNOLOGY

A new lightweight, inflatable, non-tippable radar reflective life raft, now being used by the U.S. Coast Guard and being marketed commercially, was originally developed by NASA for American astronauts.

Now available to the world's navies, merchant marines, transoceanic air travelers and pleasure boatmen, the new sea rescue equipment was developed for the commercial market by Robert F. Perchard, a research biologist.

Perchard's son, a Coast Guard search pilot, died in 1964 after exposure in a life raft following a crash at sea off Alaska. His loss prompted his father's one-man quest to improve water survival gear.

After years of effort and unsuccessful attempts by several firms to bring a satisfactory raft to the industrial market, Perchard was able to develop rescue equipment meeting his specifications, ultimately obtaining an exclusive NASA license to produce it commercially.

The improved raft is circular in shape and incorporates many significant features for promoting human survival:

Constructed from lightweight fabric, it is provided with fabric ballast buckets, insuring maximum stability when inflated by its carbon dioxide cylinders.

Boarding grips provide assistance in entering the raft from the water.

When fully inflated, the raft has a radar-reflective orange canopy covering its entire area and enclosing half (180 degrees) of its perimeter.

The other perimeter half can be left open for ventilation or closed by a zippered curtain of the radar-reflective fabric, which can also be configured to serve as a catch basin for rain water, or as a vent tube. The canopy and curtain have excellent thermal properties for insulation against cold or heat and are radar-reflective and colored for maximum visibility.

Deflated, the raft is enclosed in a compact weather-proof fiberglass or soft-pack fabric carry case, occupying minimum space aboard ships and aircraft. Smallest fully equipped models of the raft weigh 60 pounds and measure 20 x 14 x 30 inches. The largest versions weigh 150 pounds and measure 20 x 14 x 60 inches.

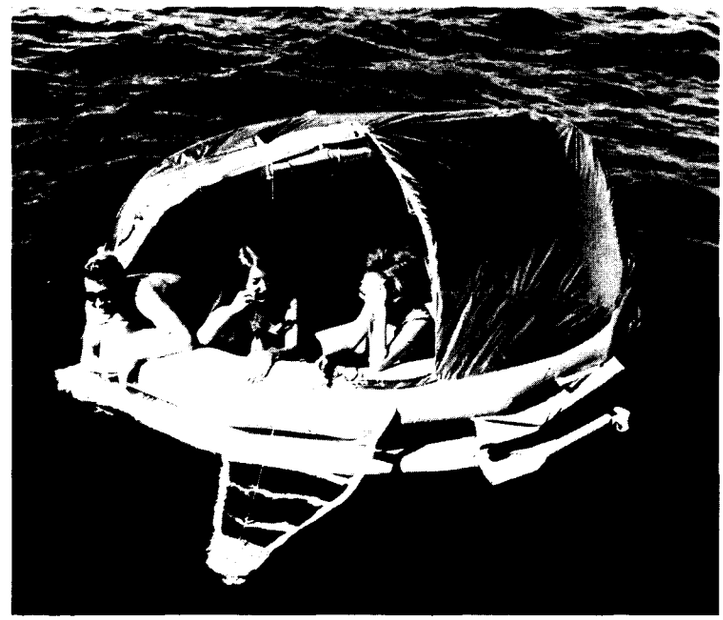
The raft is equipped with a trailer drogue to bring the open side into the wind. It is manufactured in a variety of sizes, with capacities of 4, 6, 8, 10 or 12 persons. Prices per unit range from $600 to $1200.

An early version of the life raft was developed at Langley Research Center in 1959-61 as part of the manned spacecraft onboard survival kits for astronauts. This raft was used by Astronaut Scott Carpenter May 24, 1962, following splashdown after his Mercury Aurora 7 flight.

The floating raft sparkles in sunlight and has proved much easier to detect from rescue airplanes or ships than the materials in conventional rescue equipment. Its reflective canopy is detectable by aircraft radar at distances of 15 miles. A man, floating on the water surface equipped with a life jacket fitted with a hood made from the reflective fabric, has been spotted by an airplane flying at 6,000 feet.

ONE good way to be successful is to follow the advice you give to others.

MAYBE some of us don't know exactly what we want in life, but we do know that we certainly don't have it.



NEW LIFE RAFT: A new lightweight, inflatable, non-tippable radar reflective life raft, now being used by the U.S. Coast Guard and being marketed commercially, was originally developed by NASA for American astronauts.

LOCAL CULTURAL ACTIVITIES

March 16 - Hampton Association of the Arts and Humanities, Film Classics, "Breathless," (1959), City Hall Council Chamber, 8 p.m.

March 16-18 - Peninsula Better Living Home and Garden Show, Hampton Roads Coliseum.

March 17 - Kiwanis Club of Warwick, "A Danish Diary, with Star and Irene Paulauskas," Warwick High School, p.m.

March 17 - Hampton Roads Civic Ballet Company, "Les Sylphides," "Waltz Fantasy," "Irony," a new unnamed ballet, and "En Delor" featuring Joan Ashlyn. Bethel High School, 8 p.m.

March 18 - Christian Science Lecture, "Are You Satisfied with Your Life?" Benjamin Syms Junior High School, 3 p.m.

March 21 - German Film Series, "Der Hauptmann Von Kopenick" (1956), Christopher Newport College, Gosnold Hall, 8 p.m.

March 22 - U.S. Continental Army Band Spring Concert, Ft. Monroe Post Theatre, 8 p.m.

March 22-25 - Hampton Institute Theatre, "Youth Theatre Festival," 8:15 p.m.

March 24 - Film Classics Club, "Ashes and Diamonds" (Polish), Christopher Newport College, Gosnold Hall, 8 p.m.

March 25 - Community Forum, "Dr. Marshall Sklare," Temple Sinai, 8 p.m.

March 28-31 - Peninsula Community Theatre, "Black Comedy" and "White Liars," Kecoughtan High School, 8:30 p.m.

PLEASE drive carefully - - you know that motorists can be recalled by their Maker, too!

YOU are young at any age if your are planning for tomorrow.

SOME people are determined to conquer proverty, even if it bankrupts them.

Personnel Profiles

By

Allan C. Hanrahan

Let The Little Children. . .For Of Such Is The Kingdom of Heaven.

Most of us are sufficiently hard-cased that the trials and tribulations of other adults elicit some tea and sympathy from us—as well as organized giving- -but. . .after all, we have our problems.

Then again, none of us (hopefully, very, very few, anyway) are so devoid of compassion and feeling that we are not moved and slightly choked by emotion when we hear or read of tragedy or catastrophe occurring to children, innocent and defenseless victims of fate or human frailty.

There is a considerable number of individuals at the Center engaged in non-duty activities that benefit children and teens and our guest this issue, Donald Fitzwater, along with his wife, Mary, are among that number.

They were chosen by the York Country Social Services Bureau as the York County Foster Parents of the Year at a surprise award presentation and the chairman of the Social Services Board, as well as the staff of the Social Services Bureau, expressed the County's appreciation of the Fitzwaters.

Foster parents are those couples who take children into their home at the request of the Social Service Bureau. These couples- - sometimes at a moment's notice or at odd hours, take these children and in effect, provide them with a temporary, real home that replaces their original home that was shattered by death or family crisis of one kind or another.

The Fitzwaters have, to date, cared for a total of fourteen children over the past six years and cared for one child for three years, treating that child, as well as the others, with sympathy, affection, and guidance, said one of the County social workers.

Donald Fitzwater is sort of a ''foster employee'' of NASA. He works in the Delivery Service as an employee of Klate-Holt Company and has worked here at the Center for eight years.

Born in Lizemore, West Virginia, in May of 1918, Fitzwater grew up and attended school there. He later saw action with the U.S. Army from 1942 to 1946.

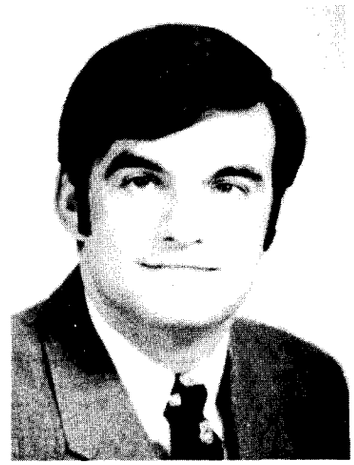
Donald and Mary Fitzwater have two children of their own: a twenty-four-year-old daughter, Sarah, who is the mother of two sons, and a twenty-five-year-old son, Jimmy, who himself has a son. So, children are no novelty to the Fitzwaters and it is obvious that Donald, a soft-spoken, modest man, along with his children-loving wife, enjoys having children around. In fact, a York County official commented, in essence, that besides not reaping any fiancial reward for their actions, more often than not they end up putting out money.

Donald won't confess to any other major interests other than watching television and on the weekends helping his mother-in-law operate a service station business. But then, maybe he unconsciously feels that helping along some less fortunate member of tomorrow's generation is interest enough.

You know, it's nice having people like that around.

EDUCATIONAL CONSULTANT ASSIGNED TO CENTER

The Virginia Beach School Board has approved the request of Thomas E. Pinelli, chairman of the industrial arts department at Bayside Junior High School, to assume an 18-month position as an educational consultant with the Langley Research Center.



Thomas E. Pinelli

The assignment will be accomplished in accordance with the Intergovernmental Act of 1970 which provides for the transfer of selected personnel between state or local governments and federal agencies.

Pinelli will be assigned to the Office of Public Affairs and Educational Programs where he will assist in the development and management of the Center's educational services to the technical, industrial, and vocational education communities of five southeastern states.

Pinelli, who holds a bachelor's degree from Old Dominion University and a master's degree from Clemson, has been a teacher at Virginia Beach for three years. He has been an instructor in the Old Dominion University Evening College and has had several industrial arts articles published.

Can You Solve This Problem?

A portable, low noise device for cutting through thick asphalt and cement concretes to facilitate their removal is needed. The operation of the device should require no more than two men. Refer to PTI-8. Contact the T. U. Office, extension 3281, for the complete problem statement or if you have a potential solution.

Questions and Answers

Q. The Researcher has received a number of inquiries from employees pertaining to newspaper stories reporting that the National Association of Internal Revenue Employees and the AFL-CIO Letter Carriers have filed suit contending that the federal employee's contribution to the Civil Service Retirement Fund should not be taxed as current income now, but rather when received in the form of retirement annuities. These newspaper accounts also state that federal employees who wish to protect their rights to future refunds in the event the suit is successful, should file claims for such refunds for the tax year 1969 on IRS Form 843 before April 15, 1973.

A. We checked with Internal Revenue Services and their representative advised us that federal employees should file Form 843 by April 15, otherwise, they will not be eligible for a refund in the event the court suit is successful. The following information was also furnished by IRS: On Form 843 in section e (period) write in from January 1, 1969 to December 31, 1969. In section f (kind of tax) put ''income.'' In section i (amount to be refunded) use ''in excess of $1'' or the exact amount if known. (If refunds eventually become payable, the precise amount can be calculated later). Section k (reason for claiming refund) put: ''Taxpayer, a federal employee, is entitled to exclude his contribution to the U.S. Civil Service retirement and disability fund for the tax year. I believe Internal Revenue ruling 72-250, Internal Revenue Bulletin 1972-21, Page 6, is in error.''

Form 843 may be obtained from the IRS Office.

Staff members having further questions should contact the Internal Revenue Service. The toll-free number is 1-800-552-9500.

Q. Would it be possible to install a machine which dispenses postage stamps in the Credit Union Building? It would be convenient since that is the location of a U.S. mailbox.

A. Mike Pickens, Credit Union Manager, said the Credit Union is in the process of implementing this service and a stamp machine is on order. As soon as the machine is delivered, staff members will be notified.

NO person can be a great leader unless he takes genuine joy in the successes of those under him.

THE difference between an obstacle and an opportunity is just your attitude toward it.

TECHNOLOGY AWARD: Dr. John E. Duberg (center), Associate Director, presents cash awards to (from left): Howard Adelman, Donnell S. Catherines, Barbara Durling, and William C. Walton. The award was presented for their development of a computer program entitled ''Vibration Characteristics of Ring-Stiffened Orthotropic Shells of Revolution.''

LANGLEY CAMERA CLUB NEWS

The Langley Camera Club will meet on Monday, March 19 at 7:30 p.m. in the Activities Building. The program will be on black and white photography. The theme for the color slide contest will be Abstracts and Patterns.

The February contest was open category and 38 slides were entered. Club members served as judges and selected the following winners:

First - ''Dusk in the Rockies'' by Delphia Hedgepeth
Second - ''Sunrise'' by Deb Aichbhaumik and ''Hung to Dry'' by Clay Rogers
Fourth - ''Snow Geese'' by Clay Rogers
Fifth - ''A Sunday Afternoon'' by Gautam SenGupta
Sixth - ''Snow Laden Pine'' by Rogers and ''After a Big Catch'' by Rogers.

NASA BOWLING NEWS

Clean Ups lead A League with 59 wins and 25 losses. Trailing in second place are Chattahoochies with 52 wins and 32 losses. Top scores for the night were rolled by Jim Clayton with a 248 game, Ed Swanson with a 688 set, Janice Phelps with a 231 game and Meg Lynch with a 614 set.

Audio Ventures are in first place in B League with 57 wins and 39 losses. Born Losers are in second with 55-1/2 wins and 40-1/2 losses. Top bowlers for the week were Frenchy Le Tourneau with a 240 game and 640 set and Dot Braswell with a 200 game and 569 set.

Langley Researcher

VOLUME 12, NUMBER 6 LANGLEY RESEARCH CENTER MARCH 30, 1973

COOPERATIVE AGREEMENT: Edgar M. Cortright, Center Director, signs a cooperative agreement between NASA and the Virginia State Air Pollution Control Board. Looking on is Lucien B. McDonald, Regional Director of the SAPCB in the Tidewater area. Through the agreement, Langley will provide the Board with the results of studies in atmospheric sampling techniques; allow Board personnel access to Langley laboratories to study instrument calibration and operation; and act as consultant on atmospheric sampling. Langley will also help develop an analytical model to predict the transport and dispersion of air pollutants in the Board's Sixth Region. The agreement will be in effect through June 1974.

RESEARCH ROTORCRAFT BIDS ASKED

NASA and the U.S. Army Air Mobility Research and Development Laboratory have asked aerospace firms with helicopter experience to bid on a contract for design, construction, flight test, and delivery by mid-1976 of two Rotor Systems Research Aircraft (RSRA).

The RSRA will provide flying laboratories to test new rotary wing concepts in a way that no existing ground facilities can duplicate. The two aircraft will be based at the Langley Research Center.

The RSRA will be used in the joint NASA/Army Advanced Rotor Concepts program to develop technology leading to increased performance, safety, reliability, and strength as well as reduced noise, maintenance, and vibration of rotary wing aircraft.

Each machine will be able to test various new rotors. Such concepts as variable diameter or variable geometry rotors; two to six-bladed rotors with gimbaled, hingless or articulated hub mechanisms; slow-turning rotors; controllable twist rotors; and gas-driven or augmented rotors can be accommodated on the RSRA vehicles with minor

(Continued on page 4)

LANGLEY BUYS BOEING AIRCRAFT FOR FLIGHT RESEARCH PROGRAM

The Langley Research Center has bought a 737-100 aircraft from the Boeing Commercial Airplane Company for use in a research program on advanced flight systems for use in future air terminal environments.

The twin-jet, standard-body airliner, the first 737 ever built, will begin special flights near Seattle in July. After extensive modification, it will be delivered to Langley in January 1974.

Called a research support flight system, the 737 aircraft and its special equipment will be used in research on present and future airport environments, study efficient air paths, aircraft performance requirements, automatic systems, displays, and pilot workloads. Particular emphasis will be given to investigations of operations and interaction of a two-man crew.

The initial contract with Boeing, valued at more than $2 million, includes modification and refurbishment of the aircraft, and NASA pilot and ground crew training. Later contract modification will allow the design and installation of a second cockpit, and engineering support by Boeing.

The major modification is installation of the second cockpit, which will be located in the main passenger cabin behind the existing cockpit. It will be connected with the aircraft's flight systems so that pilots in the second cockpit will be able to fly the plane through advanced guidance and control systems.

The second cockpit will provide a highly flexible method of evaluating and demonstrating advanced concepts in displays, flight controls, automatic guidance, and terminal operation technology in an actual operational environment.

The aircraft will be able to make close-in, minimum noise, curved approaches to touchdown on a runway with zero visibility. Rollout and high-speed turnoffs will also be investigated in the program.

Most flights will take place at the Langley Research Center and at Wallops Station, but some flights are expected at other airfields.

Langley's research support flight system is part of a NASA program called Terminal Configured Vehicle and Avionics, which is concerned with the development of air operations that will efficiently use new ground equipment and air traffic control procedures being developed by the U.S. Department of Transportation (DOT) and the Federal Aviation Administration (FAA).

Both of these groups are developing advanced ground facilities and air traffic control systems. They are leading a national effort to develop a microwave landing system that should improve air terminal operations during bad weather, help provide flexibility in selecting curved approach paths at airports (to avoid heavily populated

(Continued on page 3)

HAPPENINGS

ESSAY CONTEST. . .The National Space Club is sponsoring the Robert H. Goddard Historical Essay Award competition for 1973. This annual nationwide competition, open to any U.S. citizen, offers a $500 prize and the Goddard Historical Essay Trophy. Essays may treat any significant aspects of the historical development of rocketry and astronautics and will be judged on their originality and scholarship. Entries should be submitted by November 1, 1973, to the Goddard Historical Essay Contest, c/o National Space Club, 1629 K Street, NW, Washington, D.C. 20006. Essays should not exceed 5,000 words.

TRIP TO GREECE. . .The Headquarter's NASA Employees Club trip to Greece has space on the flight and limited space on its land tour. The three and four-day Island Cruises are full. The flight leaves from Dulles Airport, Washington, for Athens, Greece, on May 16 and returns on May 31. For reservations and information contact G. Degennaro, Code FAP, NASA Headquarters, telephone number 755-8541.

FLYING CLUB. . .The Peninsula Flying Club has openings for students or licensed pilots. The club has three Cessnas. For further information call White, 3761, or Trescot, 3181.

ARCHERY CLUB. . .The NASA Bowmen Archery Club will meet on Tuesday, April 3, at 7 p.m. in the Activities Building. E. Goodman Mitchell Jr., Game Warden for York County, will give a brief talk on ''Bowhunting Safety'' and present a movie on ''The Whitetail Deer.'' All members are urged to attend and visitors are welcome. Refreshments will be served.

OBEY YIELD SIGNS. . .It has been called to the attention of the Safety Office that some staff members are ignoring the YIELD signs at the intersection of Ames and Durand Roads between 8 and 8:30 a.m. On several occasions vehicles having the right-of-way on Ames Road have almost been hit by automobiles failing to yield on Durand Road. All drivers are urged to obey these signs so that more forceful action will not be necessary.

NEW OFFICERS: Officers of the LRC Coin Club are (from left): C. W. Haigler, secretary-treasurer; John W. Cox, president; Thayer Sheets, auctioneer; and Dave Reubush, vice president. Not shown is Scotty Laney, sergeant-at-arms.

ODU SEMINAR APRIL 5

The Old Dominion University School of Engineering will sponsor a seminar featuring Dr. Stanley G. Rubin, Associate Professor of Aerospace Engineering, Polytechnic Institute of Brooklyn, on April 5 at the Virginia Associate Research Center.

Dr. Rubin will talk on ''Viscous Corner Flows.'' He will also be available for discussions with graduate students, faculty members, and guests from the Langley Center. Dr. Rubin is an authority on various aspects of Computational Fluid Mechanics such as three-dimensional viscous flow problems.

All interested persons are invited to attend the seminar which will be held at 3:30 p.m. in Room 53 at VARC, 12070 Jefferson Avenue.

For further information call Dr. A. Sidney Roberts, 877-9231.

SOFTBALL PLAYERS. . .Softball players are needed to form new NASA team. The team will play in the NASA League starting in May. Contact Wayne Mantay, 3621.

WOMEN GOLFERS. . .Three women golfers are needed to complete foursome to enter NASA Golf Association. Persons interested call Bertha Elkins, 3337.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23365, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

TRAFFIC OFFENDERS MAY BE CITED

Information has been received from the Chief, Security Police Division, Langley Air Force Base, that traffic offenses committed on the base may result in issuing a United States District Court ''Violation Notice.'' The Violation Notice will require the person accused to appear for trial by a United States Magistrate who holds court at Fort Monroe.

The procedure for issuing the Violation Notice will generally require the accused person being escorted by the arresting air police officer to the Base Law Enforcement Section located in Building 112, Shell Bank Area.

Although this procedure appears to be an innovation locally, we have been advised that at other installations in the area offenders of traffic violations have been cited and tried by U.S. District Court appointed Magistrates.

For the information of Center personnel, Title 18 of the U.S. Code Section 3401 provides that ''any United States Magistrate shall have jurisdiction to try persons accused of, and sentence persons convicted of minor offenses committed within that judicial district.'' The same section of the Code defines ''minor offenses'' as ''misdemeanors punishable under the laws of the United States,'' and Title 18 of the U.S. Code Section 1 defines ''any misdemeanor, the penalty for which does not exceed imprisonment for a period of six months or a fine of not more than $500, or both, is a petty offense.'' Jurisdiction of the offense and the applicability of Virginia laws are prescribed in Title 18 U.S. Code Sections 7 and 13.

In addition, a person convicted of a traffic violation by a U.S. Magistrate may also lose his base driving privileges pursuant to administrative procedures detailed in Langley Research Center Management Manual Instruction 1600.7, ''Traffic and Parking Regulations'' dated April 12, 1971.

LANGLEY BUYS BOEING AIRCRAFT

(Continued from page 1)

areas), and help implement flow management and sequencing techniques that can more efficiently handle air traffic.

The 737 aircraft will also be equipped with an automatic landing system in order to study the interaction of aircraft systems with the ground systems being developed by DOT and FAA and to assess human problems associated with automated cockpits and advanced displays.

The joint government programs are designed to identify, study and find solutions to the nation's airspace system problems. Foremost among these are noise, congestion, safety, and lack of all-weather capabilities. Noise and congestion in particular have become acute at several major airport terminals.

These problems need immediate alleviation, and advanced systems must be developed so air transportation can continue to grow as projected during the next ten years. More safety emphasis is also required to cope with increasing traffic, larger aircraft, and greater numbers of passengers.

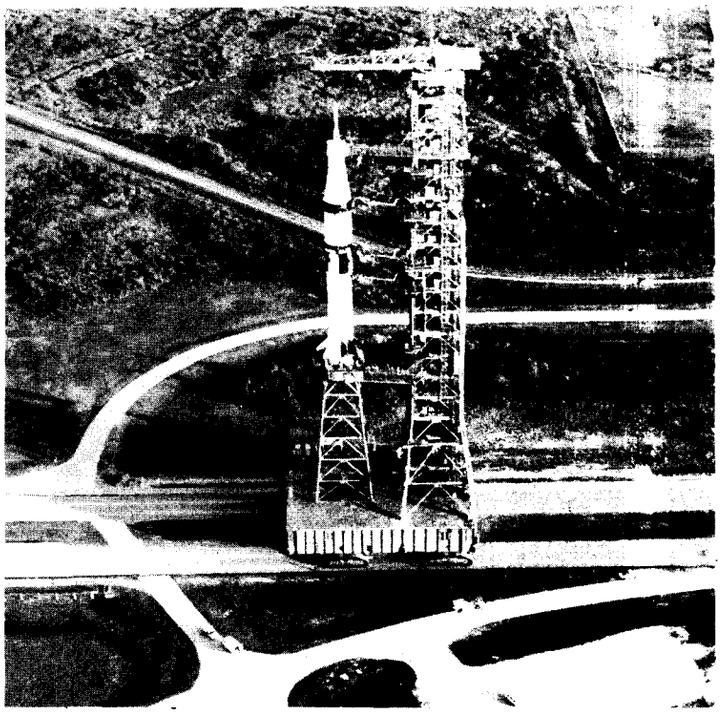
The Boeing 737 aircraft is widely used as a short-to-medium-range jetliner since it entered commercial service in 1968. The plane has a cruising speed of 925 kilometers an hour (575 mph), and weighs about 52,600 kilograms (116,000 pounds). It is powered by two Pratt and Whitney JT8D turbofan engines, one under each wing.

NEW AMBULANCE: A new ambulance was recently put into service at the Center to provide greater medical service to employees. In the top photograph Baxter C. Carr, Chief of Plant Engineering Division, presents the ambulance keys to Robert L. ''Scotty'' McArthur, Head of the Occupational Health Services Section. Looking on is James C. Tingle, who recently retired as Head of Employee Services Branch. In the bottom photo Frank DeBerry, Taylor Parker Company, demonstrates the new oxygen equipment to nurses (from left): Betty Downing, Virginia Jones, and Julia Stainback.

Can You Solve This Problem?

Instrumentation is needed to make measurements of the microwave power density and the temperature in an animal which is exposed to a given level of microwave radiation. The frequencies of interest are 2.45 and 10 gigahertz. The temperature range is from 35 degrees C to 55 degrees C with plus or minus 1 degree C. The power densities range from 1 to 200 milliwatts per square centimeter, plus or minus 10%. Refer to TU-35. Contact the Technology Utilization Office, extension 3281, for the problem statement or if you have a potential solution.

THE most interesting people are not the good talkers but the good listeners.



SKYLAB: Rollout of the Saturn IB to be used to launch the first crew for the Skylab orbital workshop in May was successfully conducted at Complex 39's Pad B, February 26. Launch of the orbital workshop by a two-stage Saturn V is scheduled for May with launch of the Saturn IB/Apollo scheduled for approximately 24 hours later.

MANNED SPACECRAFT CENTER RENAMED LYNDON B. JOHNSON SPACE CENTER

President Richard M. Nixon recently signed into law Senate Joint Resolution 37, 93rd Congress, First Session, which designated the NASA Manned Spacecraft Center in Houston, Texas, as the ''Lyndon B. Johnson Space Center'' in honor of the late President.

Staff members are requested to use the new designation in all correspondence with the Johnson Space Center.

Upon signing Public Law 73-8 President Nixon issued the following statement:

''It is with great pleasure that I sign into law Senate Joint Resolution 37 designating the Manned Spacecraft Center in Houston as the Lyndon B. Johnson Space Center.

''Few men in our time have better understood the value of space exploration than Lyndon Johnson.

''It was he as Senator who wrote, introduced and helped enact the legislation which created the National Aeronautics and Space Administration. He called it the proudest legislative achievement of his years in the Congress.

''As Vice President he was Chairman of the National Aeronautics and Space Council in the critical early years of exploration when the groundwork was laid and the determination was made to put a man on the Moon. Finally, as President he oversaw the first flights of the Apollo Moon landing program, and he did it in a way that led people beyond the adventure and the pride to the deeper meaning and the deeper benefits of space exploration. Speaking at the Manned Spacecraft Center in Houston on March 1, 1968 he summed up this nation's purpose in outer space:

'' 'We do not build rockets and spacecraft to fly our flag in space, or to plant our banner on the surface of the Moon. Instead, we work and we build and we create to give all mankind its last great heritage. We are truly reaching for the stars.'

''By his vision, his work and his support Lyndon Johnson drew America up closer to the stars and before he died he saw us reach the Moon, the first great plateau along the way.''

RESEARCH ROTORCRAFT BIDS ASKED

(Continued from page 1)

modifications and minimum cost.

NASA and the Army are emphasizing onboard data gathering requirements for the RSRA. Special provisions will be made for measuring a wide range of engineering data in flight so that engineers can identify specific aerodynamic and dynamic characteristics of the rotor under test.

The wide range of operating characteristics - for example, a 300-knot forward speed requirement, to be provided by the craft's thrust engines - will open research opportunities previously unattainable.

Industry responses to the request for proposals are due at the Langley Research Center by May 15. After detailed evaluation, the Government expects to award a cost-plus-incentive-fee/award-fee contract with a performance period of approximately 33 months.

The technology from this research program has potential civil aviation applications in the development of intraurban/feeder line transports to relieve airway and airport congestion and to improve public service.

Continuing research and development by industry and government laboratories has provided many new rotor concepts which must be flight tested. These concepts offer potentially significant improvements in helicopter performance and efficiency. The RSRA is considered by Government officials to be the most economical method of providing the required flight test capability for effective research programs.

The RSRA is planned to be a compound helicopter with two independent propulsion systems. It will include a variable incidence wing which can completely support the vehicle at flight speeds above 150 knots.

The RSRA will weigh between 9,100 and 11,300 kilograms (20-25,000 pounds) and will have provision for two pilots.

Key to the research versatility of the vehicle will be its ability to test a rotor in flight and vehicle characteristics in maneuvers as well as level flight. The variable incidence wing and auxiliary propulsion will enable engineers to vary loads on the rotor, thereby providing more flexibility than existing flight research methods can supply.

Initial phases of the program, jointly funded by the Army and NASA, began last summer with the award of two predesign study contracts. Those studies showed the concept of a Rotor Systems Research Aircraft to be feasible.

RETIREMENT PARTY

Elizabeth W. Patterson, Propulsion Aerodynamics Branch, High-Speed Aircraft Division, will be honored at a retirement party on April 27 in the West Cafeteria private dining room. A social period will start at 6:15 p.m. followed by a buffet at 7 p.m. Cost per person, not including social hour, will be $3.50. Names and contributions should be sent to Margaret Hurt, MS 189, by April 19.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of April 2:

Monday - Chicken and rice soup, braised beef tips, cordon bleu of veal, broiled pork chops, shrimp foo yung. Snack bar - Ham and cheese club, hot roast beef, NASA submarine, mini steak.

Tuesday - Cream of asparagus soup, baked steamship round, broiled or fried chicken, stuffed cabbage rolls, spaghetti with meat sauce. Snack bar - 3-D burger, turkey club, ham steak and egg, bacon, lettuce and tomato.

Wednesday - Fisherman's chowder, char-broiled chopped steak, hot roast beef sandwich, baked Virginia ham, fried cod fish. Snack bar - Hoagie, barbequed pork, pizza pie, chicken salad.

Thursday - Vegetable soup, beef teriyaki, meat loaf, broiled fish, wieners and sauerkraut. Snack bar - 3-D burger, turkey club, NASA submarine, steak and egg.

Friday - Cream of shrimp soup, barbequed pork, chicken cacciatore, cheese omelette, delmonico steak. Snack bar - Bologna and cheese, pizze pie, ham and cheese club, NASA submarine.

The menu for the week of April 9 is as follows:

Monday - Tomato soup, business man's lunch, beef stroganoff, boiled ham, franks and beans. Snack bar - Ham steak and egg, barbequed pork, hoagie, bacon, lettuce and tomato.

Tuesday - Cream of turkey soup, rump roast, meat loaf, broiled whiting, turkey a la king. Snack bar - 3-D burger, hot turkey, NASA submarine, ham and cheese club.

Wednesday - Vegetable beef soup, chuck steak fillet, pizza pie, shrimp creole, Maryland fried or broiled chicken. Snack bar - Barbequed beef, pizza pie, hot chili, NASA submarine.

Thursday - Mushroom and barley soup, delmonico steak, veal parmesan, Salisbury steak, fried clams. Snack bar - 3-D burger, turkey club, mini steak, NASA submarine.

Friday - Puree of bean soup, pepper steak, chicken chow mein, barbequed spare ribs, stuffed tomato. Snack bar - Barbequed pork, steak, NASA submarine, grilled cheese.

VIKING SYMPOSIUM PLANNED

The ''Viking Science Symposium - Mars Geology'' will be held at the Activities Building (Bldg. 1222) on April 5 from 8:30 a.m. to 5 p.m. and April 6 from 8:30 a.m. to 12 noon.

Mariner 9 has provided a rich resource of information on the geology of Mars, and the aim of the symposium is to exchange what is known, believed, and speculated, and to provide a forum for debate of ideas.

All interested Langley scientists are asked to call Dr. George Sands, extension 3841, to make arrangements to attend the symposium.

The following subjects will be discussed during the symposium: Overview of Mars, Martian volcanoes, aeolian transport and terrestrial analogs, variable features, fluid erosion, Martian terrain and analysis, geological comparison of Martian polar regions, frost phenomena on Mars, polar analogs, crater counting and relative age, and internal history of Mars.

ANYONE who agrees with everything you say and do will bear watching.

ACHIEVEMENT AWARDS: John P. Campbell (left), Chief of Low-Speed Aircraft Division, presents Special Achievement Awards to Thomas R. Turner (center) and Garl L. Gentry. They were cited for their superior performance ''in developing operational procedures for new and unique mechanical equipment in order to make the V/STOL Tunnel an efficient research facility.''

TIRES AVAILABLE WHOLESALE

The Activities Association has made special arrangements with National Tire Wholesale (NTW) of Virginia Beach, for staff members to purchase tires for their personal vehicles at true dealer cost. Identification will be required at the time of purchase and your NASA badge will be sufficient.

If you do not have a NTW catalog, your personal copy may be obtained from the Activities Building, Building 1222.

NTW carries many brands of tires including Lee, Semperit, Goodyear, Michelin, Bridgestone, Continental, Pos-A-Traction, and National. Also available are assorted automotive products including wheels and shock absorbers. NTW stocks tires for all sizes of cars and trucks.

All tires are sold directly from the NTW warehouse at prices approximately 25% to 40% below regularly advertised prices. As a wholesale tire distributor, NTW does not mount tires or perform other automotive services, but will recommend service stations in the immediate area of the warehouse that will provide this service.

In addition, as a wholesaler, NTW does not honor credit cards; all sales are cash or personal check.

If you have questions concerning tires or if you would like some help deciding which tires are best for your car, you may phone National Tire during working hours at 499-9833.

When calling for information or picking up tires, identify yourself as a member/employee of your respective group or company. There is no required paperwork on the part of you or your employer and there is no minimum purchase requirement.

All tires sold are fully guaranteed by NTW and the respective manufacturers.

EVERY man has three characters - that which he exhibits, that which he has, and that which he thinks he has.

--Alphonse Karr

EEO HIGHLIGHTS

Outlined below are the elements which comprise a comprehensive program of equal employment opportunity. These elements are based on the specific requirements of Executive Order 11478 and the Equal Employment Opportunity Act of 1972 (P.L. 92-261), and are elaborated on in Commission instructions to agencies on the development and submission of equal employment opportunity plans (CSC Bulletin No. 713-25).

1. Adequate and competent staff and dollar resources throughout the organization to assure administration and implementation of a results-oriented program of equal employment opportunity which is involved in every aspect of personnel management policy and practice.

2. Recruitment activities designed to reach and attract job candidates from all segments of the population. Where appropriate, these activities are tailored to improve their effectiveness among members of specific groups (e.g., Spanish-speaking Americans or women).

3. Full identification and utilization of the present skills of employees on the rolls, facilitating movement through job restructuring techniques, establishment trainee positions, and assuring that qualifications of requirements are realistic in terms of the jobs to be done.

4. Opportunities for employees to enhance their skills, perform at their highest potential, and advance in accordance with their abilities and the availability of opportunities. These efforts include programs of career counseling and planning, training and education, job analysis and redesign, and elimination of any unnecessary barriers to upward mobility.

5. Encouragement of EEO program understanding and support by supervisors and managers through practical training and advice, effective use of incentive systems, and evaluating supervisory and managerial performance in the EEO area.

6. Managerial support for and participation in community efforts to improve conditions such as housing, transportation and education - which affect employability.

7. Systematic evaluation of EEO program progress, identification of problem areas and assessment of the effectiveness of activities.

8. Systems providing for the informal resolution of EEO related employment problems wherever possible, and for prompt, fair, and impartial consideration of formal complaints of discrimination in any aspect of employment.

9. Special programs to provide employment and training opportunities for the economically and educationally disadvantaged.

The areas outlined here are essential elements for equal employment opportunity programs in all agencies. In addition, affirmative action from the Civil Service Commission's EEO program management standpoint includes a continuing review of all employment procedures, tests and other selection devices, to assure they are job-related and to eliminate any artificial or unnecessary barriers to the employment and advancement of members of any groups, and to promote equal opportunity for all persons to compete on the basis of merit.

The Commission monitors agency implementation of the full range of affirmative action activities, and assures compliance with equal employment opportunity law and regulation through review of agency EEO plans, on-site evaluation of agency programs, and analysis of statistical data on the employment of minorities and women.

TECHNOLOGY AWARD: Dr. John E. Duberg (left), Associate Director, presents a cash award to Leland A. Imig, Materials Division, for his Tech Brief entitled "Strain Gage Attachment by Spot Welding Reduces the Fatigue Strength of Ti-6Al-4V, Rene 41, and Inconel X."

THAT 'VIRUS' COULD BE SOMETHING ELSE

It's that time of year. You're feeling queasy. You've got a headache, fever, and an attack of what the TV commercials call intestinal distress.

It's a case of 24-hour virus. Right?

Not so fast, says the Health Insurance Institute. You may well be suffering from salmonellosis, an infection of the stomach and intestines caused by salmonella germs.

These germs, sometimes found in such foods as fresh meat, fish and poultry, can keep you sick from 1 to 5 days. They may even put you in a hospital.

But you are not alone. It is estimated that over 2 million Americans suffer from this disease annually, about 280,000 of them due to exposure to pets such as small turtles, tortoises, terrapins, ducklings and baby chicks. An estimated 15 million small turtles are sold in this country every year.

To curb the spread of salmonella germs at home, the Institute suggests you observe the following government-recommended precautions:

1. Cook your meat, poultry and seafood at 140 degrees (F) for at least 10 minutes or at a higher temperature for shorter periods. Avoid eating any of these foods raw. This goes for eggs, too.

2. Wash all utensils and dishes thoroughly after contact with any raw meat. Wash your hands too.

3. When defrosting meat, keep it away from all other foods. The blood may contaminate other foods it comes in contact with.

4. After cooking, do not allow meat or poultry to stand a long time. Bacteria can grow rapidly and recontaminate the food.

5. Be suspicious of a sick pet. If it's having stomach problems, keep its feeding dishes, toys, bedding and the like away from sources in contact with your food such as the kitchen sink, drain board and food service utensils. Always wash your hands after handling a sick pet.

While the disease is not fatal, it can be dangerous to the very young or very old, or those already weakened by illness.

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EXECUTIVE BOARD: Members of the Executive Board of the Activities Association are (from left): Jim Dieudonne, vice president; Bill Henley, children's committee; David Throckmorton, activities; Judy Evans, arts and crafts, Betty Baker, secretary; Herb Boulter, president; John Wallace, social; and Bob Huffman, building and grounds.

Swap and Shop

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

FOR RENT

Three-room and bath furnished apartment in private home in Southampton area - $125 per month. Available April 10. Peters, 723-1247.

FOR SALE

Two 14-inch wheels for 1964 Ford Galaxie. Ackerly, 595-1414.

20-foot Flying Dutchman sailboat with sails and trailer, fiberglass hull - $900; Oster dog clipper set with poodle blade - $15. Drewry, 722-4443.

Man's and lady's Shelby Explorer bicycles - $25 each or both for $45; large oak desk, 3 drawers on each end with large middle drawer - $75. Sheets, 898-7066.

12-volt battery Shakes Pear #101 trolling motor - $30. Salake, 723-5525.

7-room, 1-1/2 story farm house on 13 acres of land in Potts Valley, W. Va., near Virginia line - land adjoins Jefferson National Forest. Yeager, 877-9063.

1947 Plymouth coupe, good restoration prospect - $450. Turner, 838-7114 after 6 p.m.

French antique piano. Siviter, 723-1989.

Sears 12 hp tractor with mower, cart, spreader, and aerator - $600. Morgan, 898-6861.

Stereo components - TEAC 4010S tape deck, Sansui 3000A amplifier, two Pioneer CS-88 speakers. Perez, 826-6762 after 8 p.m.

1968 Plymouth Satellite station wagon, 3 seats, air conditioned, power accessories. Baber, 229-8687.

1972 Mercury Capri, 21,000 miles - $2200. McLemore, 838-0003.

1967 4-door Galaxie 500 with air condition and automatic transmission. Jones, 596-1667.

EASTER EGG HUNT APRIL 8

The Activities Association's annual Easter egg hunt for children of Center employees will be held Sunday, April 8, at 2 p.m. on the grounds of the Activities Building.

Areas for special age groups will be roped off and prizes will be awarded to the finders of certain eggs.

The hunt is free and parents are urged to stay out of the hunting area and let the children find their own eggs.

TECHNICAL PUBLICATIONS

The following technical papers have been published and distributed:

TN D-7102 - A Subjective Evaluation of Synthesized STOL Airplane Noises by Clemans A. Powell

TM X-2703 - Supersonic Aerodynamic Characteristics of a Variable Geometry Spacecraft Designed for High Hypersonic Performance by Bernard Spencer and Roger H. Fournier

TN D-6921 - Subsonic Characteristics of a Twin-Jet Swept-Wing Fighter Model With Maneuvering Devices by Edward J. Ray and Eddie G. Hollingsworth

TN D-7145 - Design and Analysis of Star Image Motion Compensator by K. C. Romanczyk, Aaron J. Ostroff, and W. E. Howell

TN D-6896 - The Effects of Configuration Changes on the Aerodynamic Characteristics of a Full-Scale Mockup of a Light Twin-Engine Airplane by Marvin P. Fink, James P. Shivers, H. Douglas Greer, and James L. Megrail

■■■■■

Go-Cart engine, 5 hp - $30; Magnavox stereo - $75; large sofa - $50; G.E. Americana stove and self-cleaning oven - $200. Lowry, 898-5045.

Crib and mattress - $10. Powell, 723-1250.

12-foot Penguin sailboat - $300; trailer for boats to 14 feet - $50; old Elgin 3.5 hp outboard - $20. Graham, 877-8197.

Questions and Answers

Q. Regarding the possibility that contributions by Federal employees to the Civil Service Retirement Fund may be declared as non-taxable income until after an employee's retirement, and in view that employees are being alerted to file claims for tax years back to 1969, could LRC management determine or suggest for the employees a course of action related to the Virginia State income tax which also has the 3-year limitation for correcting erroneous filings. The local tax offices can offer no information and inquiries to Richmond have resulted in no definitive statements.

A. Edward A. Dore, Assistant Commissioner for Income Tax, Commonwealth of Virginia, advises that prior to January 1, 1972, Virginia did not recognize any tax shelter for annuity contributions; therefore, regardless of any change in the Federal tax rules, there would be no basis for claiming a refund from Virginia for years prior to 1972.

After January 1, 1972, Virginia changed its rules to conform to those of the Federal Government. Therefore, if the Federal rules are changed to allow deferment of tax on retirement contributions, then Virginia would also allow it.

Dore advises that there is no reason to file a refund claim with the state at this time, inasmuch as you have three years from 1972 in which to do so should the courts rule contributions to be nontaxable.

Travel Accident Insurance Notice

Premium notices were distributed for Travel Accident Insurance on Monday, March 26. Participants are warned that there is no grace period for Travel Accident Insurance. The current period expires midnight, April 30. If your annual premium, due by May 1 for next year, is not paid by that time, you are no longer covered and protected by the insurance. This notice is the only notice participants will receive. No second notices, as is done with life insurance, will be sent.

You may reinstate it at any time merely by making premium payment; however, the premium payment must be for the full year regardless of when it is paid during the month of May.

To get full value for your money and to maintain continuous coverage, be sure to send your premium payment to the Computer Systems Branch, MS 142, by midnight Monday, April 30.

STAFF MEMBERS RETIRE

Paul E. Hunt
Operations Support

Aubrey L. O'Kelly
Operations Support

James C. Tingle
Personnel

Charles T. West
Operations Support

YOU CAN SOLVE THIS PROBLEM

The Langley Research Center has fallen below the 90% U.S. Savings Bonds participation mark and has lost the Treasury Department's Minuteman Flag. The solution to this problem is simple. Contact your payroll clerk and sign up for bonds now.

Langley Researcher

VOLUME 12, NUMBER 7 LANGLEY RESEARCH CENTER APRIL 13, 1973

COST OF LIVING ANNUITY INCREASE

A cost of living increase of at least 4-1/2% in the civil service annuities is in prospect for July 1, 1973.

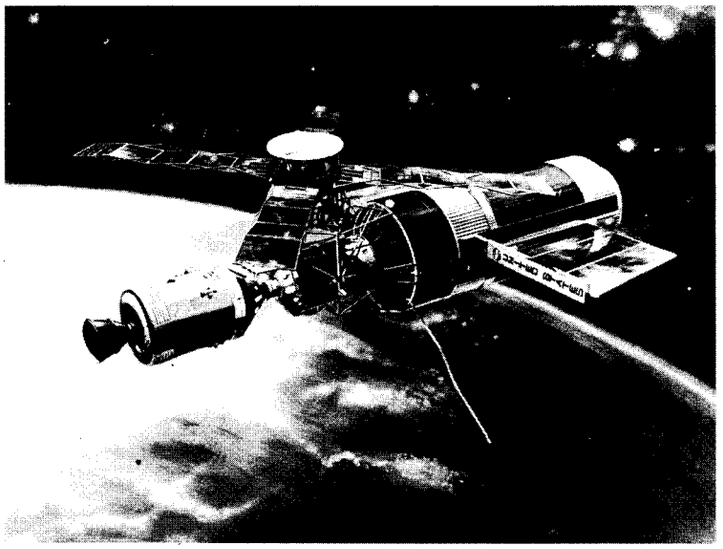
With the announcement that the Consumer Price Index for February was 128.6, the Index stands at 3.5% above the figure (124.3) for the base month of April 1972. The Index need only meet or exceed the 3% level and continue at or above it for three consecutive months to yield an increase equivalent to 1% more than the highest percentage figure for those three months.

Thus, on the assumption that the Index does not drop below the 3% level for March and April, the prospective increase in annuities cannot be less than 4.5% and would be greater if the Index continues to rise. The exact amount would not be known until late in May when the Index for April is announced. Under the law, cost of living increases become effective on the first of the third month following that in which they are triggered, which in this case would be July 1.

The increase would apply to all annuities effective on or before that date. Thus, anyone who separates by close of business on June 30 would be eligible for the increase.

For further information, contact James Norris, Employment Branch, extension 2605.

SKYLAB CREW: Gathered around the display console of a training model of Skylab at the Manned Spacecraft Center are members of the crew - - the first three men who will orbit Earth under the Skylab program. They are (from left): Charles Conrad Jr., commander; Joseph P. Kerwin, science pilot; and Paul J. Weitz, pilot.



SKYLAB: Launch date for the first manned orbital scientific space station has been set for Monday, May 14 at 1:30 p.m.

SKYLAB LAUNCH DATE MAY 14

Skylab, the nation's first space station, is scheduled to be launched from the Kennedy Space Center on Monday, May 14 at 1:30 p.m. EDT.

With Skylab successfully in Earth orbit, the first three-man crew to work aboard the station is scheduled to be launched no earlier than 1 p.m., EDT, the following day.

A comprehensive two-day review of the results of accomplished pre-launch tests and the remaining work to be done has been completed by top Skylab Program officials.

"Preparations for both launches are currently proceeding very well. There is still considerable work ahead which may subsequently cause difficulty, but the assessment made is encouraging," said William C. Schneider, Director of the Skylab Program.

This is the first time a formal date has been set for launching the complex space laboratory. For nearly two years, the Skylab team had used April 30 and May 1 as planning dates for the first two launches. The planning dates were moved to the month of May in late January when checkout work was running about two weeks behind the prelaunch test schedules. The onboard experiments and the major spacecraft elements have never flown before and require exhaustive first-time testing.

Skylab will operate for eight months in Earth orbit and will be occupied at intervals by three-man astronaut crews conducting scientific and technical investigations and observations relating to such areas as Earth resources, physiological effects of long duration weightlessness, solar phenomena and metals processing in zero-G.

Members of the first crew, planning a 28-day stay in Skylab, are: Commander Charles P. Conrad Jr.; Science Pilot Dr. Joseph P. Kerwin; and Pilot Paul J. Weitz.

HAPPENINGS

DIAPER LINE. . .Announcing the birth of a seven-pound son, Jason Richard, on March 25 is Vicki George, Personnel Division. . . . Celebrating the birth of a six-pound, fourteen-ounce son, Mark Elliott, on April 3 is Dennis L. Dicus, Materials Division.

NEW VIRGINIANS. . .The Hampton Lions Club will present the New Virginians, a musical group from Virginia Polytechnic Institute and State University, on Saturday, April 28 at 8 p.m. at Hampton High School. Admission will be $2.50 per person and tickets may be purchased from members of the Hampton Lions Club.

AFGE NOTICE. . .The NASA Lodge 2755, American Federation of Government Employees, will meet on Wednesday, April 25 at 7:30 p.m. at the Central Labor Union Hall, Newport News.

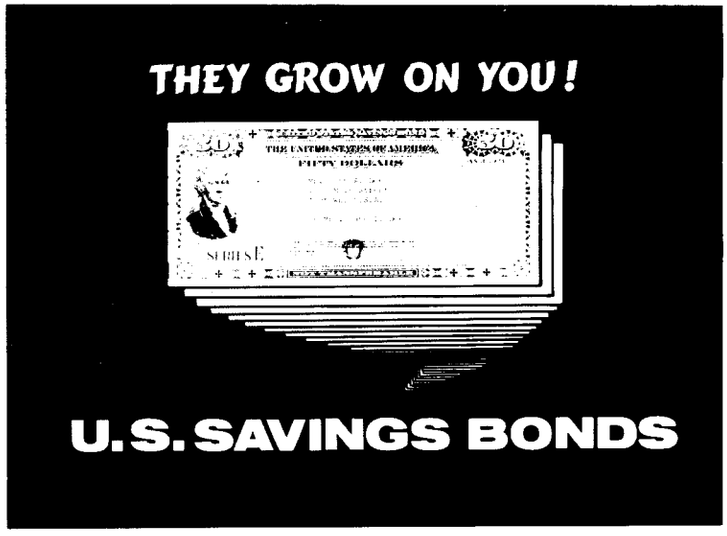
ENVIRONMENTAL TECHNOLOGY. . .The spring meeting of the Steam Automobile Club of America will be held at Greensboro, North Carolina, on May 4, 5, and 6. Feature speakers will be Dr. Gordon Davoud, D-Cycle Power Systems, Inc., who will describe this group's progress in the development of an efficient external combustion engine, and George Thur, Environmental Protection Agency, who will present technical data on the four government sponsored steam car development projects. Steam cars and equipment will be on display. For details contact Doug Garner, EXtension 3551.

RETIREMENT PARTY

Margaret L. Strickland, Office of Director for Structures, will be honored at a retirement party on April 26 in the West Cafeteria. A social period will start at 5 p.m. Cost per person, which includes one dollar for gift, will be $4.50 or $8 per couple. Those who cannot attend but wish to contribute to the gift may do so by mailing their contributions to Jerry Hansbrough, MS 104. Those planning to attend the party, should notify Hansbrough by April 20.

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____



VIKING SCIENCE SYMPOSIUM REVEALS SURPRISING FACTS OF MARS GEOLOGY

Those attending the Viking Science Symposium - Geology were treated to an up-to-the-minute view of the geology of Mars as revealed by a study of Mariner 9 date. The symposium was held in the Activities Building April 5 and 6.

The audience of 250 heard 12 outstanding speakers, most of them Mariner 9 investigators, discuss many aspects of the geology of Mars, including volcanoes, variable features, fluid erosion, frost phenomena, crater counting, and internal history.

In contrast to the view after the Mariner fly-bys of 1964 and 1969, Mars is not a relatively uninteresting ''orange tennis ball,'' but a planet of immense geologic interest with several distinct regimes including giant volcanoes, lava flow fields, cratered highlands, giant rift valleys, and polar caps which wax and wane. Temperature measurements made by the Mariner 9 Infrared Radiometer show that the residual cap is water ice, while the variable one is solid carbon dioxide.

Nix Olympica, about 14 miles high, was one of the first features to be visible after the 1971 dust storm began to clear early in 1972 and is the largest volcano yet observed in the solar system and is only one of 20 or 30 on Mars. At least one speaker thinks that Viking orbiter instruments will show Nix Olympica to be still active. In any event, the volcanoes, lava flow fields, layered polar terrain, giant rift valley, and ''dry river beds'' prove that the planet has undergone drastic geologic change in the recent geologic past (10,000,000 to 100,000,000 years).

In addition to the varied geologic regions, two of the most significant things revealed by Mariner 9 are proof that Mars undergoes violent, global dust storms and that its surface has been eroded by liquid water in the recent geologic past, increasing the probability of finding life there.

As the next logical step in the scientific exploration of Mars, Project Viking 75 will soft-land two spacecraft on the surface of the planet, to search for life and to make other scientific measurements to characterize the surface and the atmosphere at close range.

ONE machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man.
—Elbert Hubbard

A DEAF husband and a blind wife are always a happy couple.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23365, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

FGAA TO HEAR MORITZ

Bernard Moritz

Bernard Moritz, Deputy Associate Administrator for Organization and Management, NASA, will be the guest speaker at the meeting of the Virginia Peninsula Chapter of the Federal Government Accountants Association on Wednesday, April 18.

The meeting will be held at the Plantation Barbeque Restaurant located at Sinclair Circle, Hampton. A social hour will start at 6 p.m. followed by a buffet dinner at 7 o'clock.

Moritz has held progressively responsible positions in NASA since 1958. He is a member of the Bar of the states of Illinois and Indiana and of the Supreme Court of the United States and a member of the Federal Bar Association. He has enjoyed an interesting career in the Federal Government including work in procurement, industry affairs, Army audit, and the Department of Justice.

For reservations contact Joe Haggerty, extension 3867.

Swap and Shop

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

WANTED

Driving combination from vicinity of Farmington to W.A. on 7:30 shift. Townsend, 3636.

Ride from 1104 Todds Lane to E.A. on 8 shift. Miller, 3212.

Driving combination from Beech Drive-Dresden Drive area, Newport News, to W.A. on 7:30 shift. Elkins, 3551.

FOR SALE

30-inch Hot Point electric range - $125; Lady Kenmore dishwasher, portable - $75. Barricklow, 596-5108.

Large wooded lot in York River Pines Subdivision at Gloucester Point, city water, right-of-way to river. Berry, 642-5764.

94-inch royal blue sofa, modern style, 8 cushions - $45. Darnell, 877-4822.

3-bedroom, 2-bath house in Hampton; selling below FHA appraisal on assumption - $160 monthly payments. Clair, 851-0850.

1967 Buick Special station wagon, automatic transmission. Miller, 838-0532.

Rotary power mower - $10. Miller, 595-0731.

Residential building lot in York River Pines, approximately 1/2 acre, beach and water access rights - $8250. Compton, 826-3323.

Gym-Dandy Gym-ee with swing, slide, ladder and table - needs some painting - $7.50. Flechner, 838-1360.

1967 Chevrolet Impala 2-door hardtop, vinyl roof, V8, automatic transmission, power steering. Parady, 851-3022.

Kelvinator air conditioner window unit, 20,000 btu, 220 volts, 5 years old - $80. Campbell, 596-8440.

WALLOPS PLANS OPEN HOUSE

The public is invited to visit NASA Wallops Station tomorrow and Sunday from 10 a.m. until 4:30 p.m. EST.

Visitors will be permitted to view facilities at the Wallops Main Base and the rocket launching sites on Wallops Island. The Main Base and Wallops Island are approximately seven miles apart. A tour of both areas will require one to two hours.

At the Main Base, the Range Control Center and an exhibit area will be open to visitors. In addition to space science displays, movies are scheduled several times each day. Inside the Main Gate area, full-scale rockets are on display and visitors also may stop and take pictures here. Personnel will be on hand to answer questions that visitors may have concerning Wallops operations.

The Wallops Island part of the tour will be a self-guided "do-it-yourself" riding tour in the visitors' own private automobiles. Descriptive literature will be provided at the Causeway Gate to point out items of interest as people ride by. Visitors will see launching pads, rocket storage structures, long range tracking radars, weather towers, blockhouses, rocket assembly shops, actual launch vehicles and other related range facilities.

The tour may begin either at the Wallops Island launch site or the Main Base. Information and instruction books will be available at the entrance to both areas. Cameras are permitted.

This is a joint event of federal activities in the area including Assateague National Seashore Park, Chincoteague Coast Guard Station, Chincoteague National Wildlife Refuge, NASA Wallops Station, and the National Oceanic and Atmospheric Administration. All of these agencies are planning special exhibits and/or tours at their respective facilities.

NEW DIRECTORY TO BE DISTRIBUTED

The next edition of the Langley Telephone Directory is being compiled and will be ready for distribution soon.

A new section has been developed in response to a recommendation made at the Wallops Island Symposium - - a SERVICE DIRECTORY which lists information concerning the major services available at the Center.

This Service Directory is compiled from listings furnished by organizations and individuals. Corrections, additions and deletions should be submitted to the Administrative Services Branch, extension 3511, MS 123.

LET YOUR EYES DO THE SEARCHING BY USING THE SERVICE DIRECTORY!

■■■■■

TO MARRY once is a duty, twice a folly, thrice is madness. —Dutch Proverb

IT DESTROYS one's nerves to be amiable every day to the same human being. —Disraeli

■■■■■

Black Labrador puppies - $15 plus cost of shots. Burris, 642-4120 Hayes.

1964 Buick Skylark station wagon, automatic transmission, power steering and brakes - $225. Greene, 898-6943.

18-foot Hampton I sailboat with trailer - $550. Davis, 898-6834.

Shakespear #101 trolling motor - $30. Salake, 723-5525.

B-flat clarinet, Selmer Paris, Series Nine - $325. Bowman, 898-5650.

KENTUCKY STUDENTS PARTICIPATING IN SKYLAB EDUCATIONAL PROJECT

Kentucky students are involved in an unusual educational project involving Skylab, America's first manned space laboratory. The project, "Skylab-A New Horizon," is Kentucky's approach to the NASA Student Skylab Project.

The Kentucky Student Skylab Project was created and sponsored by the Kentucky Department of Education, the Kentucky Education Association's Committee on Instruction, Kentucky Educational Television Inc., and the Langley Research Center.

This innovative program provides the opportunity for students to participate, via educational television, in an historical event, rather than studying about it after the fact.

The objectives of the project are to introduce the educational community to the unique environment and vantage point of space, and the technological processes by which this uniqueness can be used.

The National Science Teachers Association, under contract to NASA, formed a committee of science teachers, supervisors, educators, and NASA representatives to design the over-all project. The six-month program will allow students to meet top NASA officials and become involved in the launch preparation, lift-off, and follow-up of America's first manned orbiting laboratory.

The final outcome was the selection of 25 student experiments to be performed on board. The 25 finalists will be present at Kennedy Space Center for the launch of Skylab and will be present at Johnson Space Flight Center when experiments are performed.

Designed to motivate interest in the sciences and to make the space program meaningful and relevant to students, "Skylab - A New Horizon" is part of an on-going project to secure broad involvement of students and teachers in experiments related to the Skylab Project.

The spring project is an interdisciplinary approach involving students in all areas of instruction. The ability to reach every student is made possible by the cooperation of the agencies involved and the use of educational television. Kentucky Educational Television Network is a system composed of 13 stations strategically located throughout Kentucky and plays a vital role in the education of Kentucky's youth.

The project began with Astronaut Richard Truly, Skylab Program Director William Schneider, and Dr. Henry Floyd, Skylab Student Project Director, meeting with Kentucky students at KET studios in Lexington to tape a Skylab classroom assembly program. This program would later be used to explain the Skylab project to students across the state. School administrators in all Kentucky school districts were invited to select one student to participate in the television program.

Arriving on the set, the students entered a studio with a simulated lunar set where for 90 minutes they questioned Astronaut Truly, Dr. Floyd and Schneider on space exploration.

The studio discussion and the resulting tape aroused the interest of the Public Broadcasting System, which will air the tape before a nationwide audience.

■■■■■

--BUY U.S. SAVINGS BONDS--

TECHNOLOGY AWARD: Laurence J. Bement, Systems Engineering Division, receives a cash award from Dr. John E. Duberg (left), Associate Director, for his Tech Brief entitled "Small-Scale Explosive Welding of Aluminum."

LOCAL CULTURAL ACTIVITIES

April 13 - Tidewater Virginia Daffodil Society Show, Hilton Inn, Williamsburg

April 13 - Clayton-Grimes Biology Club, "Sea, Ice and Fire," Audubon Wildlife film by Olin S. Pettingill, William and Mary Campus Center, 7:45 p.m.

April 13, 23, 24, 26 - "Miss in Her Teens," 18th century comedy by David Garrick in period costume, Williamsburg Lodge, 8 p.m.

April 14 - Film Classics Club, "The Stranger," Christopher Newport College, Gosnold Hall, 8 p.m.

April 15 - Collegium Musicum, Gerard Errante, clarinet, William and Mary Campus Center, 4 p.m.

April 15, 16 - Colonial Williamsburg, John D. Rockefeller Jr. Memorial Concert, "St. John's Passion" by J. S. Bach, performed by choir and instrumentalists at Bruton Parish Church, 8 p.m.

April 18 - Christopher Newport College, German Film Series, "Bel Ami" (1939), Gosnold Hall, 8 p.m.

April 18-21 - William and Mary Theatre, "The Trojan Women," Phi Beta Kappa Hall, 8:15 p.m.

April 20 - Hampton Roads Coliseum, Mahavisnu, 8 p.m.

April 21 - Hampton Roads Coliseum, Buddy Miles Show, 8 p.m.

April 22 - Colonial Williamsburg, Easter, Community Sunrise Services, Jamestown Island, 8 a.m.

April 23-28 - Hampton Institute Theatre, "The Firebugs," Max Frisch, 8:15 p.m.

April 23-29 - 1973 Azalea Festival, Norfolk

April 24 - Hampton Roads Coliseum, all orchestra concert with Peninsula Symphony Orchestra, 8:30 p.m.

April 24 - Colonial Williamsburg, garden week begins, private homes open in the historic area, 10 a.m. to 9 p.m.

April 25 - Hampton Roads Coliseum, Peninsula Symphony Youth Concert for Hampton, Newport News, York County and Poquoson Public Schools, 10 a.m.

April 26 - Hampton Roads Coliseum, Merle Haggard Show, 8 p.m.

ANNUAL REVIEW: During the week of March 19, representatives of the Civil Service Commission, OAST (Washington), and NASA Headquarters conducted an annual review of the Center's Equal Employment Opportunity Program. Participating in the review were above (from left): Raymond G. Romatowski, Director for Administration; Samuel Lynn, NASA Deputy Contract Compliance Officer; Edward McDevitt, Civil Service Commission, Philadelphia Region; Edgar M. Cortright, Center Director; Alvin F. Anderson, Head of Office of Equal Employment Opportunity; Charles F. Barnett, Personnel Officer; Alan Nelson, Chief, Norfolk Area Office, Civil Service Commission; Andrew Dunn, Chief, Civil Service Commission Evaluation Team, Norfolk; and Richard G. Mulligan, OAST-Washington. In the photo at right, Andrew Dunn presents EEO review findings to Center officials. Shown at right is Alvin F. Anderson.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

73-38 Engineering Technician, GS-802-10 or 11 in the Fabrication Division, Materials Technology Branch. Closing date April 17.

73-39 Clerk-Stenographer, GS-312-3 or 4 with promotional opportunity, in the Aeronautical Systems Office, Advanced Supersonic Technology Office. Closing date April 19.

NASA BOWLING NEWS

Clean Ups lead the A League with 67 wins and 33 losses. Trailing in second place are Chattahoochies with 63 wins and 33 losses. Charles Pearce rolled high game with 258 and high set with 694. Other outstanding scores were rolled by Jim Henry with a 235 game and 641 set, Russ Hopko with a 245 game and 636 set, and John Wilson with a 219 game and 609 set. The Chattahoochies bowled a new high team set of 3110.

Born Losers are in first place in B League with 67-1/2 wins and 44-1/2 losses. In a close second are Northrop Flyers with 65-1/2 wins and 46-1/2 losses and Audio Ventures are in third with 65 wins and 47 losses. Top scores for the the night were rolled by Chuck McKelvey with a 234 game and 638 set and Jim Jones with a 234 game. Al Bell rolled a high set of 651 and Bob Huffman scored with a 646 set.

LANGLEY CAMERA CLUB NEWS

The Langley Camera Club will meet on Monday, April 16, at 7:30 p.m. in the Activities Building. Bill Conklin, Fabrication, will give a slide presentation on models and lighting. The subject of the slide contest will be ''After Dark.''

Guy Ellis served as judge of the March slide contest. The theme was ''Abstracts and Patterns,'' and the winners were as follows:

First - ''Salisbury at Night'' by Delphia Hedgepeth
Second - ''Bark'' by Boyd Perry, III
Third - ''Stumps'' by Robert L. Wright
Fourth (three-way-tie) - ''Conch Net'' by Clay Rogers; ''Rust Hole'' by Bobby Wright and ''D.O.A.'' by David Wright, sons of Robert L. Wright.

GROUP AWARD: A Group Achievement Award was recently presented to the Langley 48-Inch Laser Radar System Team "for outstanding effort in the development of the Langley 48-Inch Laser Radar System as a new tool for the measurement of aerosols, air density, and structure in the Earth's atmosphere." Members of the team are (from left): Robert L. Krieger, Samuel H. Melfi, Bill R. Rouse, Sheldon T. Peterson, Michael P. McCormick, Courtney E. Russ, Stewart L. Ocheltree, and William H. Fuller. Not shown are R. M. Hansen, J. D. Lawrence, and S. L. Seaton.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of April 16:

Monday - Cream of potato soup, broiled beef liver and onions, shrimp Newburg, chuckwagon steak, ham omelette. Snack bar - Turkey club, ham steak and egg, NASA submarine, bacon, lettuce and tomato.

Tuesday - Corn chowder, steamship round, Chinese egg roll, broiled or barbequed chicken, beef and macaroni. Snack bar - Hot roast beef, ham and cheese club, hoagie, braunschweiger and cheese.

Wednesday - Beef noodle soup, broiled beef ka-bobs, roast pork, broiled turbot, sauteed chicken livers. Snack bar - Barbequed pork, steak, NASA submarine, pizza.

Thursday - Cream of chicken soup, beef burgundy, broiled ham steak, meat loaf, wieners and sauerkraut. Snack bar - Barbequed beef, mini steak, turkey club, ham and cheese.

Friday - Bean with bacon soup, country style steak, cordon blue of chicken, broiled or fried fish, grilled cheese sandwich. Snack bar - Hoagie, ham steak and egg, 3-D burger, bacon, lettuce and tomato.

The menu for the week of April 23 is as follows:

Monday - French onion soup, corned beef and cabbage, lasagna, broiled or Maryland fried chicken, franks and beans. Snack bar - NASA submarine, steak and egg, chicken salad, chili.

Tuesday - Split peas with ham soup, skirt steak, baked stuffed peppers, veal parmesan, fish cakes. Snack bar - 3-D burger, barbequed pork, turkey club, NASA submarine.

Wednesday - Manhattan clam chowder, sauerbraten, broiled red snapper, chicken and dumplings, chili con carne. Snack bar - Hot roast beef, ham and cheese club, pizza, ham steak and egg.

Thursday - Chicken gumbo soup, beef stroganoff, fried jumbo shrimp, broiled or stuffed pork chops, sloppy Joe. Snack bar - Steak, NASA submarine, salami, bacon, lettuce, and tomato.

Friday - Turkey noodle soup, delmonico steak, meat loaf, broiled or fried fish, barbequed beef sandwich. Snack bar - Barbequed pork, grilled cheese, pizza, ham and cheese.

APOLLO HONOR AWARDS CEREMONY

Awards were presented to 47 individuals of the Apollo team last week for their outstanding contributions to the success of the nation's Moon exploration program.

At the NASA Headquarters awards ceremony Dr. James C. Fletcher, Administrator, said, "It is no exaggeration to state that Apollo has been the greatest scientific and engineering achievement in man's existence." He expressed his personal appreciation to all who contributed to its accomplishment.

Apollo 17 astronauts Eugene Cernan, Ronald E. Evans and Dr. Harrison H. Schmitt were present for the occasion.

The NASA Distinguished Service Medal, highest award of the space agency, was presented to Dr. Charles A. Berry, Director for Life Sciences, and Chester M. Lee, who served as Apollo Program Mission Director for missions 12 through 17. Lee is now director of the Apollo/Soyuz Test Program, a joint US/USSR manned effort with flight scheduled for 1975.

The Distinguished Public Service Medal, NASA's highest award to non-government personnel, was presented to ten officials of the aerospace industry team. Exceptional Service Medals, the agency's second highest award, were presented to 21 employees. Fourteen scientists from government, industry and universities received the Exceptional Scientific Achievement Medal and Group Achievement Awards were given to 10 teams representing organizations in industry and government.

ZIP CODES CHANGE MAY 1

Effective May 1, the Center's ZIP Code number will be changed from 23365 to 23665. This change is being made by the United States Postal Service in an effort to give better and more expeditious service.

Other areas affected by the change will include all Hampton stations and all Yorktown stations. In each case, the third digit in the ZIP Code number will be changed to a 6.

All stations in Newport News will remain the same.

Personnel Profiles

By

Allan C. Hanrahan

The Name of the Game is Bowling

If you have ever participated in a game of bowling at one of the bowling centers on the Peninsula, and particularly if you have ever bowled in a league, then your life has been touched by the father of organized bowling on the Peninsula, Mr. Charles William (Bill) Wood, Jr.

''The people that I have met and the friends that I have made through the sport of bowling have made it worthwhile,'' Mr. Wood stated in answer to our comment that it certainly appeared he had devoted an extraordinary amount of time and effort to the sport, aside from any actual bowling itself. And need we mention that he added later, ''I love the sport of bowling.'' And love it he does, since that day thirty-eight years ago when be began bowling - at the age of seventeen - at the Y.M.C.A. at Fort Monroe. There were few civilian bowling alleys at that time, and fewer still of the ''family type'' that we enjoy today (the depression was still on, you know) but Wood loved to bowl so he did so wherever and whenever he could.

A two-year stint in the Navy, from 1944 to 1946, saw him stationed for a while in California where he took part in organized bowling under the American Bowling Congress and he came home with a realization of the potential for bowling on the Peninsula. He began right in to help organize the Hampton Bowling Association, later the Hampton Roads Bowling Association, and in the early Fifties was one of the prime movers in organizing the Virginia State Bowling Association as well as the Junior Bowling Program on the Peninsula.

He was President of the Hampton Roads Bowling Association for the first five years of its existence and served on the executive board for fifteen years. In addition, he has served on the Board of Directors of the Southern Bowling Association for eight years and has been on the Board of Directors of the Southeastern Bowling Association (which he helped organize) since 1963. The aforementioned are only the top of the iceberg as concerns the offices he has held but believe us, they are legion.

Bill Wood has earned many, many trophies over the years with his bowling prowess but of greater satisfaction to him are the honors he has received: In 1962 he was named to the Hall of Fame of the Hampton Roads Bowling Association; in 1964 he was voted the GEX Second Annual Tournament's Bowler of the Year; in 1967 he was presented with an achievement award for his ''outstanding contribution to the game of bowling'' for his leadership and tournament direction as well as for his writing for the ''Southern Bowler,'' a national publication (to which he still occasionally contributes); and in 1968 he was honored as the Hampton Roads Bowling Association ''Man of the Year.'' This award was presented to him by the champion bowler, Dick Weber, at the annual Recognition Night.

Because of some health problems, Bill's bowling has been curtailed somewhat in recent years but his ability is still such that his five-man team won first place this year in the H.R.B.A.'s Twenty-second Annual City Tournament! (And just in case some of you keglers are wondering, the highest score he ever bowled was 286!).

Bill is an Engineering Technician in the Materials Processing and Development Section of the Fabrication Division and has been at the Center since 1951, graduating from the Apprentice School in 1955.

A native of Hampton, Bill is married to the former Myrtle Tobert of Hampton and they have two children: Mrs. Sandra Spencer, who has presented them with three grandsons, and Charles William, III, who has presented them with two granddaughters.

Bill is a graduate of Hampton High School and participated in all sports there, including football, and was a member of the 1936 championship football team.

He used to do a lot of fishing, he said, and he still does a lot of hunting (particularly rabbits) and is the proud owner of eleven hounds!

Bill enjoys most all sports but we don't have to guess his favorite, do we?

''Bowling has been good to me,'' Bill stated near the conclusion of our conversation, but then on the other hand, Bill Wood has been good to bowling.

WINE-TASTING PARTY MAY 4

The Activities Association will sponsor its second Wine-tasting Party on Friday, May 4, at 7 p.m. in the Activities Building (Building 1222).

Admission will be by ticket only and the number of participants will be limited to 200. Price per ticket is $4.

The selection of wines will include those from France, Germany, Italy, and Portugal. A rare vintage wine will also be presented, from the year 1964.

Plan your party well in advance. Tickets will go on sale today in the Activities Building. For further information call Kathi Warfel, extension 2058. Reservations will be accepted only at time of ticket purchase.

Questions and Answers

Q. I have heard that the NASA employees at Wallops Station receive annual complete physical examinations. Is this true? If so, would it be feasible for Langley to do this?

A. It is a fact that members of the staff at Wallops Station receive physical examinations, said Edward T. Maher, Executive Assistant, Office of the Director for Center Development and External Affairs. Recently, there have been discussions held with the NASA Headquarters Director of Occupational Medicine and Environmental Health Division directed toward the establishment of an equitable arrangement among all NASA establishments for providing physical examinations to NASA employees. At the same time, Langley management is working toward expansion of the Center's medical and health program, consistent with the objectives of the Safety and Health Act of 1970. It is hoped that from these actions, an expanded physical examination program will evolve at Langley and the staff will be advised as these new opportunities occur.

SAFETY ALERT

A possible unsafe condition may develop during operation of 8-inch portable electric hand saws manufactured by Rockwell Manufacturing Company.

Where: On the job or at home

Cause: During the use of this saw, an incident occurred creating an unsafe condition for the operator. This condition will occur if the screw securing the auxiliary guard and bracket loosens by vibrations, allowing the blade to hit the auxiliary guard and jam between the saw blade and the upper guard.

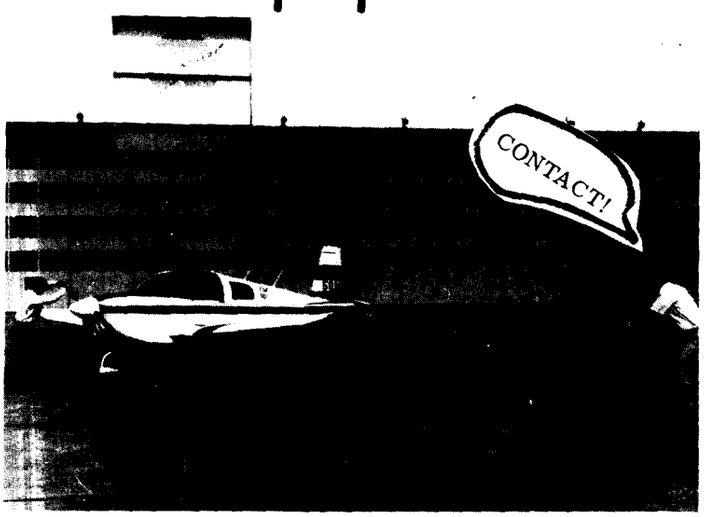
Solution: To correct this potential hazard, apply "Loctite" to cement the screw, holding the guard, to the saw frame on the saws. Loctite is available from our maintenance support and local hardware stores. Saws in use at the Center were procured under FSN 5130-889-8989 and 5130-596-9732.

Additional Steps: Inspect saw models of similar design and other hand power tools, where significant vibration levels are present, for potential hazards in the laboratory and in the home work shops.

A real friend is a man you can go to when he's in trouble.

MOST GOSSIP is either indecent or invented.

words in peoples' mouths



BASKETBALL STANDINGS

Team	W	L	Pct.
A LEAGUE			
Beavers	17	1	.944
ACD	15	3	.833
KNADS	15	3	.833
Charlie Brown's All Stars	11	7	.611
Raiders	7	11	.389
Westside	7	11	.389
Net Nuts	6	12	.333
Alchemists	4	14	.222
Ballers	4	14	.222
8-Foot HTST	4	14	.222
B LEAGUE			
B-Bombs	15	3	.833
Vikings	15	3	.833
C & S	12	6	.667
Hookers	12	6	.667
Overhangs	10	8	.556
Army	7	11	.389
Half-Aces	7	11	.389
Gougers	5	13	.278
Hoop Troop	4	14	.222
Zips	3	15	.167

FRIENDSHIPS are fragile, so handle them very carefully.

Langley Researcher

VOLUME 12, NUMBER 8 LANGLEY RESEARCH CENTER APRIL 27, 1973

APPRENTICES JOIN CENTER STAFF

Nineteen new apprentices joined the Center staff on Monday, April 16. They join 20 other apprentices who entered on duty last October.

The 39 apprentices will participate in a five-year program of classroom study and on the job training. At the end of the study program, the apprentices will receive journeyman certificates in their selected trades.

Members of the group who entered on duty this month are shown in the lower left photograph. Included are: Ng O. Ging, Gilbert R. Stokes, George J. Trombley, Kelvin L. Hunt, Dewitt Carter Jr., Charles J. Schlosshan, Bobby G. Cherry, Peter Vasquez, Fred L. Rudolph, Betty C. Harrison.

Also Thomas L. Vranas, Ralph G. Angel Jr., Ernest C. Burt III, Walter D. Gibson, James P. Anderson, Samuel S. Harris Jr., Robin K. Rubrecht, Stephen C. Wright, and David W. Pierpont.

In the lower right photograph are the new apprentices who joined the staff in October. They include Acquilla S. Hill, Lowe W. Wren III, William K. Williams, Henry Yarborough, Barry L. Price, Robert L. Gates, Thomas J. Lash, Philip Robinson, Raymond E. Williams III, Edward E. Crum.

Also M. Douglas Newman Jr., Alton W. Grimes Jr., W. Midgette Woodrow Jr., Sandra L. Gaster, Michael P. Moore, Breck M. Heidt, Ivan H. Hiett, John H. Thomas, Donald L. Smith, and Roosevelt Bryant Jr.

The new apprentices were selected from the Engineering Aide Examination register. Several of the new apprentices are returning veterans.

Nine trades are offered in the Apprentice School. They include research aircraft mechanic, electronics technician, machinist, metalworker, electrician, draftsman, model-maker, test facilities mechanic, and materials processor.

The apprentices enter the program at the GS-2 level and receive a GS-7 rating upon graduation.

LANGLEY SCIENTISTS USING WATER BUOYS IN EXPERIMENTAL PROGRAM

Langley Scientists are using water buoys in an experimental program to learn more about the environment of Chesapeake Bay and the U.S. Continental Shelf.

The Langley experimenters are working with scientists from the Virginia Institute of Marine Sciences (VIMS) and other groups to determine the activities of water currents in the Bay, some of its river mouths and inlets, and several areas of the Atlantic Ocean.

The most recently launched group of buoys are tracked as they drift by France's Eole satellite. These buoys are equipped with special electronics instruments, provided by the French government, through which the satellite interrogates the buoys to determine their positions and the water temperatures where they float.

The satellite addresses the buoys whenever in line-of-sight and obtains data that are sent to the Goddard Space Flight Center for relay to Langley, where they are analyzed.

Langley's first participation in the buoy experiment program came at the request of VIMS, which wanted to study nutrients flowing in and out of the barrier island inlets along the Eastern Shore. Additional circulation measurements of fresh water flowing from Chesapeake Bay during Hurricane Agnes in 1972 were also requested by VIMS. Both of these early experiments provided valuable information for future predictions of water activities.

The first experiments began about a year ago with trial runs of simple surface drifting buoys that were placed in the Atlantic off the Virginia coast. They were followed in their drifts through radio signals transmitted from the buoys to aircraft flying from Wallops Station.

(Continued on page 3)

HAPPENINGS

DAYLIGHT TIME. . .Staff members are reminded that in accordance with the Daylight Saving Time Bill, all clocks in Virginia will be moved forward one hour at 2 a.m. on Sunday, April 29. Daylight Saving Time will be observed for a period of six months.

SUMMER BASKETBALL. . .Plans are being made to organize a summer basketball league for NASA and contractor personnel. Play will begin in June and continue through August. For additional information call Harvey Herring, extension 3386.

NURSERY FACILITIES AVAILABLE. . .Center employees are reminded that NASA staff members are eligible to use the Base Nursery facilities. The Nursery is located in the Shellbank area near the Base Hospital. The Nursery is open Monday through Thursday from 6:30 a.m. to 11:30 p.m.; on Friday from 6:30 a.m. to 12:30 a.m.; and on Saturday from 8 a.m. to 1:30 a.m. The rates are as follows: Hourly - 1 child 50¢, 2 children 75¢, 3 children 90¢ and 10¢ for each additional child. Daily (10 hours and one meal)- 1 child $3.75, 2 children $6.25, 3 children $8, and $1.25 for each additional child. Monthly (10 hours daily and one meal) - 1 child $50, 2 children $75, 3 children $90, and $15 for each additional child. Breakfast is 25¢ and lunch or supper is 35¢. For further information call 764-3449.

ZIP CODE CHANGE. . .Effective May 1, the Center's ZIP Code number will be changed from 23365 to 23665. This change is being made by the United States Postal Service in an effort to give better and more expeditious service. Other areas affected by the change will include all Hampton stations and all Yorktown stations. In each case, the third digit in the ZIP Code number will be changed to 6. All stations in Newport News will remain the same.

SAILING CLASSES. . .The Langley Yacht Club is offering junior and adult sailing classes and all Center employees and members of their families are eligible to attend. The adult classes will start May 15 and will meet from 5:30 p.m. to 7:30 p.m. two days per week for four weeks. Other adults classes are scheduled to start June 11, June 12, July 9, July 10, August 6, and August 7. Cost will be $20. Classes for junior sailors will be held four hours per day, five days per week, for five weeks. Minimum age is 10 and the cost is $40 per session which includes 200 hours of instructions. Classes for beginners will start June 18 at 8 a.m.; June 18 at 1 p.m.; and July 23 at 1 p.m. Intermediates will start July 20 at 8 a.m. or 1 p.m. and August 24 at 1 p.m. Advanced classes will start July 23 at 8 a.m. and August 24 at 8 a.m. For additional information call Lt. Col. Bielstein, 764-5857 or 764-3322.

GOLF TOURNEY RESULTS. . .The NASA Golf Association held its first golf tournament of the season at Elizabeth Manor Country Club. Winners were as follows: First flight- Jim Jones, low gross and low net with 75 (10) 65; second flight - Hank Weber low gross and low net with 86 (15) 71; and third flight - W. Hutcheson low gross and low net with 94 (23) 71. The next tournament will be held May 2 at the Langley Golf Course.

NEW POSITION. . .Dr. Dudley G. McConnell, NASA's Director of the Scientific and Technical Information Office, has been named Assistant Administrator for Equal Opportunity Programs. Reporting directly to the Administrator, he will be responsible for NASA's internal Equal Employment Opportunity and Contractor Compliance Programs.

PET CHICKEN LOST AT LANGLEY

Aggie Dunkley has lost her pet chicken in the vicinity of the Headquarters Building. She hand-raised the chicken from a little biddy because its mother was crippled. The chicken, which was seen often in the Headquarters parking lot, was very friendly toward people and probably would have made friends with anybody who could cluck.

Aggie, who is the Administrative Assistant to the Director for Center Development and External Affairs, thinks that her pet chicken accidentally hitched a ride to Langley in the engine compartment of her pick-up truck while looking for a place to lay an egg. Since all chickens look alike, Aggie would never have known the chicken near Headquarters was hers except she found four eggs on the fender well of her truck while looking for the battery.

Aggie wants her pet chicken back very badly and will give a rooster and a hen to whomever returns her pet chicken uncooked.

The chicken, who doesn't truck with just ordinary barnyard fowl, was last seen at Langley on meatless Wednesday.

Anyone knowing the whereabouts of this chicken, please call Aggie at 2932.

THE RYATTS

by Jack Elrod

SCIENTISTS USING BUOYS

(Continued from page 1)

Three kinds of buoys are used in the program: radio, radar and satellite.

The satellite buoys are part of an international program that makes part-time use of the French satellite, launched from Wallops in August 1971. Named for the mythical god of the winds, Eole is used by France to track weather balloons and for other observations. It is available for the Langley experiment through June.

Radar buoys used in the experiments are designed to be followed by a shore station radar unit. Line-of-sight radar tracking has been accurate to a position of plus or minus ten yards in these experiments.

The radio buoys are the simplest kind of devices used in the experiments. They are disc-shaped surface floats with small radio antennae attached to them. A beacon-type transmitter and batteries (similar to those used for Gemini Project recovery training) are suspended beneath the buoys.

One radio buoy was tested by being allowed to drift for three weeks on the Continental Shelf, confirming the generally southerly drift of Shelf water in normal conditions.

The buoys are retrieved by sending a C-54 search aircraft from Wallops to the known vicinity of the buoys (based on signals transmitted by the buoys). After spotting a buoy, the plane crew contacts an oceanic research vessel, the Annandale, that is leased by Wallops and operated from Little Creek. The Annandale picks up the buoys.

Radar buoys provided by Langley have also been used by the National Oceanic and Atmospheric Administration (NOAA) in a study of how sand ridges are formed near the southern Virginia coast. These buoys were planted and retrieved by helicopter and tracked by a portable radar unit from Wallops.

Other types of buoys are being considered for future experiments that Langley may conduct in cooperation with VIMS, NOAA, the National Center for Atmospheric Research, and Old Dominion University.

TECHNOLOGY AWARD: Dr. John E. Duberg (left), Associate Director, presents a cash award to Cary Spitzer, Viking Project Office, for his Tech Brief entitled "Hyperbola-Generator for Location of Aperiodic Events."

POWS VISIT CENTER: Two U.S. Naval officers, both former prisoners of war, recently visited Langley to see some of the developments that have taken place in space exploration during the past few years. Captain Allen C. Brady (center) and Commander Kenneth L. Coskey (right) listen to Langley Associate Director Dr. John E. Duberg explain how NASA's reusable space shuttle will operate, beginning in the late 1970's.

PILOT OF CRASHED AIRCRAFT FORMER LANGLEY TRAINEE

A number of Langley employees may remember J. Patrick Riley, pilot of the Convair 990 aircraft that crashed near the Ames Research Center April 12.

Riley was an outstanding cooperative education employee at Langley from 1964 to 1967 while he was attending the University of Detroit. He worked as a trainee in the former VTOL Branch of the Flight Mechanics and Technology Division.

While at Langley, in June 1966, Riley received the Detroit News Award, presented annually by the newspaper to the outstanding ROTC cadet officer at the university. The medal was mailed to Langley and presented to Riley by Pat Clark of the Training Branch.

Riley graduated from the University of Detroit in 1967, and became a pilot while in the Air Force. He went to work at Ames about one year ago, and had accumulated 3,500 hours of flying time in large jets.

WINE-TASTING PARTY MAY 4

There are still plenty of tickets available for the Activities Association's Winetasting Party on Friday, May 4 at 7 p.m. in the Activities Building (Building 1222).

The price per person is four dollars. This increased price is due to heavy restrictions on foreign exporting of wines because of poor grape crops in the wine districts of France. All wines served will be of the finest quality. A similar cross-section of international cheeses will be served as well.

To make reservations, call Kathi Warfel, extension 2058, or stop by the Activities Building any time between 8 a.m. and 4 p.m.

HUMAN RELATIONS SEMINAR MAY 15

Raymond G. Romatowski

"Effective Human Relations in the Office" will be the theme for the NAGS Human Relations Seminar to be sponsored by the Hampton Roads Branch of the National Association of Government Secretaries on May 15, at the Mercury Boulevard Holiday Inn. Registration will be at 6 p.m. followed by dinner at 6:30. Cost will be $6 per person for the dinner and the seminar.

Raymond G. Romatowski, Director for Administration and Coordinator of the Federal Women's Program at the Center, will speak on "Women and the Nation's Economy." Virginia Rollings, Psychology Instructor, Thomas Nelson Community College, will speak on "I Love My Job - But. . ."

Office relationships will be discussed by a Human Relations Panel. Panel members will include Colonel Norman Brown, Director of Plans and Training, Fort Eustis; Jane S. Hess, Management Support Division, LRC; Phyllis Kyle Stephenson, Public Information Assistant, Newport News Shipbuilding and Dry Dock Company; and William L. Williams, Assistant Chief of Personnel Division, LRC. Panel Moderator will be Eloise McGehee, CPS, Training and Educational Services Branch, LRC.

This seminar is not just for secretaries - it is for supervisors, clerical workers, or anyone who is interested in people, his career, or in getting ahead. Certificates of Training will be given to attendees at the seminar.

For further information or reservations, contact Jean M. LaNeave, extension 2731. Registration deadline is May 8.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of April 30:

Monday - Tomato soup, beef chop suey, fried scallops, beef enchiladas, boiled ham. Snack bar - Ham and cheese, hot roast beef, NASA submarine, mini steak.

Tuesday - Black bean soup, chopped steak, stuffed cabbage rolls, chicken cacciatore, fried flounder. Snack bar - 3-D burger, turkey club, ham steak and egg, bacon, lettuce and tomato.

Wednesday - Fisherman's chowder, rump roast, cordon bleu of veal, smoked pigs-in-a-pone, shrimp foo young. Snack bar - Hoagie, barbequed pork, pizza pie, chicken salad.

Thursday - Chicken noodle soup, beef teriyaki, turkey a-la king, meat loaf, fried clams. Snack bar - NASA submarine, steak, turkey club, ham salad.

Friday - Cabbage soup, fried or broiled fish, barbequed pork sandwich or chunks over rice, spaghetti with meat sauce. Snack bar - Barbequed beef, sausage and egg, grilled cheese, NASA submarine.

The menu for the week of May 7 is as follows:

Monday - Cream of turkey soup, hot roast beef sandwich, chicken and dumplings, Salisbury steak, shrimp cakes. Snack bar - Hoagie, ham and cheese, hot roast beef, bacon, lettuce and tomato.

Tuesday - Cheese chowder, steamship round, seafood platter, creamed dried beef on toast, sauteed chicken livers. Snack bar - Turkey club, NASA submarine, barbequed pork, chicken salad.

Wednesday - New England clam chowder, delmonico steak, Swedish meat balls, breaded veal, fried cod fish. Snack bar - Sausage and egg, steak, corned beef, 3-D burger.

Thursday - Vegetable beef soup, braised beef tips, meat loaf, broiled red snapper, chicken croquettes. Snack bar - Salami, NASA submarine, pizza, ham salad.

Friday - Chicken and rice soup, beef liver and onions, broiled or fried chicken, beef pot pie. Snack bar - Turkey club, mini steak, barbequed pork, grilled cheese.

STAFF MEMBERS RETIRE

Herman J. Schuchert
Plant Engineering

Robert E. Githens
Research Facilities Eng.

Warren S. Forrest
Plant Engineering

Joseph W. Morgan
Fabrication

SEMINAR ON THERMAL SCIENCES

Old Dominion University will host the Ninth Annual Southeastern Seminar on Thermal Sciences on July 26 and 27 at the Virginia Associated Research Campus (VARC)

A call for abstracts has been issued, with a deadline of May 15. For further information call Dr. Surenda N. Tiwari, ODU-VARC, 877-9231.

NCMA ELECTS NEW OFFICERS

The Hampton Roads Chapter of the National Contract Management Association (NCMA) elected new officers to serve the 1973-74 term at its March meeting held at the Sheraton Inn.

The new officers are: Chapter National Director - Ted Bright, Langley Research Center; President - Ed Russell, local representative for the LTV Aerospace Corporation; Vice President - Frank Moore, LRC; Secretary - Larry Smail, Chief Council, U.S. Army Mobility R&D Laboratory, Ft. Eustis; and Treasurer - Joe DeCleene, Newport News Shipbuilding and Dry Dock Company.

The new officers will be installed by Walter O'Neil, National President of the NCMA, at the chapter's May dinner meeting. George J. Vecchietti, Director of NASA Procurement, will be a guest speaker at the meeting.

Larry Hewin, Deputy Director of the U.S. Army Mobility R&D Laboratory, was guest speaker at the March meeting and he spoke on "Technical Management in R&D Contracting."

The NCMA is the professional association for contract managers in both government and industry. The Hampton Roads Chapter was chartered in October 1972 as the largest chartering chapter in the country with a membership of 77 which has now grown to 90. There are some 44 chapters throughout the United States with a total membership of about 4,000.

Anyone wishing information on the NCMA should write to the Hampton Roads Chapter of the NCMA, Post Office Box 7271, Riverdale Station, Hampton, VA 23666.

TWO NEW BOOKS AVAILABLE

Two recently published books may be of interest to many Langley employees. The first is entitled "Supersonic Flight -- The Story of the Bell X-1 and the Douglas D-558" by Richard Hallion. The second is entitled "Managing Large Systems -- Organization of the Future" by Leonard R. Sayles and Margaret K. Chandler of the Graduate School of Business, Columbia University.

Sayles and Chandler had essentially unlimited access to NASA for four years, during James E. Webb's tenure as Administrator of NASA. They were the beneficiaries of NASA's policy of opening its records to responsible scholars and inviting them to participate in intimate, high level sessions. The forward to the book is written by Webb. His concluding sentence is: "Their findings represent a very new view of management and organization which should have a significant impact both on students of management and on future generations of administrators."

Both books may be ordered through the Activities Association. "Supersonic Flight" retails for about ten dollars and "Managing Large Systems" for fifteen dollars. Those interested in ordering copies, please contact Kathi Warfel, extension 2058.

CAN YOU SOLVE THIS PROBLEM?

Equipment or a technique for detecting and measuring small gas bubbles and blood clots in the circulation is needed. The equipment associated with any such measurement should be non-invasive so as not to cause blood trauma in itself. Refer to UTM-44. Contact the T. U. Office, extension 3281, for the problem statement or if you have a potential solution.

BANNER RAISED: Hampton Mayor David Montague raises high the banner at City Hall proclaiming Hampton an All-American City. The honor came recently to Hampton and ten other cities in the country. Director Cortright has written a letter of congratulations to Mayor Montague on behalf of all employees of Langley, expressing our pride in working in an All-American City.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

FREE

Four kittens, 6 weeks old, house trained. Sawyer, 838-1538.

LOST

Two carboard boxes containing text books marked M. Williams. If located contact Dick Kurtz, 2678.

Gold brooch (three small birds with cultured pearls). Huffman, 3312 or 722-8401.

FOUND

One key on gem clip, attached tag bearing letter "R". Owner may claim at Activities Building Office.

FOR SALE

Boy's and girl's 20-inch bicycles - $10 each. Williams, 851-0675.

20-inch convertible bicycle - $15; 7.75 x 14 tire on rim for 1966 Valiant or other Plymouths - $7.50. Youngblood, 877-1224.

Model 6V Everhot all-copper tankless water heater - $95. Brendel, 596-2451.

Large wooded lot in Winterhaven subdivision of Newport News. Leffel, 877-1341.

Cherry Italian Provincial dining room table with leaf and four side chairs and two arm chairs - all with cane back - $200. Luper, 826-3194.

Coleman gas floor furnace, 75000 btu, 3 years old - $175. Richards, 595-1485 after 5:30 p.m.

1964 Ford Fairlane 260, straight shift - $275. Collins, 868-9213 after 5:30 p.m.

Columbia 22 sailboat with 4 berths, galley, dinette, head, depth sounder, roller furling jib, roller reefing main, new Chrysler outboard motor and extras - $4350. Schrader, 596-4963.

Garden tractor, 7 hp with plow, disk, cultivator and 2 wheel cart - $100. Swart, 723-7687.

New 7-1/2 hp outboard motor, air cooled, 3-1/4 gallon tank - $190 with stand. Messick, 851-3170.

1966 Chevelle with extras. Armistead, 898-7581 after 6.

1963 Ford Falcon Futura, 8 track tape. White, 868-9879.

23-foot Winnebago travel trailer, used only one trip, air conditioned, beautiful interior, many extras. Beamon, 722-8018.

Surfboard, 6-foot single-fin model by Surfboards of Hawaii - $75. Drewry, 722-4443.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

73-42 Supervisory Production Controller, GS-1152-11
73-44 Clerk (Security-Stenography) GS-301-4 or 5
73-45 Construction Representative, GS-809-8 or 9
73-46 Equipment Specialist, GS-1670-9
73-47 Head, Plant Support Branch, GS-1601-14

For information on position locations, closing dates, and areas of consideration, contact the Staffing and Special Programs Branch, extension 2233.

Candidates should list the number and title of the position they are applying for and should list all experience that is applicable to the position.

VIKING SCIENTISTS: At the Viking Landing Site Working Group meeting held at Langley on April 2, scientists are shown discussing the sites on Mars where the Viking Landers are most likely to encounter liquid water and possible associated microorganisms. Members of the group are (from left): Dr. Klaus Biemann, Molecular Analysis Team Leader; Dr. A. O. C. Nier, Entry Science Team Leader; Dr. Paul Fennessey, Head of Martin Marietta Aerospace Viking Science Group; and Dr. Joshua Lederberg, a mem- of the Biology Team who received the 1958 Nobel Prize in Physiology.

ILIFF NAMED HANDICAPPED EMPLOYEE

An engineer at NASA's Flight Research Center has been selected as the Outstanding Handicapped Federal Employee of the Year for NASA.

Kenneth W. Iliff, a 32-year-old aerospace technologist who was stricken with bulbar and paralytic polio as a youth, was further nominated for the same award for the entire Federal government by NASA Administrator Dr. James C. Fletcher.

Permanently confined to a wheelchair, Iliff has not let his handicap slow down his active life, professionally or in his involvement with community affairs.

He works as an aeronautical engineer and theoretical analyst with some of the most advanced experimental aircraft in the world. He was also elected as the non-minority member of the local Equal Employment Opportunity Committee at the Flight Research Center, and has been active in the March of Dimes organization.

A native of West Union, Iowa, Iliff earned two B.S. degrees, in math and aeronautical engineering, from Iowa State University in 1962. He received his Master's degree in 1967 from the University of Southern California, and will receive his Ph.D. in mathematical theory of systems from UCLA in June.

At the Flight Research Center, Iliff has helped develop several advanced analytical techniques, the most recent concerned with optimal parameter estimation. This contribution is considered a significant advancement in the state of the art, and has helped obtain certain flight test data which was previously unobtainable.

GREAT people are not affected by each puff of wind that blows ill. Like great ships, they sail serenely on, in a calm sea or a great tempest.

Personnel Profiles

By

Allan C. Hanrahan

"Sketch the trees and the daffodills,
Catch the breeze and the winter chills
In colors on the snowy, linen land."
from the song, "Vincent," by Don McLean

Mr. Bobby Edward Silverthorn, our guest this issue, puts "colors on the snowy, linen land" and does it very well - well enough to have garnered ribbons and compliments - and yes, coin of the realm - for doing so.

As you are well aware by now, Silverthorn is an artist by night and weekends, but during the day he is a Technical Illustrator in the Technical Illustrating Section of the Office of Scientific and Technical Information Programs.

He has been an Illustrator for approximately eleven years and before that he was a Statistical Draftsman for about six years, since he came to the Center in July 1956, right out of Hampton High School where, incidentally, he was also active in art, being called on for such chores as painting backdrops for plays.

Bob is, by the way, Hampton reared and Hampton born, though not technically - he was born in the Fort Monroe Hospital. That was in March 1938, when his father was stationed there in the Army.

Bob has three sons of his own: Ronnie, Scott, and David, ages twelve, nine, and six, respectively. He enjoys, of course, the time he spends with his sons but in addition he teaches a class of six boys (at a local dance school) the basics of the drums; this complements his wife's, Arline, teaching of baton twirling to a class of girls at the same school. Bob is self-taught in the drums, we might add. Also, he recently finished coaching a boys church basketball team and somewhat to his surprise "found it was a great deal of fun," he related.

"We finished in fourth place, which I don't guess is too bad for my first year," he added.

Talking to Bob you discover that his interests range far beyond his obvious talent for painting, which he began in earnest only about three years ago when something struck him almost like a revelation and said "start painting." And start he did. For example, in 1971 he won Best In Show at the Better Living Art Show at the Coliseum, and in November of the same year was represented in the Marine Exhibit at the Mariners Museum. Then in 1972, he took first place in oils (he works mostly in oils) at the Hampton Day Fair.

In addition, he has earned ribbons at other shows and - not insignificantly - has sold paintings at every show. But he admits that this year he has not been as productive because of the demands on his time by other interests.

Take a look at a listing of those other interests: cooking, gardening, furniture making and other woodworking and home construction projects. Add to those yoga and a once-a-week class in mind control, as well as a strong liking for reading and you see a man interested in the world around him.

In particular, Bob likes to read up on science because for one thing "it definitely helps to have an interest in science" (in his work), he stated. He also admits to being an "armchair archaeologist" but on the other hand he enjoys the outdoors and camping, especially on the Outer Banks.

"There's something about the sand and the sea breeze and the sound of gulls," he said, almost to himself.

Bob Silverthorn is definitely a man interested in the world around him.

SCOUT-A-THON PLANNED MAY 5

The Scout-A-Thon 1973, sponsored by the Peninsula Council of the Boy Scouts of America, will be held Saturday, May 5 at Todd Stadium on Warwick Boulevard. Lt. Gen. Dale Sweat, Vice Commander of Tactical Air Command, and H. Buzz Henderson, General Dynamics, Hampton, have been named co-chairmen.

Called "Scouting's More Than You Think," outdoor exhibition will feature not only booth exhibits but an arena show.

The arena show will consist of five segments through which the scouts will demonstrate their scouting skills to parents, friends and the public. It is also designed to stimulate pride in the world-wide scouting movement.

In addition to the scouting activities, there will be an exhibition by the Ichi Bon Judo Club and demonstrations by the Langley Security Police and their sentry dogs. The Old Dominion Gymnastics team will perform routines between acts in the arena show. Also providing entertainment will be the Fort Eustis Honor Guard. Langley's Tactical Air Command Band will furnish musical selections throughout the early evening.

Cub Scouts will be competing in a Pinewood Derby Race. Miniature autos made of pine and built to exacting weight and size specifications will race for first place. Cubs will also compete in rubber band-powered "rocket" races.

Tickets for the event may be obtained for one dollar from any scout. Children under 12 will be admitted free.

Visitors to Scout-A-Thon '73 may avoid traffic jams by leaving their cars at Ferguson High School and taking the free shuttle bus to Todd Stadium. Specially marked buses will run at 10-minute intervals between the school and the stadium from noon until 10:30 p.m.

Rain date for the event is May 6.

Questions and Answers

Q. In response to a letter questioning the need for a special advisor to the Director on matters of concern to senior employees, the Director has provided the following information.

A. William B. Mayo, who retired last year, performed this function on an informal basis and with distinction. Some employees have felt that Mr. Mayo's retirement left a void in the channels of communication with management. The appointment of Mr. Mattson on a more formal basis is intended to fill that void. Some staff members will have need of this counseling service - - most will not.

I agree that we should avoid categorizing people, particularly, in your words, as "old." Each of us is only as old as we think and feel; years have little to do with it.

Q. The signing of a cooperative agreement was reported in the March 30 issue of the Researcher. However, all the provisions listed were things that LRC would provide or do. What does the Virginia State Air Pollution Control Board do as its share of this cooperative agreement?

A. According to T. Melvin Butler, Director for Center Development and External Affairs, the cooperative agreement provides another opportunity for the Center to work in close cooperation with a State agency and render assistance in an area in which the Center has developed a competence. The State, on the other hand, provides the opportunity for our researchers to apply and test LRC-developed technology in atmospheric sampling, analysis and modeling on local and State problems. Each such experience adds to the competence of the LRC staff. Through this agreement, LRC will transfer relevant technology to personnel of the State who will routinely apply it to the programs of the Air Pollution Control Board.

SPRING DANCE MAY 5

The Activities Association will sponsor a Spring Dance on Saturday, May 5 at the Activities Building. Dancing will be from 9 p.m. to midnight and music will be furnished by the Free Silver of Virginia Beach.

This is an excellent opportunity for groups and sections to get together for an evening of entertainment at the unbelievable low price of only $2.50 per couple, including free set-ups.

Make your plans now to come out and join your friends in an evening of dancing and socializing. Tickets may be purchased in advance at the Activities Building or at the door.

words in peoples' mouths

EEO HIGHLIGHTS

A series of Human Rights Training Seminars are being conducted at Langley for all supervisors. The one-day seminars are designed to make more people aware of the Equal Employment Opportunity philosophy, and to implement the 1973 Affirmative Action Plan.

The seminars seek to provide a better understanding of minority group members, especially among those people who have a major role in recruiting, hiring, training, and promoting Langley employees.

The seminar includes films, discussion of common questions and problems about minority groups, examination of parts of three documents related to Equal Employment Opportunity, and discussion of the supervisor's role in putting these documents to work.

The three documents are Executive Order 11478, Equal Employment Opportunity in the Federal Government; NASA Policy Directive 3713.2B, Equal Employment Opportunity; and the NASA Affirmative Action Plan.

IF it's true that we profit by our mistakes, then some people should be millionaires.

Langley Researcher

VOLUME 12, NUMBER 9 LANGLEY RESEARCH CENTER MAY 11, 1973

GEORGE WASHINGTON UNIVERSITY AWARDS DEGREE TO CORTRIGHT

Center Director Edgar M. Cortright has been awarded the degree of Doctor of Science honoris causa by George Washington University. The honor was awarded at the 152nd Annual Commencement of the George Washington University on Sunday, May 6.

In making the presentation to Dr. Cortright, University President Lloyd H. Elliott stated, ''You have dedicated your professional career to the service of science and our Nation in the most exemplary manner. . .You have achieved high distinction as aeronautical research scientist, as manager of a number of the Nation's most important space science and applications programs, and as director of one of the world's leading aerospace research laboratories.

''In these efforts you have played a key role in moving the United States toward world leadership in the scientific exploration of space and the development and application of aerospace capabilities for important benefits to the national economy, security, and welfare.''

Dr. Cortright gave the commencement address to the George Washington University's School of Engineering and Applied Science.

An additional recognition was accorded Dr. Cortright last month when he was elected a member of the National Academy of Engineering for ''innovative leadership in aerospace research and development and in its practical application to significant national problems.''

The Academy is a private organization of distinguished engineers dedicated to the use of technology for the benefit of mankind.

BOND DRIVE STARTS MAY 14

The annual U.S. Savings Bond Drive will begin at the Center on May 14 and continue through June 15. Dr. Edgar M. Cortright, Center Director, will serve as chairman of the campaign with Dennis J. Martin, Office of Research Grants and University Affairs, as vice-chairman. Dr. Cortright and O. M. Stevenson, U.S. Department of the Treasury, will address a kick-off meeting for campaign leaders on May 14.

Last year the Center achieved a 90.2 percent Savings Bond participation and we were awarded the Minute Man Flag by the U.S. Treasury Department. Recently the participation has fallen below the 90 percent level and an intensive campaign will be conducted this year to increase our participation so we may regain the award.

At the close of the drive, there will be drawings for two $25 Savings Bonds that have been donated by the Activities Association. The drawings will determine two winners -- one for new subscribers and one for those who have increased their bond allotments. (Continued on page 4)

SKYLAB SCHEDULED FOR LAUNCH MAY 14 AND 15 FROM KENNEDY

An inward look at man's home planet as well as an outward look toward his life-giving Sun will begin at 1:30 p.m. EDT on Monday, May 14, when the Skylab spacecraft is launched into an Earth-hugging orbit. Man himself and an examination of how well he fares during long periods in space will also be a major objective of this first United States experimental space station.

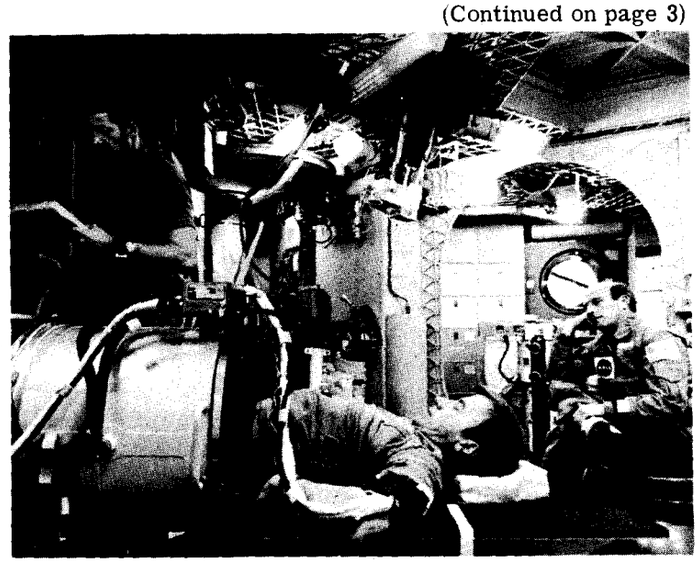
One day after the Skylab launch, May 15, at 1 p.m. EDT, Astronauts Charles "Pete" Conrad, Jr., Dr. Joseph P. Kerwin, and Paul J. Weitz will be launched into Earth orbit aboard an Apollo spacecraft where some seven and one-half hours later they will dock with Skylab.

The three-man crew will spend almost a month aboard Skylab conducting solar astronomy, Earth resources, medical and other scientific and technical investigations.

Two additional three-man crews will spend two months each living and working aboard Skylab later in the year.

Ranging as far north as the U.S.-Canadian border and as far south as the tip of Argentina, Skylab's instruments will scan a major portion of the inhabited regions of the Earth. The large, 90,600-kilogram (100-ton) space station is ex-

(Continued on page 3)



SPACE MEDICS: Skylab commander Charles Conrad (right) watches as science pilot Dr. Joseph Kerwin checks pilot Paul Weitz in the lower body negative pressure machine. A slight suction applied to the lower half of the astronaut's body places a stress on his heart and blood vessels. Comparing his responses to the machine before, during and after the 28-day Skylab mission will give space medics vital cardiovascular data for their research on man's ability to react to the zero gravity of the space environment for long periods of time.

HAPPENINGS

AN APOLOGY. . . The Activities Association' s Social Chairman wishes to apologize to everyone who was inconvenienced by the cancellation of the dance Saturday, May 5. A dance will be held as soon as a reliable band can be found. The same low admission price will prevail.

SUPERVISORS' CLUB. . . The Administrative, Engineering, and Technical Services Supervisors' Club will hold a dinner meeting on Friday, May 18. A social hour will start at 4:30 p.m.

DIAPER LINE. . . Weighing in at 7-11 (seven pounds, eleven ounces, that is) on April 23 was Cynthia Nicole, daughter of James C. Ellison, Space Systems. . . Word has been received at the Center that Jeanette George, Business Data Systems Division, became the mother of a five-pound, twelve-ounce son, Samuel Scott, on April 14.

BUILDING TO OPEN. . . The Activities Building will be open to all employees and their families when it has not been scheduled for other use. Hours of operation will be from 3:30 p.m. to 10 p.m. Monday through Friday and from 10 a.m. to 6 p.m. on Saturday. A schedule of open dates will be posted in the Activities Building and published in the Researcher. Employees are reminded that small children will not be allowed to play in the building unless accompanied by an adult.

CONGRATULATIONS. . . Congratulations to Alvin F. Anderson, EEO Officer, upon his induction into the University of Virginia Chapter of Phi Delta Kappa, a professional fraternity for men in education, composed of recognized leaders in the profession. In his letter of notification to Anderson, Larry Hartgrove, Chapter president said, ''the evidence presented by a review of your background of training, interest, and experience indicates that you would be a worthy addition to the fraternity membership.''

SOFTBALL LEAGUE. . . The NASA Softball League is now being formed. Anyone interested in playing or entering a team in the league should call the Activities Building, 2058. Deadline for entering teams is May 18.

GOLF NEWS. . . The NASA Golf Association defeated the Norfolk Navy Yard last week at the Langley Golf Course. In a two-man, best ball tournament winners were as follows: First Flight - D. Rodman and J. Talbot, first place; J. Jones and J. Whitten, second; and T. Hall and K. Test, third. Second flight - D. Dalin and B. Williams, first place; T. Carpini and C. Noce, second; and T. Steel and W. E. Miller, third. The next tournament will be held June 15 at the Suffolk Golf Course.

CHORAL SOCIETY. . . The Peninsula Choral Society will present Randall Thompson's ''Ode to the Virginia Voyabe,'' and Carl Orff's ''Carmina Burana'' on May 21 at 8:15 p.m. in the Jefferson Davis Junior High School. A number of Center staff members will participate in the concert. Soloists will be Mary Berlin, soprano, Robert S. Crutchfield, tenor, and Charles Lowery, baritone. George W. Bayley is the director and accompanist is Harriett Webb. Tickets will be two dollars for adults and fifty cents for students and enlisted military personnel.

SECRETARIES WEEK: So as not to show any sex discrimination during Secretaries Week, Agnes T. Henry, who is a secretary in the Instrument Application Branch of IRD, puts a lei around the neck of Raymond H. Womble, who is a clerk in the Instrument Control Group of IRD. Agnes is is shown wearing a corsage which was presented to her by her supervisors.

VARC OFFERS SHORT COURSE

''Errors in Computation,'' a non-credit short course, will be presented by the William and Mary Special Programs Office at the Virginia Associated Research Campus (VARC) beginning June 4. The course is designed primarily for engineers, scientists, and mathematicians who use the digital computer for solving many of their problems.

The course will meet for three full days (Mondays) and three half days (Tuesdays) on June 4-5, 11-12, and 18-19. Instructors will be Dr. James Bunch, Cornell University; Dr. William G. Poole, William and Mary; and Dr. Robert Stepleman, University of Virginia.

Several places in this course have been reserved for NASA personnel. For further information contact the Division Training Coordinator of the Training Office, 2517.

BUTLER WINS PLANNING HONOR

T. Melvin Butler, Director for Center Development and External Affairs, has been named outstanding state planner by the Virginia Citizens Planning Association.

Butler was cited ''for notable and constructive contribution to harmonious and orderly development of the community and Peninsula region.''

Butler is chairman of the Hampton Planning Commission, chairman of the board at Thomas Nelson Community College, and a member of the Hampton Board of Zoning Appeals.

He has been a member of the Hampton Planning Commission since 1960 and chairman since 1969, and a member of the Peninsula Planning District Commission since 1969.

He has been instrumental in obtaining the assistance of the vast array of space age technology available at the Langley Research Center to aid the local and regional agencies in such critical problems as noise pollution, air pollution and computer technology.

He is also involved in many other community activities.

SKYLAB SCHEDULED FOR LAUNCH

(Continued from page 1)

pected to be visible at times to people on the ground as it glides overhead.

Skylab is aimed at gaining in space new knowledge for the improvement of life on Earth. Its investigations and experiments will help develop new methods of learning about the Earth's environment and resources and new ways to evaluate programs directed at preserving or enhancing those resources throughout the world.

The astronauts aboard will perform medical experiments aimed at a better knowledge of man's own physiology and they will seek new knowledge about our star, the Sun, and its interaction with our earthly environment.

Among other experiments will be ones directed at developing new industrial processes utilizing the unique advantages of weightlessness.

The Skylab Program is predominantly utilitarian in nature, capitalizing on the vehicles and know-how developed in the Apollo Program to service and advance a wide range of interests while greatly increasing the opportunities for men to function in space. Skylab will be operational the better part of a year, permitting the economy of extended usage and laying the groundwork for future long-duration missions.

America's young people have a stake in Skylab also, for carried aboard the space station are experiments selected from a nationwide competition among secondary school students.

Skylab will be boosted from the Kennedy Space Center into a 433.4-kilometer (268.7-mile) circular Earth orbit by a Saturn V launch vehicle. Approximately 24 hours after Skylab reaches orbit, the CSM with the crew aboard will be launched atop a Saturn 1B into a 150x222.2-kilometer (93x137.8 mile) elliptical orbit from which they will follow a rendezvous maneuver sequence using the CSM service propulsion system.

After the docking with Skylab, the crew will remain aboard the command module until the following morning, when they will enter and activate the space station for the 28-day mission. Crew activity days will be on Houston local time, starting at 6 a.m. CDT and ending at 10 p.m. CDT. Mission Control is at the Johnson Space Center, home of the astronauts.

Near the end of the 28-day first manned mission, two crew members will don pressure suits and go outside where one will retrieve solar telescope film canisters for return to Earth. These film canisters, data recordings from other Skylab experiments and other forms of information gathered during the month in space will be stowed aboard the command module for the return home.

Ground controllers will keep an electronic eye upon Skylab, its experiments and systems, after the crew completes their stay.

After undocking, the crew will perform two deorbit burns to bring the command module to splashdown in the eastern Pacific about 1,280 km (800 miles) southwest of San Diego, California. Extensive medical examinations in Skylab mobile laboratories aboard the prime recovery vessel, the USS Ticonderoga, will be conducted before the crew is flown back to Houston.

The second manned visit to Skylab is planned for early August.

TECHNOLOGY AWARDS: Dr. John E. Duberg (left), Associate Director, presents cash awards for Tech Briefs to (from left): Stacey M. Mills, Dr. Judd R. Wilkins, W. C. Heier, and Leonard P. Kopia. Tech Briefs are published through the NASA Technology Utilization Program and receive initial distribution from 11,000 to 14,000.

LOCAL CULTURAL ACTIVITIES

May 11, 12 - First Annual Hampton GEX Art Show, GEX Store, Hampton.

May 12 - Film Classics Club, ''Quiet Flows the Don'', Russian. Christopher Newport College, Gosnold Hall, 8 p.m.

May 12 - Temple Bethel of Williamsburg, Art Exhibit and Auction, original oils, lithographs, etchings, watercolors and objects d'art. Hilton Inn, Williamsburg. Exhibit - 7 p.m.; auction - 8 p.m.

May 12 - Chrysler Museum College Students' Art Show, Chrysler Museum, Norfolk.

May 12, 13 - Peninsula Nature and Science Center, ''The Bald Eagle: Our National Bird'' film. Saturday - 1, 2, 3, and 4 p.m.; Sunday - 2 and 4:30 p.m.

May 13 - Hampton Roads Coliseum, Gospel Festival Number 4 - 2:30 p.m.

May 13- Jamestown Day, Commemorating the establishment of the first permanent English-speaking settlement in the New World, Jamestown Island.

May 14 - Knights of Columbus #511, Clyde B. Cole Brothers Circus, Jefferson Ave. and I64, 4 and 8 p.m.

May 16 - German Film Series ''Eine Kleine Nachtmusik,'' (1939) Christopher Newport College, Gosnold Hall, 8 p.m.

May 16-19 - Peninsula Community Theatre, ''Kiss Me Kate,'' Warwick High School, 8:30 p.m.

May 17 - Hampton Roads Coliseum, Jethro Tull, 8 p.m.

May 17, 24, 31 - Colonial Williamsburg, Candlelight Concert, Anne Rowe, soprano soloist, Governor's Palace, 8:45 p.m.

May 19, 20 - Virginia Peninsula Rose Society, Virginia Rose Show, Yeats Elementary School, May 19 - 3:30 and 10 p.m.; May 20 - 1 and 5 p.m.

May 19, 20 - Peninsula Nature and Science Center, film, ''Animals of the Desert.'' Saturday - 1, 2, 3, and 4 p.m.; Sunday - 2 and 4:30 p.m.

May 21 - Peninsula Choral Society, ''Carmina Burana'' by Carl Orff, Jefferson Davis Junior High School, 8:15 p.m.

May 24 - Hampton All-American City Celebration. Picnic, bands and entertainment, Hampton Road Coliseum, 5 p.m.

May 25 - Hampton Roads Coliseum, The Temptations, 8:30 p.m.

DR. GUNN NAMED OUTSTANDING EDUCATOR

Dr. Walter J. Gunn, a psychologist who came to Langley in February, has been named an Outstanding Educator of America for his work at the U.S. Merchant Marine Academy.

Gunn was assistant dean of the Academy, and an associate professor of psychology, before accepting his present position at Langley.

He is assigned to the Acoustics Branch of the Loads Division, where he is doing research work on psychoacoustics, the study of human responses to noise. His work will be specifically concerned with the effects of several kinds of aircraft noises on humans.

Gunn's Outstanding Educator award was won for several programs he originated while at the Merchant Marine Academy. He established a psychology elective sequence in the school's curriculum, began a tutoring program for midshipmen, helped form a sportsman's club, and established a new faculty advisor system in which freshmen students selected their own advisors. The advisors then completed a special training program in counseling techniques and vocational guidance.

Gunn's biography and accomplishments will be included in the annual awards volume of the Outstanding Educators of America in June.

His psychoacoustics studies at Langley will be concerned with simulating and analyzing various life-like situations in which humans hear aircraft sounds, including the different responses generated by jet engines, STOL aircraft, helicopters and, possibly, general aviation craft.

BOND DRIVE STARTS MAY 14

(Continued from page 1)

There are many advantages in placing your savings in U.S. Savings Bonds. Bonds now pay 5-1/2% interest when held to maturity of 5 years and 10 months, and the interest is not subject to state and local taxes. Thus, buying bonds regularly helps your country and builds your own financial security.

SIGN UP FOR THE PAYROLL SAVINGS PLAN OR INCREASE YOUR PRESENT ALLOTMENT!

ROCKET LAUNCH: Sixth grade students from Hampton's Thomas Elementary School watch a model rocket launch at their school during a week-long aerospace program presented by lecturers from Langley's Visitor Center. The 250 youngsters learned some of the basic principles of aircraft flight, rocket propulsion and satellite operation during the program; they also built and flew their own model planes and rockets.

GENERAL VISITS HERE: The Langley Directorate of USAAMRDL was visited by Major General Frank A. Hinrichs, Commanding General, US Army Aviation Systems Command, on May 4. During his visit, General Hinrichs met with Oran Nicks (center), Deputy Director, and Thomas L. Coleman, Director of the Langley Directorate, to discuss rotorcraft research at Langley.

SPECIAL BUS SERVICE OFFERED

Worried about gas shortage and high car insurance? Air pollution keeping you awake at night? Worried about the maniac at the wheel?

Let us solve your problems if you live in the Hidenwood-Riverside-Glendale Area. We are trying to find 45 people who would like to ride to work on a CRT bus, express, only about six pickups and three stops at LRC. You will get to work at 7:45 a.m. and leave at 4:45 p.m. You will have an opportunity to read the newspaper on the way to work. You won't have to worry about ice on the roads or being late to work. No parking problems either. This will only cost about $5 per week.

For further information contact the Activities Association, extension 2183 or 2058.

RETIREMENT PARTIES

Clyde Thiele, Fabrication Division, will be honored at a retirement party on June 16 at Horne's Coliseum Inn, Mercury Blvd. A social hour will start at 6 p.m., followed by a buffet at 7 o'clock. Cost per person, not including social hour, will be $5.75 per person or $10.50 per couple. Names and contributions should be sent by June 13

TO: W. M. Haraway, MS 205
NAME_____ SECTION_____
WILL ATTEND_____ GIFT ONLY_____

Harry A. Barritt, Operations Support Division, will be honored at a retirement buffet on Thursday, May 24, from 5 to 7 p.m. in the West Cafeteria. Cost of the party and gift will be $4.50 per person or $8 per couple (cash bar). Contributions for gift only will be one dollar. Contributions should be sent by May 18

TO: A. E. Moore, Mail Stop 415
NAME_____ SECTION_____
WILL ATTEND_____ GIFT ONLY_____

ADVISORY COMMITTEE: The Federal Women's Program Advisory Committee has been established to assist in the implementation of the Federal Women's Program at the Center. In an effort to define the specific problems of women employees at Langley, the committee is preparing a self-evaluation and discrimination questionnaire which will soon be distributed to all female employees. Members of the committee are (from left): Lorraine F. Satchell, Carmen E. Batten, Patricia D. Hurt, Jane S. Hess, Chairman, Sallie M. Harvey, Eloise McGeehee, Mary W. Jackson, and Eunice G. Smith. Absent when the photograph was taken was Jeanette W. George.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

FOUND

Sleeping bag in luggage compartment of my car. Vosteen, 2969.

LOST

''Handbook of Transducers for Electronic Measuring Systems'' by Harry N. Norton. Bryant, 3535.

FREE

8-year old spayed female cat, needs home. 595-6347.

WANTED

Ride from 911 W. Queen St. to E.A. on 8 shift. Glinda, 3824.

3-bedroom house in Hampton, Poquoson, or York County. Tennis, 723-6528.

Rentals for ASEE Summer Faculty Fellowship Programs, June 11 to Aug. 24. Witherspoon, 2517.

Used set of Childcraft Books. Geer, 723-5842.

FOR RENT

Three bedroom, Cape Cod house with central heat at Miles, VA. $125 per month. Johnson, 874-0118.

FOR SALE

1964 Chevrolet Impala, 4-door hardtop, V8, power steering, automatic transmission. Grew, 229-0013.

Black Labrador puppies - $15 each plus cost of shots. Burris, 642-4120 Hayes.

Boy's 5-speed Spyder bike - $40; girl's 26-inch bike - $20. Carmines, 826-2894.

20,000 btu Signature air conditioner - $100. 826-2791.

Irish Setter puppies, AKC registered - $75 and $85. Margason, 877-3694.

Sunfish sailboat, 14 feet, good sails, trailer - $250. Jones, 596-0855.

16-foot Windmill class sailboat with Johnson sails and trailer - $740; 12-foot Aqua Cat sailing catamaran with 3 hp outboard motor - $390. Earl, 877-9104.

1967 Pontiac Ventura, air conditioned. $900. Waller, 838-1172.

30 x 50-inch pool table - $9. Brown, 874-2565.

Standard bred gelding Palomino, 8 years old, hunted and shown. Lewis, Williamsburg 229-5246.

Fedders 8,000 btu air conditioner - $52.23, easy-mount 115v window unit. Campbell, 868-9852.

Four original equipment tires, wheels, hubs for 1973 Pinto - $50. Whitten, 723-3479.

1965 Mustang - $400. Thomas, 723-2591.

Merry-go-round outdoor play set - $10. Jones, 596-0855.

Solid brass chandelier, 36-inch diameter, 24 inches high, 16 lights, contemporary - $70. 826-3700.

HAWAIIAN VACATION PLANNED

The Activities Association is planning an 8 day and 7 night night holiday in Hawaii from September 29 to October 5.

The holiday includes roundtrip jet flight, choice accommodations for 8 days and 7 nights, traditional flower lei greeting on arrival, all baggage handling at airport and hotel, roundtrip transfers between airport and hotel, with all taxes and services included.

Cost will be approximately $350 per person based on double occupancy. This does not include meals.

Further details and application information will be announced in the next Researcher.

CAN YOU SOLVE THIS PROBLEM?

A means of measuring the temperature and power density in biological tissue exposed to microwave field is needed. The frequencies of interest are 2.45 and 10 gigazerty. The temperature range is from 35 degrees C to 55 degrees C with plus or minus 1 degree C precision. Refer to TU-35. Contact the T. U. Office, extension 3281, for the problem statement or if you have a potential solution.

ROOMY SPACECRAFT WILL GIVE ASTRONAUTS PLENTY OF SPACE

When three Skylab astronauts move into the Orbital Workshop, they' ll find themselves in the largest - and most comfortable - spacecraft yet put into Earth orbit by NASA.

After the shoulder-to-shoulder togetherness of the compact Apollo command module, the large roomy Orbital Workshop may well feel like a royal suite to the three Earth-orbiting experimenters.

The Workshop' s interior has been designed and outfitted with as many necessities, conveniences, and safety devices as engineers and designers could think of to make the crewmen as comfortable and as safe as possible for flights lasting 56 days.

The Workshop itself is huge, a converted Saturn V launch vehicle' s third stage that has been changed into living and work quarters for three-man astronaut crews. It boasts a barn-like 283 cubic meters (10,000 cubic feet) of space, divided into two 'floors,' where many kinds of biological, scientific and technical experiments will be conducted.

The crew' s quarters cover an area 6.5 meters (21.5 feet) in diameter and 2.1 meters (seven feet) high. Solid partitions divide the quarters into a sleep compartment, a wardroom, a waste management compartment, and a work/experiment area.

The wardroom and the waste management compartment will have solid, airtight entry doors to prevent food particles and odors from escaping into the rest of the Workshop.

Light fixtures mounted to a grid-pattern ceiling will provide illumination for the crewmen, and specially placed handrails on the walls and ceiling will aid movement as they float in the weightless environment.

The astronauts will breathe a mixture of oxygen and nitrogen, pressurized to 17.34 newtons per square meter (five pounds per square inch). A thermal control and ventilation system will give the men a habitable environment, with temperatures ranging from 15.5 to 32.2 degrees Celsius (60-90 degrees Fahrenheit). The nominal temperature will be 70 degrees F. Fans will circulate the artificial atmosphere to keep temperatures constant.

The crewmen will not be completely cut off from their co-workers on Earth. Voice communications, similar to that used during Gemini and Apollo missions, will be used. One-way television communication will be possible at times from the Workshop to ground controllers.

The crew will be able to see the Earth they' re circling through a large observation window in the wardroom. It is 45.7 centimeters (18 inches) in diameter and faces the Earth at all times.

The crew' s leisure time has also been considered in habitability studies. Recreational items will be on board the Workshop, including recorded music, books, games, and other equipment.

The present design and interior furnishings of the Skylab space station are based on several years of study by engineers at the Marshall Space Flight Center. Two underwater experiments helped in making final decisions on improving the habitability of the spacecraft.

MANY speeders have found that Sunday can be a day of arrest.

ALMOST all men improve on acquaintance.

SPACE PEDDLER: Dr. Joseph P. Kerwin, science pilot on the first three-man crew to man the Earth-orbiting Skylab space station, checks out the bicycle ergometer. The bike will be used in Skylab to determine how a prolonged stay in space will affect man' s ability to perform mechanical chores in zero gravity.

KEY ORGANIZATIONAL POSITIONS

(Starting with this issue, Langley Researcher will publish a column on key organizational position appointments. This new feature will replace the green sheet announcements.)

The following has been selected for the key organizational position indicated:

Robert R. Clary, Staff Assistant, Office of Director for Structures

TENPIN BOWLING NEWS

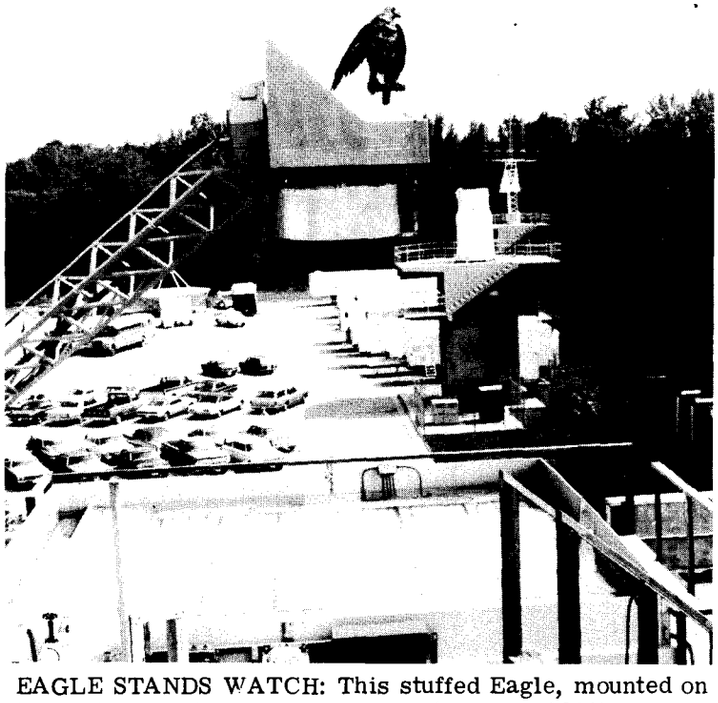
Final results in the NASA Tenpin Bowling League show that Clean Ups took first place in A League. Members of the team include Jim Henry, John Mulqueen, Bill Martz, Russ Hopko, Phil Hazlett, and Miles Lockard. Second place was won by Chattachoochies and Flyers came in third.

High scores for the season were as follows: High team game and set - Chattahoochies with a 1095 game and 3110 set; high average for men - Ed Swanson with 700; and high average for women - Magan Lynch with 148.

Northrup Flyers won first place in the B League. Members of the team include R. M. Byers, Frenchy LeTourneau, Don Wolf, Newt Short, Jack McNett, and James Hicks. Born Losers took second place and Audio Ventures came in third.

High scores for the season were as follows: High team game - Northrop Flyers with 1064; high team set - Audio Ventures 3136; high average for men - Frenchy LeTourneau 182; and high average for women - Ruth McKelney 138.

Gene Harris finished the season with a flair. He rolled a 668 scratch set, giving him a 740 set. His third game was a 285 which was achieved by rolling 10 strikes in a row before succumbing to the pressure.



EAGLE STANDS WATCH: This stuffed Eagle, mounted on the Vehicle Antenna Test Facility (Building 1299), guards the Water-Wave Tank Facility. The Eagle was placed on the cover of the Microwave Radiometer to keep birds from building nests inside the cover. Research scientists would clean out the nests and two days later the birds would rebuild them. The Eagle belongs to Dr. Hans Blume who previously used it to keep ducks from coming into his backyard and eating the dog's food. Now the birds head for the test facility to build nests and veer away as soon as they see the ole Eagle eye.

LAFFERTY TO ADDRESS FGAA

Jerry Lafferty, Silva Mind Control, will be the guest speaker at a meeting of the Virginia Peninsula Chapter of Federal Government Accountants Association on Wednesday, May 16. The subject of Lafferty's speech will be ''Mind Control.''

The meeting will be held at Plantation Barbecue, 2007 North Armistead Avenue, Hampton. A social period will begin at 6:30 p.m., followed by dinner at 7:15 and the program at 8 o'clock.

Guests are invited. For reservations call Joe Haggerty, extension 3867.

CAMERA CLUB NEWS

The Langley Camera Club will meet on Monday, May 21 at 7:30 p.m. in the Activities Building. The theme for the color slide contest will be ''Table Top Photography.'' The program will be on ''Let's Make an Enlargement.'' A special model session will also be held.

The theme for the April contest was ''After Dark'' and 17 slides were entered. Duane McSmith served as judge and selected the following winners:

First - ''Coliseum'' by Boyd Perry III
Second - ''Skylon Tower'' by Bill Conkling
Third - ''Snow Flakes'' by John Taylor
Fourth - ''Bethany Methodist'' by Perry

ASTRONAUTS CAN GET HOME IN EMERGENCY

With the orbit of Skylab, the first limited capability to rescue astronauts in space will become a reality.

In the Mercury and Gemini programs, the spacecraft could not be used for rescue because of their restricted size and life-support capability and there was no way to pick up the two astronauts if they were stranded on the Moon.

With Skylab, the orbital workshop offers long-duration life support in Earth orbit and a practical rescue capability is feasible.

In each of three Skylab visits, the astronauts are flown to the space station in a modified Apollo command and service module (CSM). The CSM is powered down after docking and Skylab activation and remains available for life support and crew return in the event of an Orbital Workshop (OWS) failure. Therefore, the only failures to be considered for rescue requirements are loss of CSM return capability or the loss of accessibility to the CSM. In this event, a second CSM would be launched carrying only two men with room for the three astronauts to be picked up in orbit and the rescue CSM would then return with a crew of five.

The three Skylab manned launches are about 90 days apart. Therefore, after each of the first two manned launches, the next vehicle in normal preparation for launch would be used for rescue if needed. After the third and final manned launch, the Skylab backup vehicle would be made ready for possible use as a rescue spacecraft.

Just how long the Skylab astronauts would have to wait for rescue depends on the point in the mission when the emergency develops. The wait in the well-supplied Orbiting Workshop could vary from 10 to 48 days.

If, for instance, the need for rescue arose on the first day of Skylab's occupancy or reoccupancy, present work schedules indicate that it would take 48 days for the launch crews to ready the rescue launch vehicle and spacecraft. This includes 22 days which would be required to refurbish the launch tower following the previous launch. During this period the rescue kit would be installed in the CSM, a task which takes about 8 hours, and the entire vehicle then prepared for stacking. After being moved to the launch pad for final checkout and servicing, the countdown, which requires about a week, would begin.

The later into a mission the need for rescue might arise, the sooner the vehicle would be ready for launch. The launch-response time is reduced to 28 days and 10 days at the end of the first and third missions, respectively.

Providing rescue modes for all conceivable emergency situations would require instantaneous response - a capability not feasible with present space vehicles because of elaborate launch preparations. Faster response must await a new generation of space transportation such as the Space Shuttle. However, the planned rescue techniques for Skylab cover the most likely emergency situations and add a new dimension to manned space flight.

A LITTLE bit of concern is a good thing but constant worry will wear out a good heart.

I have often regretted my speech, seldom my silence.

WISDOM consists in knowing what to do with what you know.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of May 14:

Monday - French onion soup, beef stroganoff, baked ham, broiled fish, baked lasagna. Snack bar - Hot corned beef, ham and cheese, NASA submarine, hot roast beef.

Tuesday - Cream of mushroom soup, broiled skirt steak, spareribs, roasted chicken, wieners and sauerkraut. Snack bar - Turkey club, ham and egg, barbequed pork, bacon, lettuce and tomato.

Wednesday - Manhattan clam chowder, sweet and sour pork, chuckwagon steak, broiled or fried fish, cheese omelette. Snack bar - Pizza, hot pastrami, steak, chicken salad.

Thursday - Chicken gumbo soup, fiesta beef kabobs, fried clams, sukiyaki, country style steak. Snack bar - NASA submarine, sausage and egg, turkey club, mini steak.

Friday - Bean with bacon soup, veal parmesan, meat loaf, fried or broiled fish. Snack bar - Barbequed pork, hoagie, bacon, lettuce and tomato, grilled cheese.

The menu for the week of May 21 is as follows:

Monday - Cream of potato soup, business man's lunch, Chinese egg rolls, corned beef and cabbage, chicken a la king. Snack bar - Hot roast beef, sausage and egg, NASA submarine, hot pastrami.

Tuesday - Turkey noodle soup, rump roast, calico chicken, broiled fish, chili con carne. Snack bar - Ham steak and egg, hoagie, turkey club, barbequed pork.

Wednesday - Vegetable beef soup, delmonico steak, meat loaf, beef spareribs, shrimp creole. Snack bar - 3-D burger, NASA submarine, steak, bacon, lettuce and tomato.

Thursday - Crab bisque, pepper steak, hot turkey, veal cordon bleu, franks and beans. Snack bar - Hot corned beef, pizza, NASA submarine, chicken salad.

Friday - Minestrone soup, chopped steak, broiled or fried chicken, fried flounder. Snack bar - Hot roast beef, ham cheese, grilled cheese, NASA submarine.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

73-50 Clerk (Stenography), GS-301-5 with promotional opportunity, Personnel Division, Staffing and Special Programs Branch. Closes May 18.

73-51 Supervisory Engineering Technician, GS-802-10 or 11, Operations Support Division, Facilities Operations Branch, Technical Support Section D. Closes May 18.

words in peoples' mouths

SAVINGS BONDS DRAWINGS

The Activities Association is planning a series of savings bonds drawings during Happy Hours beginning May 25. Drawings will be made bi-weekly until Friday, August 17.

A $50 savings bond will be awarded for first prize and a $25 bond awarded for second prize.

All employees are eligible for the drawings. You may enter the contest by cutting out your addressographed name found on the back of the Researcher, and turning it in to your association delegate or his branch contact.

It will be necessary to submit a new entry form for each drawing. Entries must be turned in to the Activities Building by noon of the Friday between drawings.

Contract employees may pick up and submit forms at the Activities Building.

Entries are limited to one per person per drawing. Winner does not have to be present at time of drawing.

MAN is master of the unspoken work, which, spoken, is master of him.

BE NOT angry that you cannot make others as you wish them to be since you cannot make yourself as you wish to be.

IT is when the holiday is over that we begin to enjoy it.

Langley Researcher

VOLUME 12, NUMBER 10 LANGLEY RESEARCH CENTER MAY 25, 1973

ANNUAL SAVINGS BOND DRIVE

The Center's 1973 Savings Bond Campaign was launched May 14 with a kick-off meeting of division chiefs and office heads. Dr. E. M. Cortright, Director, and O. M. Steveson, U.S. Treasury Department, emphasized the advantages of buying Savings Bonds.

Series E Bonds now pay 5-1/2% interest when held to maturity and offer substantial tax benefits. The interest is exempt from state taxes and, if purchased in your child's name, they may later be cashed to meet college expenses and the interest is also exempt from federal taxes. For many the tax exemption could increase the equivalent interest rate up to 8% or more. There are few savings programs that can match the interest rate and security of U.S. Savings Bonds.

Center participation is currently at 87.02% and must be increased to 90% if the Center is to regain possession of the Treasury Department's Minute Man Flag.

SHUTTLE SERVICE OFFERED

In order to provide more efficient transportation service to Center employees, a commuter shuttle service began operation on December 26 on a trial basis.

The service has proven beneficial to staff members and the shuttle will continue.

In response to many requests, the route is being altered to provide service to additional facilities.

Effective June 1, the shuttle will leave Building 1230, proceed on Stratton Road stopping at Building 1195, left at Moffett Road stopping at Building 1152, right at Taylor Road and following the route previously established.

SREL REMAINS IN OPERATION

NASA's Space Radiation Effects Laboratory (SREL) will remain in operation for another year through $261,000 in support from the National Science Foundation (NSF).

This amount of money, plus funds provided by the College of William and Mary and other users, will provide the approximately $475,000 needed to operate the research facility and its radiation particle accelerators.

Under terms of the agreement, NSF will support the SREL research programs, and the College's Virginia Associated Research Center (VARC) will continue to operate the laboratory under contract to NASA. The agreement will be in effect from July 1, 1973, to June 30, 1974.

Because of recently reduced operating budgets, NASA and the Langley Research Center became unable to continue funding the research facility. Its imminent closing was announced in February.

The National Science Foundation considers SREL an important intermediate energy facility for the next year until other, newer accelerators become fully operational. NSF and NASA will be informed of any major scientific discoveries and will receive copies of all papers, reports and talks concerning SREL activities.

VISITOR CENTER CELEBRATES SECOND ANNIVERSARY JUNE 3

The Langley Visitor Center will celebrate its second year of operation next month. The Center was dedicated on June 3, 1971, and opened to the general public on June 8. During its two years of existence, almost 290,000 people have toured the Visitor Center.

The Center was originally conceived as a place the general public might visit and come to know and understand more about NASA and its mission, with particular emphasis on the research work conducted at Langley Research Center.

The Center has become the focal point of Langley's educational program. Many local civic groups have utilized the facility as one of their meeting locations. The Center has also been used as a meeting place for segments of official conferences and functions.

Visitors have come from all 50 states and more than 20 foreign countries. Hundreds of dignitaries and thousands of students have visited the facility.

The largest single day of operation was Thursday, May 10, 1973 - over 12,000 persons visited the Center. This large number was due in part to senior field trips.

The Visitor Center is open Tuesdays through Saturdays from 9 a.m. to 4 p.m. and on Sundays from noon to 4 p.m. The Center is closed on Mondays.

A photo montage showing some of the displays and exhibits at the Visitor Center is featured on Pages 4 and 5.

SENATOR VISITS CENTER: U.S. Senator William L. Scott of Virginia visited the Center on May 16. He was touring a number of military installations and during his visit to Langley Air Force Base he stopped by the Center to be briefed on some of the research work being conducted here. Shown with him at the Visitor Center is Dr. Edgar M. Cortright, Director.

HAPPENINGS

EAT EARLY. . .On May 31, 300 members of the Armed Forces College will visit the Center. They will have lunch in the West Cafeteria and all Center employees are requested to arrange to have their lunch before 12:15 p.m.

LOST AND FOUND. . .Staff members are reminded that all found property should be turned in to the Security Office, Room 208, Building 587. If you have lost an article, you should check with Security.

TENNIS NEWS. . .The Langley Tennis Club completed its Spring Ladder Tournament last week with Ed Riddle defeating Dick Pincus 6-4, 6-3 for the men's title, and Betty Baker taking Carol Smith 6-4, 6-7, 6-3, for the ladies. Seventy-five players participated in the tournament. A Senior Men's Tournament is scheduled for June 15-17. To be eligible, participants must be 45 years young on Jan. 1, 1973, and Langley Tennis Club members. Entry fee will be a can of new Championship balls. All eligible club members will receive entry forms shortly. Frank Nicholson, G.E. representative, telephone 838-6711, is the tournament director and may be contacted for additional information.

FGAA MEETING. . .Gene Fadely, NASA Headquarters, who is a past president of the Virginia Peninsula Chapter of the Federal Government Accountants Association, will be guest speaker at the FGAA meeting on May 16. The meeting will be held at Plantation Barbecue. A social will begin at 6:30 p.m., followed by dinner at 7:15 and the program at 8 o'clock. For reservations call Joe Haggerty, 3867.

ACD TENNIS CHAMPIONSHIP. . .The 1973 ACD Tennis Doubles Tournament was held May 19 and 20 at the LRC tennis courts. Bob Smith and Tom Wampler won this prestigious event by defeating Jim Dieudonne and Joe Drozdowski in the final match by scores of 7-5 and 6-3.

BASEBALL GAME. . .The Peninsula Whips vs. Syracuse baseball game will be sponsored by the Peninsula Shrine Club on June 8 at the Peninsula War Memorial Stadium. Game time will be 7:45 p.m., preceded by pre-game pagentry at 6:45. Tickets are available from Burley Miller, Activities Building, for one dollar. Rain date will be July 15.

HAWAIIAN VACATION PLANNED

The Activities Association is sponsoring an 8 day and 7 night holiday in Hawaii from September 29 to October 6.

The holiday includes roundtrip jet flight, choice accommodations at the famous Princess Kaiulani Hotel located in the heart of Waikiki, and roundtrip transfers between airport and hotel.

There will be optional tours to the outer islands and a visit to the International Shopping Mart for bargains from around the world. You set your own pace and your own schedule.

Cost will be approximately $350 per person based on double occupancy. This does not include meals.

For reservations submit your application to the Activities Association, MS 496, with a deposit of $100. Participation is limited to LRC employees and members of their immediate families. Final payment is due August 1.

- - INVEST IN U.S. SAVINGS BONDS - -

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

No. 73-53 - Production Controller, GS-1152-10 or 11, located in the Fabrication Division, Planning Control Office. Closes today.

No. 73-54 - AST, Earth Sciences Utilization, GS-1301-13 with promotional opportunity, located in the Environmental and Space Sciences Division, Environmental Sciences Branch, LIDAR Applications Section. Closes May 30.

ODU OFFERS SUMMER COURSES

The Old Dominion University School of Engineering is offering three courses this summer. One undergraduate course will be held at the Center and two graduate courses will meet at the Virginia Associated Research Campus (VARC). The summer session begins June 18. Classes end August 9 and examinations end on August 14.

The courses are as follows:

Engineering 403, Engineering Statistics, an undergraduate course which will be taught by Professor David E. Henderson. The class will meet at LRC from 9 to 11:45 a.m. on Tuesdays and Thursdays, beginning June 19.

Engineering 594, Selected Topics in Applied Analysis I (Calculus of Variations), will meet at VARC from 5 to 7:45 p.m. on Tuesdays and Thursdays, beginning June 19. The instructor will be Dr. John H. Heinbockel.

Engineering 580, Digital Signal Processing, will be taught by Dr. William D. Stanley at VARC. Times and dates will be arranged later. Initial meeting will be announced at registration.

Registration for the undergraduate course will take place at the first class meeting. Registration for the graduate courses will be at VARC on June 14 from 3 to 6 p.m. Those interested should call the Training Office, 2517.

RETIREMENT PARTIES

Richard J. Moberg, Hypersonic Vehicles Division, will be honored at a brief retirement social (cake and cokes), at 12:30 p.m. on June 20 in the Activities Building. Cost of gift and social will be two dollars. Names and contributions should be sent by June 15

TO: George R. Oden, MS 163

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____

Frank A. Lofurno, Management Support Division, will be honored at a retirement party on June 7 at 6 p.m. in the West Cafeteria. Cost per person, which includes one dollar for gift, will be $6 or $11 per couple. Contributions should be sent by June 4

TO: RUBY SHERWOOD, MS 148

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____

Clyde Thiele, Fabrication Division, will be honored at a retirement party on June 16 at Horne's Coliseum Inn, Mercury Blvd. A social hour will start at 6 p.m., followed by a buffet at 7 o'clock. Cost per person, not including social hour, will be $5.75 per person or $10.50 per couple. Names and contributions should be sent by June 13

TO: W. M. Haraway, MS 205

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

LOST

Six-component strain-gage-balance No. 132 in woodgrain micarta box, approximate size 10 x 8 x 5 inches. McLemore, 2184.

Would the person who borrowed ''Numerical Initial Value Problems in Ordinary Differential Equations'' by C.W. Gear from Roland Bowles (ACD), please return the book to L. E. Barker, MS 125-B.

WANTED

To rent 3 or 4 bedroom furnished house for one month - July 22 - Aug. 22. Trendennick, 2514.

Driving combination from Colony Rd., Newport News, to W.A. on 8 shift. Lockett, 2969 or 877-3865 after 5 p.m.

Ride from Hilton Village to W.A. on 7 shift. LaPrade, 2032.

FREE

6-week old kittens. Kelly, 898-5589

FOR RENT

3-bedroom, 1-1/2-bath townhouse in Courthouse Green, Denbigh. Miller, 595-0731.

FOR SALE

1967 Ford Fairlane 500, 289 V8, automatic transmission, radio/heater. Viggs, 877-7497 after 5 p.m.

Girl's Spyder bike with banana seat and basket - $25. LaPrade, 596-4947 after 5 p.m.

Herters 12-foot boat, trailer and 10 hp Johnson outboard motor. Runckel, 596-2849.

G.E. air conditioner, 5,000 btu, used 4 months - $80; also cameras and miscellaneous household items - $1 each. Burge, 851-2089.

1972 Fedders air conditioner, 5,000 btu, 110 volts, used half of last summer. Shaw, 877-6064 after 5 p.m.

1966 Mustang, 8 cylinders, 289 engine - $600 or best offer. McNamara, 596-6726.

Complete den furniture set - 2 end tables, round coffee table, chair and sofa - $40. Arrowood, 838-1280.

1971 Super Beetle with extras - $1600. Horsley, 693-2933.

Two Sealpoint Siamese kittens - $5. Hamilton, 851-4724.

1973 Honda trail bike, new with full factory warranty. Cross, 595-0969.

1969 Chevrolet station wagon with air conditioning, power steering and extras. Gentry, 877-2458 after 5 p.m.

2-acre farm in Poquoson, 3-bedroom house, stable for horses. Roberts, 868-6317.

CHANGE IN LOCATION OF NEBA PAYMENTS

The Computer Systems Branch of the Business Data Systems Division, formerly located in Building 1195, has moved to the new computer site in Building 1152.

This branch, while located in Building 1195, had the responsibility for the collection of NEBA Life and Travel Accident Insurance. With the move of the Computer Systems Branch, the insurance collection function has been transferred to the Vendor and Travel Payment Section, Financial Management Division.

All payments and correspondence should be addressed to: NEBA, Vendor and Travel Payment Section, Mail Stop 175, Building 1195B, Room 228.

TECHNOLOGY AWARDS: Dr. John E. Duberg (left), Associate Director, presents cash awards for Tech Briefs to Frances T. Meissner, Lona M. Howser, and Stephen S. Tompkins. Tech Briefs are published through NASA's Technology Utilization Program.

NICKS TO SPEAK TO AIAA GROUP

Oran W. Nicks, Langley Deputy Director, will speak on ''NASA - 1985'' at the meeting of the Hampton Roads Chapter of the American Institute of Aeronautics and Astronautics on Thursday, May 31 at the Holiday Inn, Jefferson Avenue.

Nicks will present a far-ranging forecast, starting from today's sphere of action, of developments in NASA missions and programs expected by 1985. Areas described will embrace space, aeronautics, and civil-sector problem technology. The well-illustrated material used in this talk was recently compiled and edited by a select NASA team to graphically describe to Congress the NASA long-range outlook.

A social hour will start at 6:30 p.m. followed by a steamship round (price $4.50) dinner at 7:30 and the meeting at 8:30.

Center staff members who have been elected officers and council members of the local AIAA chapter are: Chairman - D. William Conner; Vice Chairman - Randolph A. Graves; Council Members - Oran W. Nicks, Bennie W. Cocke, James S Martin Jr., Andrew G. Swanson, Robert O. Schade, and Robert H. Kirby.

SAVINGS BONDS DRAWINGS

The Activities Association is planning a series of savings bonds drawings during Happy Hours and the first one will be held today. Drawings will be made biweekly until Friday, August 17.

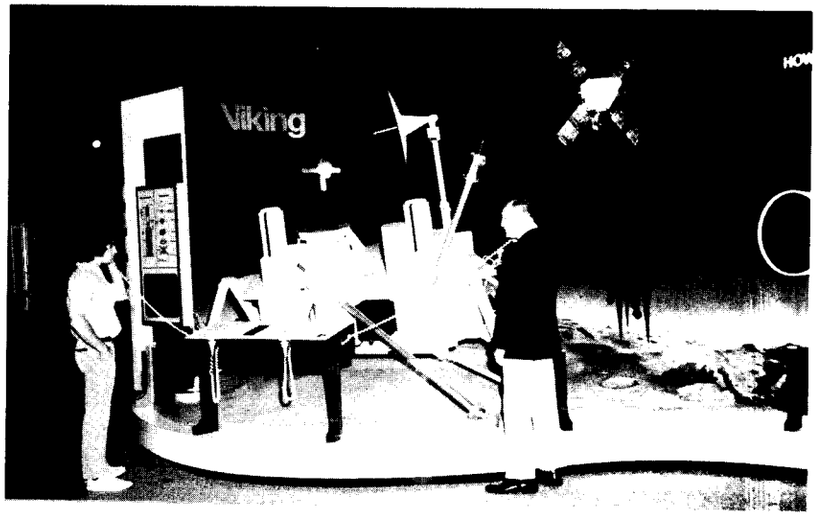
A $50 savings bond will be awarded for first prize and a $25 bond awarded for second prize.

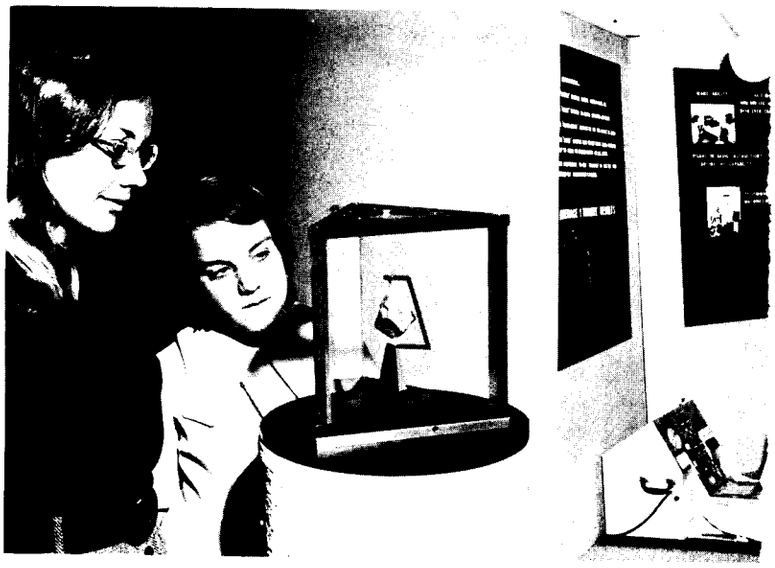
All employees and contract employees are eligible for the drawings. You may enter the contest by printing your name, telephone number and mail stop on half of a 3 x 5 index card and turning it in to your association delegate or his branch contact.

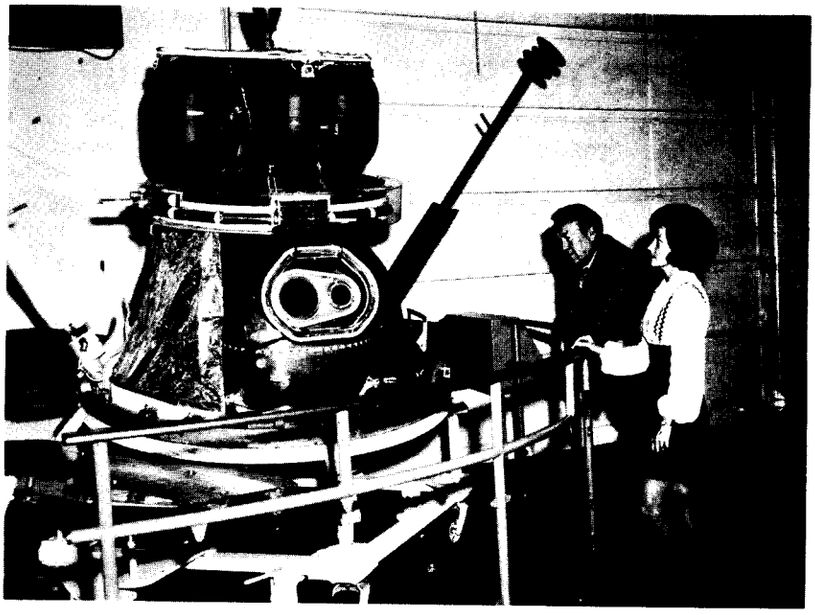
It will be necessary to submit a new entry for each drawing. Entries must be turned in to the Activities Building by noon of the Friday between drawings.

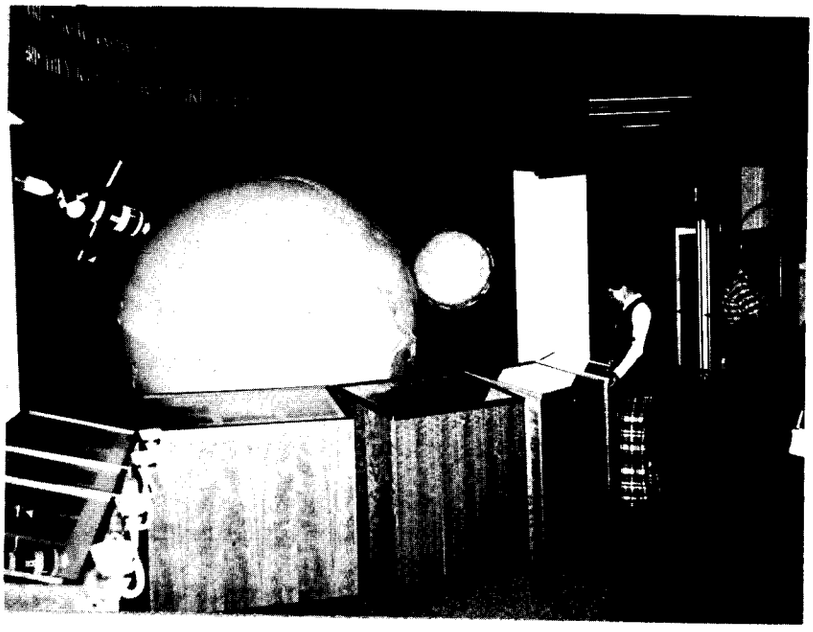
Entries are limited to one per person per drawing. Winner does not have to be present at time of drawing.

Visitor Center Celebrates Second Anni









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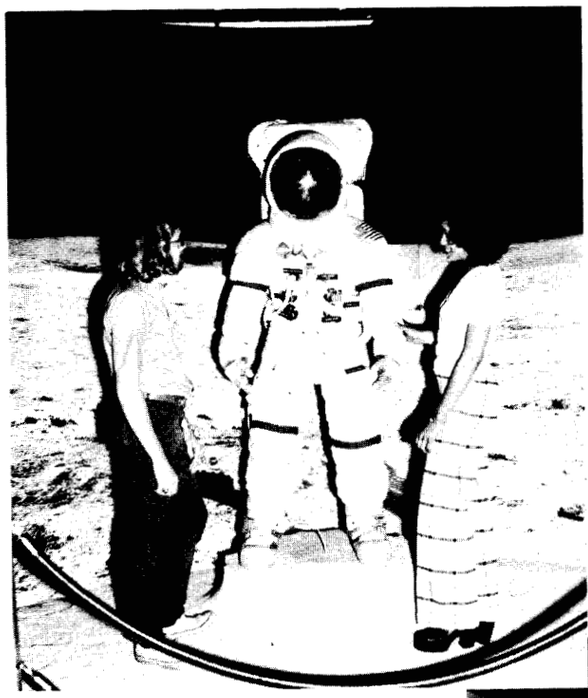
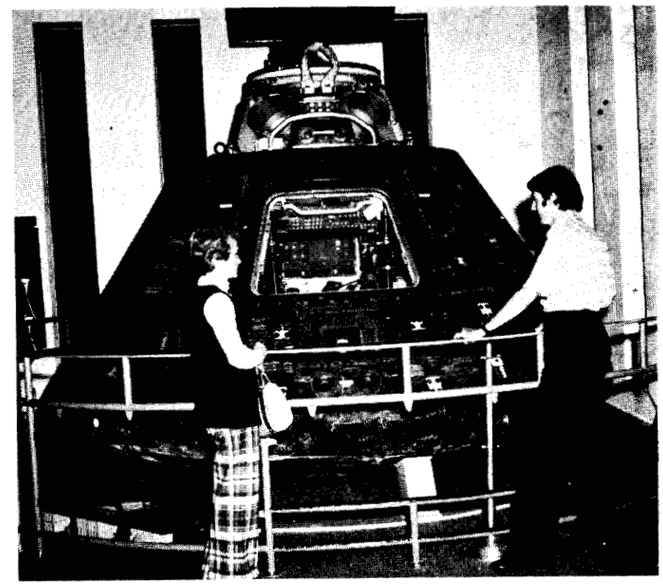
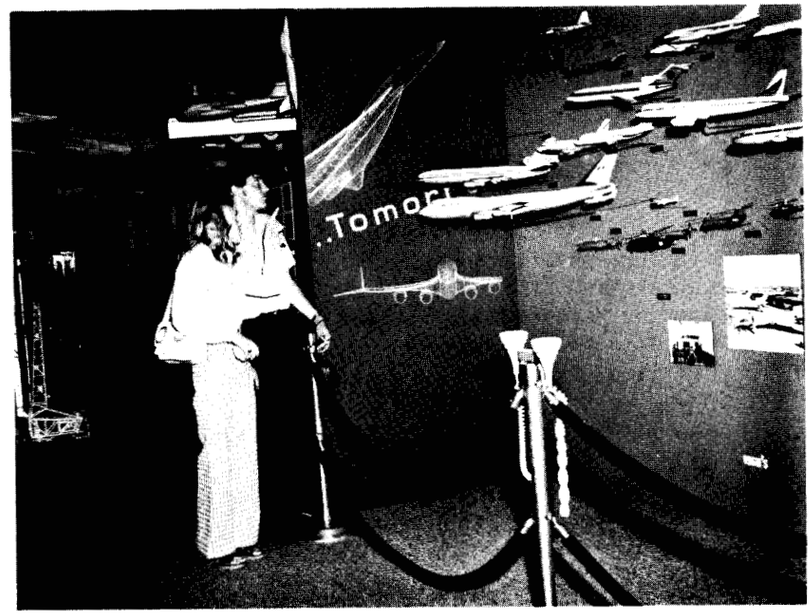






STUDENTS BUILD VIKING LANDER MODEL

Anybody recognize the object of attention in the photograph? Want to know what it is? V hat it does? How it works? Visit the Industrial Arts classes at Robinson Secondary School in Fairfax County.

John Grannis, the teacher, has involved his students in an activity they have been excited about. The students formed a group and built a Viking Lander Model after Ted Stohr and Jim Miracle, Langley Spacemobile employees, visited the school.

Robinson School has been one of the preliminary pilot schools selected by Hal Mehrens, Langley Educations Programs Officer, and Arvid Van Dyke, Project Director for the Industrial Arts Space Technology Project centered at Virginia State College. The overall project calls for the involvement of three colleges and 30 schools in the studv of space technology.

The models, built by Robinson students, were exhibited at a State Industrial Arts Project Fair held in Woodbridge on May 18 and 19.

SOCIETY FORMS LOCAL CHAPTER

The first meeting and charter presentation of the newly formed Hampton Roads Chapter of the Classification and Compensation Society (C&CS) will be held Wednesday, June 6 at the Breezy Point Officers Club, Norfolk Naval Air Station.

The C&CS is a professional society for personnel specialists from government, industry, and educational institutions who work in the field of position classification, salary and wage administration, and similar work associated with employee compensation systems.

Elected as officers of the society's first chapter were: President, Robert A. Myers, NASA; Vice President, Annie Laurie Griffin, Naval Supply Center; Secretary, Vera B. Dickson, Naval Air Systems Command Rep Atlantic; Treasurer, Walter R. Tweedell, Langley Air Force Base; Executive Committee Member, Lester M. Basler, Langley Air Force Base; and Barbara M. Palmer, Fifth Naval District.

Presenting the charter will be the National President of C&CS, Harold Suskin, Chief, Test and Implementation Group, U.S. Civil Service Commission. Suskin will also speak on the new Benchmark job evaluation system.

Information concerning the professional society may be obtained from Robert A. Myers, 2266.

- -Take Stock in America! BUY U.S. SAVINGS BONDS!- -

EEO HIGHLIGHTS

In the words of Dr. George Low, NASA Deputy Administrator, ''it is time for each of us to actively seek out ways to translate our commitments into concrete, positive steps to increase the opportunities that are open to NASA for qualified women and qualified minority groups.''

As a giant step in this direction, Dr. E. M. Cortright, Center Director, proposed on April 25, that division chiefs begin a ''functional analysis of their minority and female workforce.'' The result of division level assessments will be a short-term plan (6 months to one year) for taking positive actions which could yield EEO benefits to each division and to the Center.

Some of the elements of Division Affirmative Action Plan would include:

1. Development of a career program designed to train and develop minorities and women for more responsible positions within the division and the Center.
2. The conduct of a survey of underutilized or non-utliized skills available in the existing workforce.
3. Restructuring of jobs and establishment of entry level and trainee positions to facilitate occupational mobility and to ensure that job standards and pay are consistent with performance.
4. Encouragement of women and minority group members to participate in both short and long term career training opportunities.
5. Establishment of qualification requirements that would eliminate built-in prejudice against educationally and culturally underprivileged.
6. Counseling of employees to assist them in work performance and to motivate them in their career goals and potential.
7. Direction of efforts to recruit or promote minority group members and women into professional level occupations and development and maintenance of contacts with appropriate organizations as sources of candidates for such positions.
8. Development of effective and meaningful communications with minority group and women employees.
9. Assignment of women and minority group members to panels, committees, public contact work and professional meetings.
10. Publication of the goals and methods of Division EEO Program so as to foster division wide support of AAP goals and objectives.

In his memorandum, Dr. Cortright said, ''I do not expect you to develop a very detailed document at the division level, but it should provide a basis for examining your (division chiefs) proposed specific actions both at the time of plan submission and later.''

The EEO staff, committee members and counselors will actively work with each division to help where needed.

First cut plans for each division are to be submitted to the Center Director about July 1.

DANCE PLANNED JUNE 16

The Activities Association will sponsor a dance on Saturday, June 16 at the Activities Building.

Four hours of dancing will be available with music being furnished by the Stonet Creek from 9 p.m. to 1 a.m.

Admission will be only $2.50 per couple, including free set-ups.

Personnel Profiles

By

Allan C. Hanrahan

Into The Wild Blue Yonder

James M. (Jim) Patton, Jr. considers himself a fortunate person - fortunate in his family, his work, and the life he has enjoyed for lo these forty-five years.

Patton, an employee at Langley since April, 1966, is Head of the Operations Branch of the Research Aircraft Flight Division. Now, that doen't tell you too much about what he does until we explain that, among other duties, he directs the Pilots Office. In other words, he is Head of the Test Pilots here at Langley; he is sort of a player-coach where aircraft testing is concerned, and the importance and significance of that activity is no doubt obvious to everyone. Aeronautical theories, just like theories about anything else, may look perfect on paper but the proof is in the performance.

Patton is easy to talk to but somewhat reticent about his own accomplishments and interests. However, he really warms up to the subject of aeronautical research and its direct application and effect on the 'man in the street.' (Maybe, down deep, he thinks the airplane is here to stay). Qualified in well over a hundred different types of aircraft - ''just as are all the pilots,'' he quickly informed us - Jim has logged over 5400 hours flying time.

Patton learned to fly back in the late Forties after he enrolled in the Navy V-5 and Naval Aviation College Program. He received a commission in the U.S. Navy in 1949 and served as an all-weather carrier attack pilot and flight instructor until released from active duty four years later. He then returned to college and earned a B.S. degree in Aeronautical Engineering from the University of Colorado in 1956. He spent three years at Chance Vought Aircraft as a Flight Test Engineer and then in 1960 he graduated from the Navy Test Pilot School. Then followed a stint with the FAA as an engineering test pilot before he came to Langley.

Jim is a native of Lockhart, Texas, and finished high high school there. And speaking of high school, Jim and his wife, Marcele, are the parents of two daughters who are high-schoolers: Kathleen, age seventeen, and Dana, age fourteen. They also have an eleven-year-old daughter, Ellen. Jim announced, with obvious pride, that his wife is now 'in school' taking Practical Nurses Training.

Jim admitted to a number of interests, among which were reading, woodworking - particularly furniture - and camping. Jim is also a member of Big Brothers and has been active in that. Music is another pastime of his and he plays the accordian and guitar ''by ear,'' he said, and for his ''own amusement,'' he added, because for one reason: ''I think the guitar is probably the single prettiest sound in music,'' he concluded.

Jim Patton, an ordinary man with extraordinary qualities, is representative of the other test pilots, we were told. and in future issues we hope to introduce you to them.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of May 28:

Monday - H O L I D A Y

Tuesday - Tomato soup, hot roast beef sandwich, chicken and dumplings, broiled short ribs of beef, spaghetti with meat sauce. Snack bar - Ham and cheese, barbequed pork, NASA submarine, hot pastrami.

Wednesday - New England clam chowder, broiled steamship round, pizza, broiled or fried fish, sauteed chicken livers. Snack bar - Turkey club, hot roast beef, sausage and egg, mini steak.

Thursday - Beef noodle soup, beef liver and onions, Swedish meat balls, broiled or stuffed pork chops, macaroni and wieners. Snack bar - NASA submarine, corned beef, steak, bacon, lettuce and tomato.

Friday - Cream of asparagus soup, stuffed peppers, beef enchiladas, broiled or fried chicken. Snack bar - Pizza, hoagie, ham and cheese, chicken salad.

The menu for the week of June 4 is as follows:

Monday - Chicken and rice soup, beef teriyaki, baked red snapper, roast pork, beef ravioli. Snack bar - Ham steak and egg, turkey club, hot roast beef, salami.

Tuesday - Cream of shrimp soup, beef burgundy, meat loaf, calico chicken, fried clams. Snack bar - NASA submarine, barbequed pork, ham and cheese, sausage and egg.

Wednesday - Corn chowder, stuffed cabbage, veal parmesan, broiled or fried fish, turkey cutlet. Snack bar - Hot pastrami, NASA submarine, mini steak, pizza.

Thursday - Split pea with ham soup, delmonico steak, broiled or fried chicken, turkey noodle bake, shrimp creole. Snack bar - Turkey club, barbequed pork, hoagie, bacon, lettuce and tomato.

Friday - Chicken vegetable soup, braised beef tips, barbequed pork sandwich, fried flounder. Snack bar - Ham and egg, NASA submarine, corned beef, hot roast beef.

CAN YOU SOLVE THIS PROBLEM?

Thousands of Americans who suffer from neuromuscular disorders have no control of their limbs but have a high degree of control over their head movements. A food dispensing system is needed which can be utilized by these people thereby giving them a great deal of self-reliance. Refer to MISC-30. Contact the T. U. Office, extension 3281, for the problem statement or if you have a potential solution.

Questions and Answers

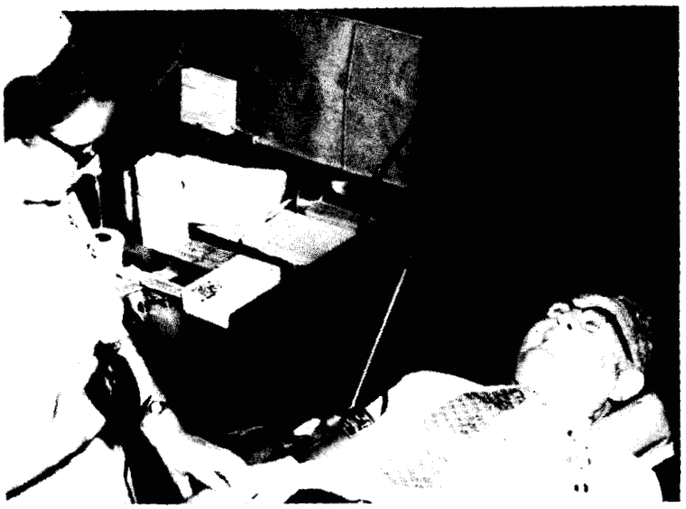
Q. It is my understanding that here at LRC we have a section or branch whose primary purpose is to write specifications for equipment needed in the various shops. If this is true, why is it permissible for other sections to assign one of their own technicians to the full time job of writing specifications for equipment while at the same time his man hours are charged to the various job orders in the shop?

A. According to Daniel R. Hayes, Chief of Fabrication Division, the Langley Research Center does not have a branch or section whose primary purpose is to write specifications for equipment. For many years the Mechanical Specifications Unit had several people who served as the focal point for general information on machinery, equipment, and items related to the broad scope of our technological demands. During this time they were most helpful in writing many of the specifications required by the Center. However, in the last several years we have seen retirements and reassignments eliminate this source of help in writing specifications.

Today shop purchases are of complex and highly specialized items such as numerically controlled equipment and related software, high vacuum systems, electron scanning microscopes, autocave systems, and specialized materials. To protect the government's interest and assure purchases of quality merchandise, we assign a highly qualified technician to evaluate the available equipment and to write specifications for a particular item. Their time while on these assignments should be charged to the section job order.

Q. During the past five or six years the meeting date of the Promotion Board has been harder and harder to determine. If possible, we would like to know when a reasonable time frame would be in which to expect Board meetings to occur since their function is so important to those who are being considered. I have contacted everyone I know in my division, in Personnel and Classification, and no one, including the Board Members, have any idea when the Board is likely to meet. I can't help but feel the answer is very simple and I have simply contacted the wrong people. (This was signed ''A Concerned Supervisor'').

A. Charles F. Barnett, Personnel Officer, pointed out that for some time now, the Center has been operating under fairly stringent controls on the average grade. These constraints have prevented the meeting of the Manpower Utilization Committees (promotion boards) on any kind of regular schedule. It is anticipated that some promotions will be made during July 1973 and, as the Director stated in his announcement (#31-73) on March 8, 1973, we expect more promotion activity during FY 1974. More definite information than this is just not available at this time.



GIVES LAST PINT: Richard J. Moberg, who will retire June 29 after over 33 years of NACA-NASA service, is shown giving his last pint of blood during a recent Bloodmobile visit. Moberg has donated a total of 10 gallons of blood to the Center's blood program. Assisting him is Marilyn Asby, Red Cross staff nurse. Moberg is Head of the Operations Office. Hypersonic Vehicles Division.

HELICOPTER SOCIETY HONORS TAPSCOTT

Robert J. Tapscott, Head of Flight Research Branch, Low-Speed Aircraft Division, has been elected an Honorary Fellow of the American Helicopter Society.

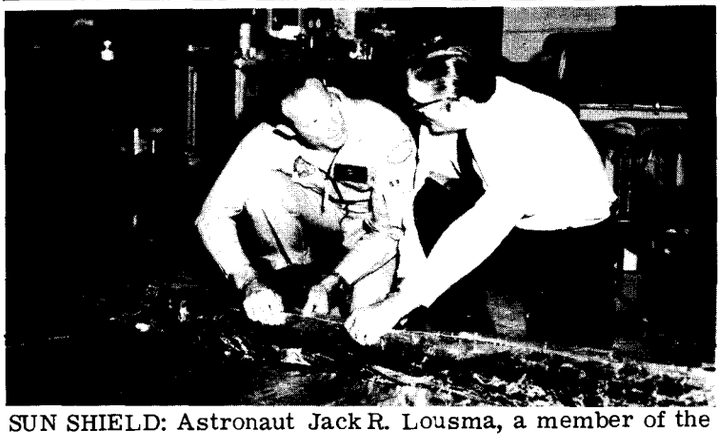
The honor was presented by Frederick W. Garry, President of the American Helicopter Society, at the 29th Annual Forum held May 10 at the Sheraton Park Hotel in Washington, D.C.

The Honorary Fellowships are awarded for sustained and outstanding service and achievement in furthering the advancement of vertical lift aircraft.

Tapscott was cited for ''outstanding contributions to helicopter development including research in rotary wing aerodynamics, dynamics and testing.''

Langley Researcher

VOLUME 12, NUMBER 11 LANGLEY RESEARCH CENTER JUNE 8, 1973



SUN SHIELD: Astronaut Jack R. Lousma, a member of the second Skylab crew, and E. Barton Geer, Director for Systems Engineering and Operations, check the sun shield which staff members developed for the crippled Skylab.

LETTERS COMMEND STAFF

Many comments and letters of praise and appreciation have been received by Director Edgar M. Cortright for Langley's effort in developing a sun shield for use with the crippled Skylab.

Dr. James C. Fletcher, NASA Administrator, and Dr. George M. Low, NASA Deputy Administrator, wrote: "Even though the Langley inflatable 'parasol' did not fly on Skylab, we want to thank you and the Langley team for the fantastic job you did in having an alternative solution ready at the time of the flight. We know that it took tremendous energies, skill, and dedication to bring this device into being on such short notice. With sincere appreciation and congratulations for a job well done. . ."

Dale D. Myers, NASA Associate Administrator for Manned Space Flight, stated: "During the emergency activities necessitated by the problems which arose following launch of Skylab I, many of NASA's most productive resources were mobilized to resolve the difficulties.

"The outstanding results from Langley Research Center were particularly impressive. Your concept of a compact, lightweight inflatable sun shield is an excellent idea which was conceived, developed, tested and delivered within remarkably short time. . .The ingenuity, technical competence, personal sacrifices and cooperation of your group with other centers are most gratifying."

Senator Frank E. Moss, Chairman, Aeronautics and Space Science Committee, U.S. Senate, said: "With other Americans I have watched breathlessly to see what was done to restore the damage and to continue the invaluable series of experiments to be performed in Skylab. Fortunately, it appears now that nearly all of the planned experiments can be executed and what appeared as a potential failure now could be a crowning example of man's ability to work in space and meet unexpected problems with adequate solutions. Our Committee is pleased with the recovery. . ."

LANGLEY PERSONNEL DEVELOP SUN SHIELD IN RECORD TIME

Can a team of 149 engineers and technicians working around the clock complete a two-man-year effort in three days? Yes, at Langley Research Center they can!

The three-day "Mission, Impossible" started Sunday evening, May 20, when Langley Research Center personnel were called on to design, develop, fabricate, test, and manrate a deployable sun shield for use with the crippled Skylab.

LRC had available some anodized aluminum-Mylar-aluminum bonded material. It was decided to develop an inflatable shield using this material. With this as a starting point, the following questions had to be answered:

How do you fold and package material measuring 22 feet by 24 feet when fully deployed into the 8 x 8 x 48-inch volume provided by the photometer experiment hardware? This hardware interfaces with the scientific airlock in the Skylab workshop through which the sun shield could be erected.

How many sun shields should be built for test and flight? How can the shield material be attached to the erectible structures? How can the structures be pressurized? What tests are required for manrating the system? What documentation/quality assurance is required? What are the interfaces between the sun shield and the photometer experiment and Skylab? What factor of safety should be used on pressure tubes? These and many other questions had to be answered first.

On Monday morning, Marshall Space Flight Center sent quality assurance, systems integration, and photometer experiment engineers to Langley to become a part of the team to design, build, and test three sun shields. Deployment tests were performed on the floor of Building 1220 and in the 60-foot Vacuum Sphere.

Astronaut Jack R. Lousma, a member of the second Skylab crew, arrived Tuesday evening to work with our engineers in writing deployment procedures for the sun shield so that the astronauts could deploy it successfully in space.

Late Tuesday night, MSFC sent by airplane to LRC the photometer experiment casing and the deployment and pressurizing tubes. The casing and tubes would be used for the packaging and inflation of the sun shield. Langley had to machine and anodize the tubes and had to X-ray and pressure seal the casing.

On Wednesday, Center personnel presented LRC's sun shield concept at the Marshall Space Flight Center.

By midnight Wednesday, the flight sun shield was being packaged by technicians and reviewed by Astronaut Lousma. Twelve action items resulted from this. By 9 a.m. on Thursday, the action items were completed and the flight

(Continued on page 4)

HAPPENINGS

RETIREMENT SOCIAL. . . Mike Ellis, Hypersonic Vehicles Division, invites his friends to have a drink and snacks with him to celebrate his June 29 retirement. The drinks are on him. No gifts! No speeches! Activities Building, Saturday, July 7, 5 to 10 p.m.

BOND WINNERS. . . Winners of the first Activities Association's bond drawings were Harlan Caldwell, Systems Engineering, who won the $50 bond, and Clarence J. Allison, Publications Branch, who won the $25 bond. The next drawing will be held today during the Happy Hour at the Activities Building.

FORMS REQUESTS. . . All requests for forms and issuance from NASA Headquarters should be sent to Code: DHB-421.

NOTES OF THANKS. . . Harry Barritt would like to thank his many friends for the fellowship, the good wishes, and the beautiful gifts, on the occasion of his retirement party on May 24. . . Margaret Strickland writes, ''To all friends from NASA who had a part in my retirement party and gifts I wish to say 'thank you.' I especially appreciate your attendance and fellowship at a very lovely party.''

NAGS PICNIC. . . The National Association of Government Secretaries will hold a picnic and tour of the Langley Visitor Center on June 19 at 5:45 p.m. Reservations must be made by Friday, June 15, with Jean Wood, 596-3445. Cost will be $2.25 per person.

FLY-THE-FLAG CONTEST. . . First round winners - if qualified - in LFCU's annual contest are 3243, 16123, 26701, 36781, 46644, and 6673. Most members know that to qualify there must be a Credit Union decal already affixed to the rear bumper of their automobile. If so, the first five account numbers entitle their owners to $10 each while the sixth is good for either the $10 or one payment on the car itself if financed with the Credit Union. If you do not have a decal, stop by the office or wait until next week when two charming young ladies will be on the LFCU parking lot to affix them for you.

ANNUAL INVENTORY. . . On Monday, June 25, the Issue Area of the Instrument Control Group, IRD, Building 1230, will be closed for annual inventory. For emergency issues of electronic instruments call Elsie Eason, 2801.

BASEBALL GAME. . . Baseball fans are reminded that the Peninsula Whips vs. Syracuse baseball game will be sponsored by the Peninsula Shrine Club tonight at the Peninsula Memorial Stadium. Game time is 7:45 p.m. and pre-game pageantry starts at 6:45. Tickets are available from Burley Miller, Activities Building, for one dollar. Rain date will be July 15.

DANCE PLANNED JUNE 16

The Activities Association will sponsor a dance on Saturday, June 16 at the Activities Building.

Four hours of dancing will be available with music being furnished by the Stonet Creek from 9 p.m. to 1 a.m.

Admission will be only $2.50 per couple, including free set-ups.

TECHNOLOGY AWARDS: Dr. John E. Duberg, Associate Director, presents cash awards for Tech Briefs to (from left): Wallace C. Sawyer, Charlie M. Jackson, Joseph M. Drozdowski, John G. Davis, Charles Nichols, and Richard M. Hueschen. Tech Briefs are published through NASA's Technology Utilization Program for nationwide distribution.

TEAM TO STUDY RURAL HOUSING

This summer a multidisciplinary team of two faculty and four graduate students from West Virginia University will work in conjunction with the West Virginia Interagency Housing Council and NASA to determine how modern technology may be used to improve rural housing. The study will be conducted at LRC beginning June 11 and continuing for ten weeks.

The purpose of the summer study is to permit the housing council, the University and NASA to work together in a direct way and to know better each other's objectives and capabilities. In light of these, the agencies can jointly examine the rural housing needs of West Virginia and begin to establish how and where modern technology can contribute to housing improvement.

The team of faculty and graduate students from the University is seeking support from Center personnel. It is very difficult to assess all of the research projects, expertise, and interests at the Center which may relate to rural housing (for example, utility systems, fire control, structural analysis, etc.). Staff members who have information they think will help the study, are requested to contact the team by calling Dr. Cecil Kirby, Facilities Engineering Section, extension 2562.

The team would also welcome information concerning activities at other NASA centers, government and private agencies which may relate to the project.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

LOCAL CULTURAL ACTIVITIES

June 8 - 9 - Warwick Shopping Center Summer Art Festival

June 8-10 - Hampton Roads Coliseum, Ringling Brothers/ Barnum & Bailey Circus

June 10 - Colonial Williamsburg, ''Music at the Capitol,'' Balladier Tayler Vrooman and company of musicians present songs and music of colonial days, every Sunday, 8:30 p.m.

June 11 - Colonial Williamsburg, Tricorn Hat Tours, (2-1/2-hour tours for children 7-11 years of age) daily at 10 a.m. and 2 p.m.

June 12 - Colonial Williamsburg, lecture: ''George Mason and the Virginia Declaration of Rights,'' Information Center, 8:30 p.m.

June 14 - Hampton Roads Coliseum, Johnny Winters Show

June 14-16 - Newmarket Art Festival, Newmarket Shopping Center

June 15 - Hampton Roads Coliseum, Al Green, 8:30 p.m.

June 16 - Flea Market, Rehearsal Hall, 7610 Marshall Ave., 9 a.m.

June 16 - Hampton Roads Coliseum, Hampton Roads Fourth Annual Square and Round Dance Festival

June 16-17 - Hampton Roads Coliseum, Sixth Annual Antique Coin and Gun Show

June 17 - Colonial Williamsburg, Abby Aldrich Rockefeller Art Collection. Daily through October 7.

June 18 - Aug. 25 - ''Common Glory,'' Lake Matoaka Amphitheatre, nightly (except Sundays), 8:40 p.m.

June 18 - Sept. 2 - Colonial Williamsburg, ''Evening Walking Tours,'' guided walks through historic areas - nightly at 7 o' clock.

RETIREMENT PARTIES

A combined stag retirement party (4:45 p.m. 'til ??) will be held in honor of ''The Georges'' of Building 1148 on June 19 in the West Cafeteria. Those honored will be George Zender, Materials Division, and George McGehee and George Bewley, Operations Support. Cost of party and gifts will be $7 per person. Reservations and contributions should be sent by June 15 to Jerry Deaton, MS 188-B.

Graydon L. ''Lucky'' Elliott and Charles N. Brooks, Research Aircraft Flight Division, will be honored at a retirement buffet at 6:30 p.m. on Tuesday, June 26, at the Hampton Yacht Club. Cost of the buffet and gift will be $5.25 per person or $9.50 per couple (cash bar). Contributions for gift only will be $2. Contributions should be sent by June 18 to Rose F. Bunting, MS 255.

John L. Cleary and Donald H. Carson, Procurement Division will be honored at a retirement party from 5 to 7 p.m. on Wednesday, June 27, at the Langley Officers Club, Williamsburg Room. Cost per couple will be $4.50 per person or $7 per couple, not including social hour. Contributions should be sent by June 18 to Jane Leffel, MS 143.

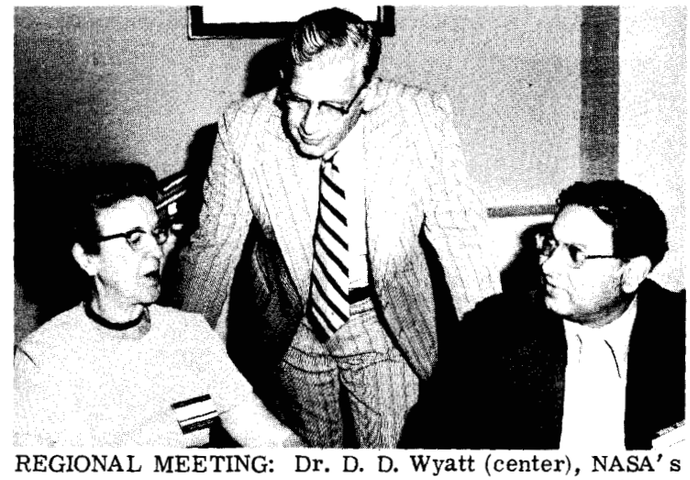
Marvin ''Mike'' P. Fink, Low Speed Aircraft Division, will be honored at a retirement party at 8:30 p.m. on June 30 in the Activities Building. Cost per person, which includes one dollar for gift, will be $3.50 per person or $6 per couple. Contributions should be sent by June 22 to Sally Lindberg, MS 355.

****

Use this coupon for any of the above parties.

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____



REGIONAL MEETING: Dr. D. D. Wyatt (center), NASA's Assistant Administrator of Policy and University Affairs, talks with Dr. Mary Therese Langerbeck and Dr. S. Munavelli, professors from Livingstone College. They were attending a Center sponsored regional meeting of faculty members from predominantly minority enrollment colleges.

CENTER SPONSORS REGIONAL MEETING

The Langley Research Center sponsored a regional meeting of the faculty members from nine predominantly minority enrollment colleges in Virginia, Maryland and North Carolina this week. Over 25 professors who were interested in sponsored research with NASA attended.

NASA is undertaking to expand its program of sponsored research at four-year colleges and universities having predominantly minority enrollments. The expanded program was developed in cooperation with the National Association for Equal Opportunity in Higher Education.

Dr. E. M. Cortright, Center Director, and Dr. D. D. Wyatt, NASA's Assistant Administrator of Policy and University Affairs, welcomed the visiting faculty.

Colleges represented were Bennett College, Elizabeth City State University, Hampton Institute, Livingstone College, Norfolk State College, North Carolina A&T University, Shaw University, Virginia State College, and University of Maryland, Eastern Shore.

NASA personnel at the field centers will work directly with the faculty to assist them in exploring their potential for sponsored research and to help them prepare quality proposals. Proposals for awards under the program must be relevant to NASA's mission, contribute to the solution of problems of concern to the agency and be of clearly discernible technical merit. The proposals should also be designed to enhance the educational process at each college by improving institutional capabilities and by involving promising students in the conduct of research.

It is expected that most of the sponsored research will be scientific or technical in character. A small number of proposals may be accepted for relevant studies of related problems, such as those in public administration.

The visiting faculty met with Center scientists to discuss research areas of mutual interest and toured the Visitor Center and a number of research facilities.

HABIT is man's best friend or his worst enemy.

THE LOAD of tomorrow added to that of yesterday, carried today, makes the strongest falter.

EEO HIGHLIGHTS

Louis A. Teichman, Technical Assistant, Materials Division, recently announced their division's training program for women and minority group members.

Diana Mitchell (above center) is a Cooperative Office Education Trainee in the Materials Division. She is a student at Hampton High School and is employed at LRC 16 hours a week. Diana will be trained to use both the Directory typewriter (used in making vugraphs) and the MTST typewriter (used in making multiple copies).

Charlotte Tyeryar (right), Materials Division secretary, provides instruction in the use of the Directory typewriter one hour a day each week. Training for the MTST will take about 25 hours spread over four weeks and is conducted by Sandra Humble (left), Materials Application Branch secretary.

Vanessa Daniel (not shown) is a college student math aide who has been trained to operate the Hewlett-Packard 35, a small electronic calculator.

Training for operation of the Hewlett-Packard 9820, a powerful desk-top calculator, is now in progress. Training in the operation of the 9820 is expected to take about 36 hours spread over three weeks and is being conducted by Bland A. Stein, Head of the Materials Section. Future plans include teaching Vanessa how to program the 9820 as well as operate it and arranging a course for her in Fortran programming.

James Davis is a technician assigned by the Operations Support Division to assist in the activities of the Metals Section and other organizational units in the Structures and Materials Lab. Jim is highly trained for his current and short-term projected assignments and will continue to receive additional on-the-job training as his future assignments require.

CONGRATULATIONS to the Materials Division. This activity is a constructive step and should serve as an inspiration and challenge to other organizations at LRC.

CAR AUCTION: On Tuesday, June 12, at 12:30 p.m., a 1973 Dodge Dart, two-door hardtop, will be sold by the Credit Union. Features include 8 cylinders, bucket seats, radio, automatic transmission, and only 1600 actual miles. It is a clean car so be at the Credit Union lot and bid.

LANGLEY DEVELOPS SUN SHIELD

(Continued from page 1)

package was on its way to Cape Kennedy for prelaunch checkout by astronauts and quality engineers.

On Wednesday, Langley also performed a vacuum ejection test for a McDonnell Douglas sun shield which was a fourth proposal.

On Thursday afternoon, the flight hardware was received at the Cape, checked by quality engineers, and the operation procedures and hardware were shown to the astronauts who would lift-off from the Cape in a few hours.

A final review was held Thursday afternoon by top NASA officials to make selections of the sun shields to be carried to Skylab.

Until 2 a.m. Friday, LRC's backup sun shield was scheduled to fly because Houston's hardware (parasol), which was deemed less vulnerable to damage by sharp debris, had not arrived at Kennedy. The Houston equipment arrived shortly before 3 a.m.

Even though LRC's sun shield did not fly on the CSM/Skylab, it was ready and qualified to go, thereby allowing project personnel to proceed with confidence toward an early Skylab repair mission.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of June 11:

Monday - Chicken noodle soup, veal and spaghetti, beef liver and onions, turkey a la king, sloppy Joe. Snack bar - Ham and cheese, barbequed pork, NASA submarine, hot pastrami.

Tuesday - Cream of potato soup, rump roast, cordon bleu of veal, broiled or fried fish, pork fritter. Snack bar - Hot roast beef, sausage and egg, mini steak, turkey club.

Wednesday - Vegetable beef soup, country style steak, baked ham steak, broiled or fried chicken, shrimp cakes. Snack bar - Pizza, corned beef, ham steak and egg, bacon, lettuce and tomato.

Thursday - Fisherman's chowder, chopped steak, sweet and sour pork, sauteed chicken livers, wieners and sauerkraut. Snack bar - NASA submarine, steak, barbequed beef, chicken salad.

Friday - Bean with bacon soup, meat loaf, fried flounder, shrimp foo yung. Snack bar - Turkey club, ham and cheese club, pastrami, grilled cheese.

The menu for the week of June 18 is as follows:

Monday - French onion soup, beef sukiyaki, chuckwagon steak, cheese omelette, chicken and dumplings. Snack bar - Ham and cheese, hot corned beef, hoagie, bacon, lettuce, and tomato.

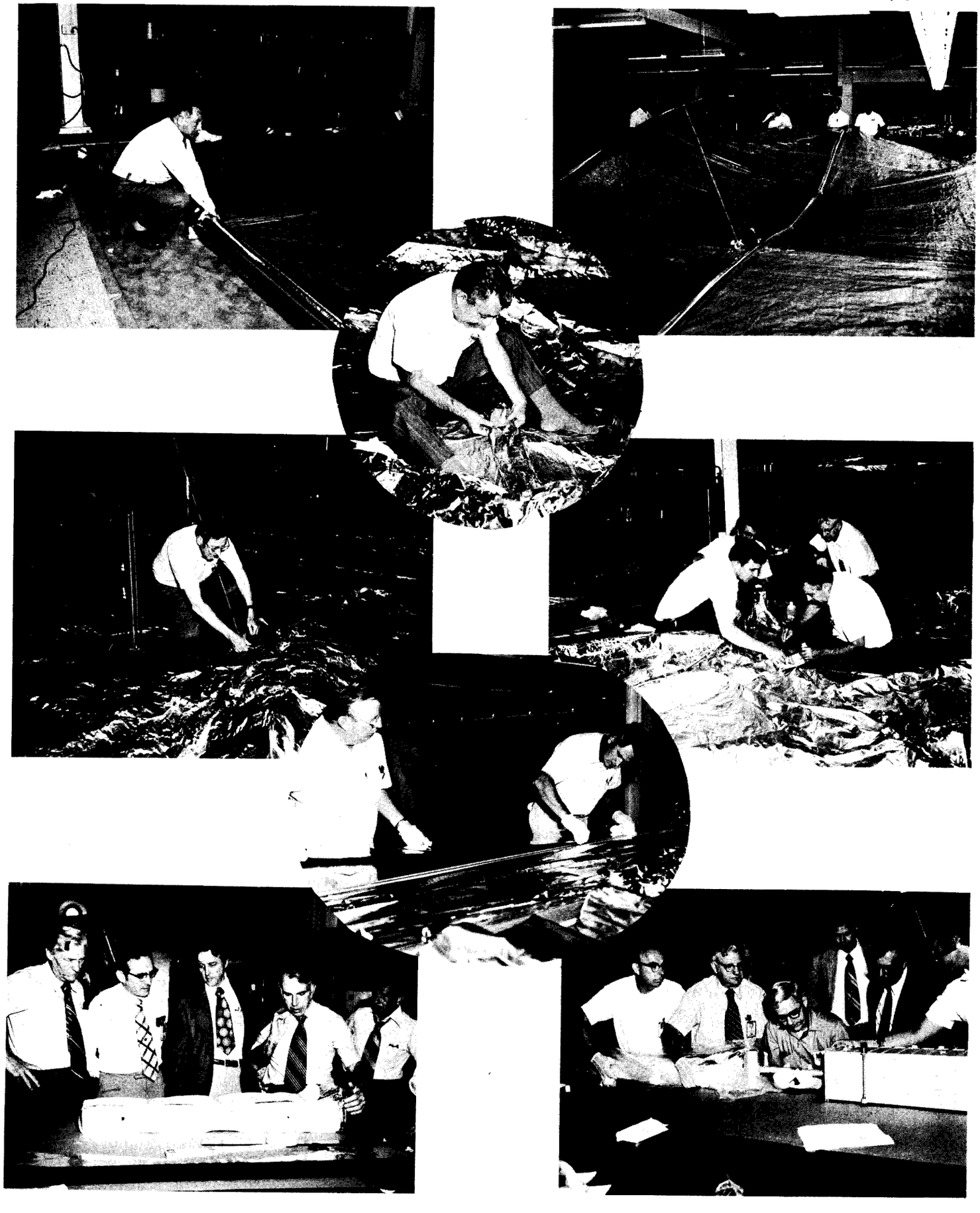
Tuesday - Cheese chowder, steamship round, roast turkey, fried shrimp, Salisbury steak. Snack bar - Barbequed pork, NASA submarine, turkey club, sausage and egg.

Wednesday - Crab bisque, delmonico steak, meat loaf, broiled or fried chicken, franks and beans. Snack bar - Mini steak, ham steak and egg, roast beef, NASA submarine.

Thursday - Turkey noodle soup, stuffed cabbage rolls, creamed dried beef on toast, Chinese egg rolls, fried clams. Snack bar- Turkey club, hoagie, steak and egg, salami.

Friday - Cream of chicken soup, beef spare ribs, broiled red snapper, Maryland fried chicken. Snack bar - Pizza, barbequed pork, chicken salad, ham and cheese club.

PICTORIAL VIEWS OF SKYLAB SUN SHIELD DEVELOPMENT



ASEE PROGRAMS BEGIN MONDAY

Dr. John E. Duberg, Associate Director, and Dr. G. L. Goglia, Old Dominion University, co-directors of the ASEE Summer Faculty Programs, will greet 46 college and university professors arriving Monday, June 11.

These professors, selected from some 150 applicants, will be part of two Summer Faculty Fellowship Programs sponsored jointly by NASA and the American Society for Engineering Education. They will represent 40 different educational institutions located in 23 states.

Twenty-five professors will be Research Fellows assigned to various research divisions throughout the Center for a ten-week period. The remaining 21 will form an Engineering Systems Design Team which will apply a multidisciplinary approach to the energy crisis and its effect on transportation, particularly aircraft. Dr. Wayne D. Erickson, Senior Scientist, will serve as technical advisor to this group, which will be located in Building 586 for an 11-week period.

The Research Fellows and their institutions are as follows:

Dr. Y. V. G. Acharya, West Virginia Institute of Technology; Dr. Louis H. Bangert, Georgia Tech; Dr. Donald F. Brink, Old Dominion University; Dr. Leland A. Carlson, Texas A & M University; Dr. Charlie H. Cooke, Old Dominion University; Dr. John L. Dixon, Tennessee Technological University; Dr. Edwin C. Foudriat, Marquette University; Dr. Robert H. Foulkes Jr., Youngstown State University; Dr. Paul R. Johansen, Iowa State University; Dr. Ki-Hyon Kim, North Carolina Central University; Dr. Leslie R. Koval, University of Missouri-Rolla; Professor A. Ralph Krenkel, Brooklyn Polytechnic Institute; Dr. George L. Kusic, University of Pittsburgh; Dr. Robert J. Lopez, University of Nebraska-Lincoln; Dr. Carl J. Magee, University of Notre Dame; Dr. Colin H. Marks, University of Maryland;

Also Dr. Anthony N. Palazotto, University of Bridgeport; Dr. Leonard K. Peters, Cleveland State University; Professor Gerald F. Reid, Virginia Military Institute; Dr. Thomas C. Reihman, Virginia Polytechnic Institute and State University; Dr. William F. Schmidt, University of Maine-Orono; Dr. Herbert Slotnick, Central Connecticut State College; Dr. Malcolm L. Spaulding, Old Dominion University; Dr. Billy L. Stump, Virginia Commonwealth University; and Professor Raymond Wasta, Pennsylvania State University.

The Engineering Systems Design Fellows and their in-institutions are as follows:

Dr. J. Darrell Gibson, Project Director, Rose-Hulman Institute of Technology; Dr. Paul D. Cribbins, Assistant Project Director, North Carolina State University; Dr. Manuel Avila, Villanova University; Dr. William A. Barkley, New Mexico State University; Dr. Benjamin S. Cooper, Iowa State University; Dr. Samuel L. DeLeeuw, University of Mississippi; Dr. Michael D. Devine, University of Oklahoma; Dr. Calvin R. Dyer, Rose-Hulman Institute of Technology; Dr. John J. Evangelista, Lafayette College; Dr. Ross A. Fiedler, University of Wisconsin-Stout; Dr. Max L. Hailey, West Virginia University;

Also Dr. Albert H. Jacobs, Western New England College; Dr. Chang-Hai Kuo, Mississippi State University; Dr. Charles R. McCoy, Lehigh University; Dr. Thomas G. McRae, Rose-Hulman Institute of Technology; Dr. Alexander J. Patton, Roger Williams College; Dr. Darryll T. Pederson, Minot State College; Dr. Michael Z. Sincoff, Ohio University; Dr. Wayne K. Talley, Old Dominion University; Dr. Jon M. Veigel, Claremont College; Dr. Peter C. Wolff, State University of New York-Potsdam.

SUGGESTION AWARD: Leonard Wright (left) and Leon Cole share a $100 cash award for their suggestion to modify the 7 x 10-Foot High Speed Tunnel's angle-of-attack sting support equipment. The award was presented by Ear. F. Stahl, Chief of Operations Support Division.

ASEE LECTURE SERIES

A series of guest lectures for the NASA-ASEE Summer Faculty Fellowship Program in Research will begin on Tuesday, June 12.

These lectures are open to all NASA personnel and contractors, in addition to the ASEE Summer Faculty Fellows. Each lecture will begin at 10 a.m. in the 7 by 10 conference room (Bldg. 1212, Room 200) and normally will be held each Tuesday and Thursday through August 16. The schedule for the first two weeks is as follows:

June 12 - Dr. L. Abrahamson, Wyle Labs, "Flexural Wave Mechanics - An Analytical Approach to the Vibration of Periodic Structures Forced by Convected Pressure Fields."

June 14 - Dr. Julius Irvin, State University of New York at Stonybrook, "Engineering Education and Heat Transfer Research in Eastern Europe."

June 19 - Dr. Joseph M. Pettit, President of Georgia Institute of Technology and President of American Society for Engineering Education, "Trends in Engineering Education."

June 21 - Dr. S. I. Cheng, Princeton University, "Some Aspects of Implicit Versus Explicit Methods for Navier-Stokes Solutions."

An updated two-week lecture schedule will be printed in future issues of the Researcher. For further information, call John Witherspoon, Training and Educational Services Branch, extension 2517.

■■■■■

WE ARE all manufacturers, making goods, making trouble or making excuses.

IT IS not so much what a man is descended from that matters as what he will descend to.

■■■■■

Staff Members Receive Advanced Degrees

Dr. Marion C. Bailey
Ph.D., Elect. Eng.
VPI & SU

Dr. James F. Campbell
Ph.D., Aerospace Eng.
VPI & SU

Dr. Janet W. Campbell
Ph.D., Statistics
VPI & SU

Dr. Randall L. Harris
Ph.D., Physiology
Virginia Commonwealth (MCV)

Dr. Robert J. Hayduk
Ph.D., Eng. Mechanics
VPI & SU

Dr. Raymond G. Kvaternik
Ph.D., Mech. Eng.
Case-Western Reserve

Dr. Harold C. Lester
Ph.D., Mechanics
Lehigh University

Dr. John S. Mixson
Ph.D., Applied Mechanics
University of Virginia

Dr. Larry D. Pinson
Ph.D., Eng. Mechanics
VPI & SU

Dr. Douglas B. Price
Ph.D., Mathematics
N.C. State University

Dr. Roger B. Stewart
Ph.D., Aerospace Eng.
VPI & SU

Johnny W. Allred
Master, Mech. Eng.
N.C. State University

James E. Dieudonne
M.S., Elect. Eng.
George Washington

R. Earl Dunham
M.S., Aerospace Eng.
George Washington

Robert S. Dunning
M.S., Eng. Mechanics
George Washington

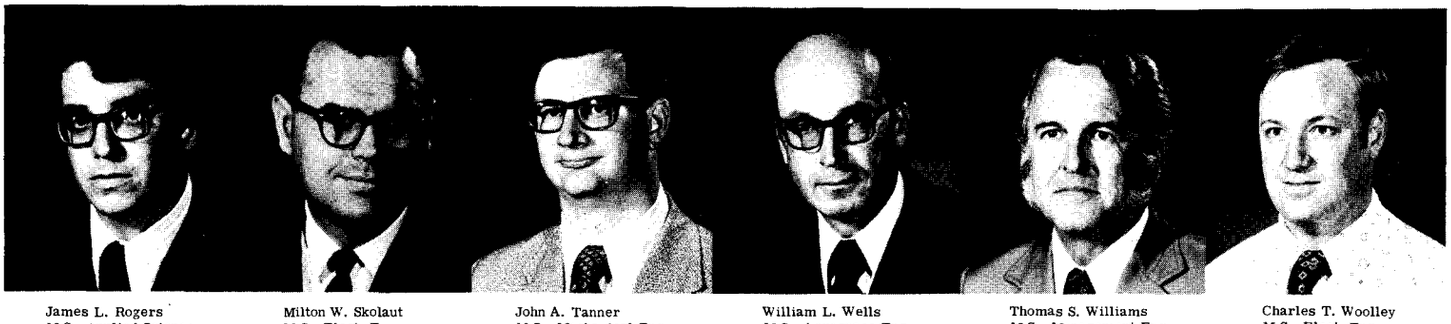
Kenneth L. Jacobs
Master, Eng. (Elect.)
Old Dominion

William S. Lassiter
Master, Business Adm.
William and Mary

Sheila T. Long
M.S., Physics
N.C. State University

Lemuel E. Mauldin
Master, Business Adm.
William and Mary

Lamont R. Poole
M.S., Eng. Mechanics
George Washington



James L. Rogers
M.S., Applied Science
William and Mary

Milton W. Skolaut
M.S., Elect. Eng.
George Washington

John A. Tanner
M.S., Mechanical Eng.
George Washington

William L. Wells
M.S., Aerospace Eng.
George Washington

Thomas S. Williams
M.S., Management Eng.
George Washington

Charles T. Woolley
M.S., Elect. Eng.
George Washington

SWAP AND SHOP

WANTED

Home for young female Collie dog (free). 722-7688.

Home for litter trained kittens. Riddle, 877-9577.

Ride from 1252 Garden Dr., Newport News, to W.A. on 7 shift. Wright, 3987.

Driving combination from Pocahontas-Denbigh area to W.A. on 8 shift. Hosier, 3691 or 874-3479 after 5 p.m.

5 to 10hp Evinrude or Johnson outboard motor. Lawson, 868-6626.

The King Street Community Center needs baseball coaches for summer youth. Mrs. Davis, 722-8745.

FOR RENT

3-bedroom, 2-1/2-bath, furnished waterfront house on Poquoson River. Available Aug. 15 to June 15, 1974. Paul, 868-9833.

FOR SALE

Registered Fox Terrier pups. Sinclair, 838-2562.

1967 Honda Scrambler - $225. Regone 229-5697.

Original art in fabric, beads and jewels. Schiess, 595-5200.

SIAM NATIONAL MEETING

The 1973 Society for Industrial and Applied Mathematics National Meeting will be held at the Sheraton Conference Center June 18-21. The meeting is being held in conjunction with the First Langley Conference on Scientific Computing which is being jointly sponsored by SIAM and the Institute for Computer Applications in Science and Engineering at Langley and cosponsored by the Special Interest Group for Numerical Analysis of the Association for Computing Machinery.

The conference will consist of symposia on Symbolic Mathematical Computation with five invited talks on June 18 and 19, and on Computational Problems in Partial Differential Equations with eight invited talks on June 20 and 21. There will also be over 100 short papers on the conference themes as well as other topics in applied mathematics.

Since the meeting is being jointly sponsored by ICASE, Langley personnel who are not members of SIAM may attend a limited number of sessions without paying the registration fee. For additional information call ICASE, 2513.

■■■■■

TO BE thrown upon one's resources is to be cast into the very lap of fortune.

THERE is no cosmetic for beauty like happiness.

65 BOND SUBSCRIBERS NEEDED

The Savings Bond Drive enters its final week needing 65 new subscribers for the Center to reach its goal of 90 per cent participation. The percentage of participation has increased to 88.2%; however, many of the gains were recorded by organizations already over 90%.

Among those below 90% reporting substantial gains were the Scout Project Office, increasing participation from 85 to 90%, and the Instrument Research Division, moving well out of the cellar with a gain from 80 to 85%.

If the final week yields at least 65 new subscribers, the Center will regain the Treasury Department's Minuteman Flag. One hundred and fifty-nine new subscribers have increased their allotments by a total of $3069. The drive ends June 15.

MERIT PROMOTION NOTICE

The following Merit Promotion Announcements are currently open:

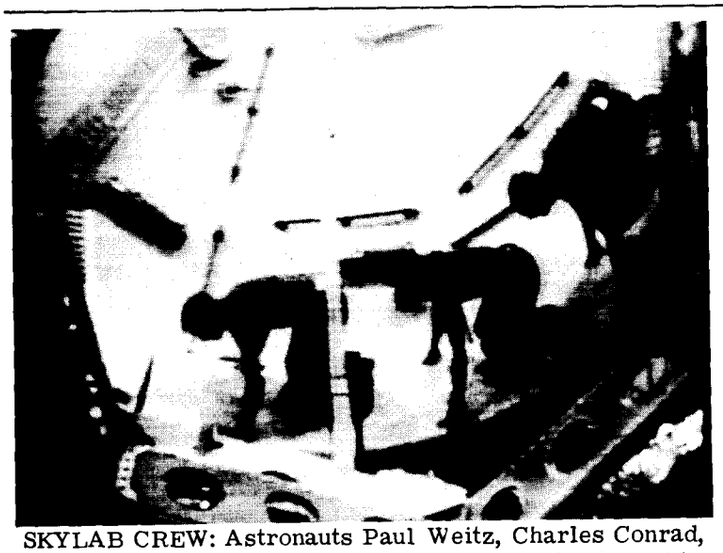
No. 73-55 - Supervisory Electrical Engineering Technician, GS-802-11 with promotional opportunity. Operations Support Division, Electrical Support Branch, Facilities Electrical Section. Closes June 15.

No. 73-56 - Supervisory Engineering Technician, GS-802-12 with promotional opportunity. Fabrication Division, Materials Technology Branch, Materials Processing and Development Section. Closes June 19.

No. 73-57 - Clerk-Typist, GS-322-3 or 4. Space Applications and Technology Division, Aerospace Environments Branch. This position will be filled from among the candidates who are on the Secretarial Roster. The roster is being established to fill future vacancies in secretarial positions.

Langley Researcher

VOLUME 12, NUMBER 12 LANGLEY RESEARCH CENTER JUNE 22, 1973



SKYLAB CREW: Astronauts Paul Weitz, Charles Conrad, and Joseph Kerwin are shown in what Conrad referred to as the ''Indy Start'' configuration. The photograph was made from television transmission in the run around in the ''dome'' area of the Skylab space vehicle.

ENGINEERING TECHNICIAN PROGRAM

Employment opportunities for Engineering Technician, first year, are being offered at the Center. Approximately 20 engineering technicians are expected to enter on duty during September for the on-the-job and classroom training program.

In order to establish a register of eligibles, a competitive examination will be given applicants. The examination, which requires about two hours, will be administered on Saturday, June 30, at 9 a.m. in the Activities Building (Building 1222), which is located in the West Area of Langley Research Center. The examination will be rated on a scale of 100 with a minimum of 70 required for qualification.

The objective of the on-the-job and classroom training program is to prepare technicians to become potential leaders in the fields which have particular application to the research and development needs of the space agency.

Engineering Technicians will be appointed in the following trades and applicants will have an opportunity to express trade preference at the time of appointment: aircraft mechanic, electrician, electronic instrument mechanic, machinist, materials processor, test facility mechanic, and wood modelmaker.

All qualified applicants will receive consideration for appointment without regard to race, religion, color, sex, national origin, political affiliation, age, or any other nonmerit factor.

Application forms and additional information may be obtained by calling the Center's Employment Office, 827-2233, before June 28.

SKYLAB ASTRONAUTS SCHEDULED TO SPLASHDOWN THIS MORNING

Space buffs, accustomed to watching television coverage of astronauts being plucked from their spacecraft by helicopters after splashdown, will be in for a surprise today when Charles Conrad, Dr. Joseph P. Kerwin, and Paul J. Weitz, the first Skylab crew, splashdown at 9:48 a.m. EDT about 700 nautical miles west of San Diego, California.

Spacecraft, astronauts and all, will be picked up by the recovery ship, if all goes as planned.

In all the previous manned space programs it was desirable to retrieve the astronauts and spacecraft as soon as possible; however, in Skylab, time is critical because of the experimental data and materials being returned from space and because of the length of time the astronauts have spent in space.

One major objective of the Skylab program is to determine how well man himself adapts to long periods in space.

Aboard the returning spacecraft will be blood samples, frozen urine, freeze dried feces, and certain experimental data which will require speedy transfer to storage facilities on the recovery ship. If the spacecraft were opened on the surface of the water to retrieve the astronauts there is the chance that these samples and experimental data, even though packaged very tightly, might be damaged by the warm, moist sea air filling the spacecraft.

After splashdown, a helicopter from the recovery ship, USS Ticonderoga, will drop swimmers around the spacecraft to attach a flotation collar for stabilization. The Ticonderoga will then maneuver alongside the modified Apollo spacecraft and will lift it to the ship's hangar deck using a boat and aircraft crane, fitted with a special NASA winch. The three astronauts will exit the spacecraft and proceed to the Skylab Mobile Laboratories for extensive tests and examinations.

The astronauts themselves are considered very important biomedical data and every effort will be made to pre-

(Continued on page 5)

FAMILY PICNIC PLANNED JULY 4

The Activities Association is planning an old-fashioned, Center-wide picnic on Wednesday, July 4 on the picnic grounds of the Activities Building. All employees, contractors and their families are invited to attend the gala affair. The gigantic get together will start at 11 a.m. and entertainment will be furnished until 8 p.m.

Bring your own food - the Activities Association will have the rest available. Old time low prices will prevail.

There will be games and contests with prizes for the winners. Special entertainment is also planned for the children.

Final details will be forwarded through distribution - - so watch for them!

HAPPENINGS

CORRECTION. . .Hours for the social being given by Mike Ellis on July 7 have been changed to 5 to 8 p.m.

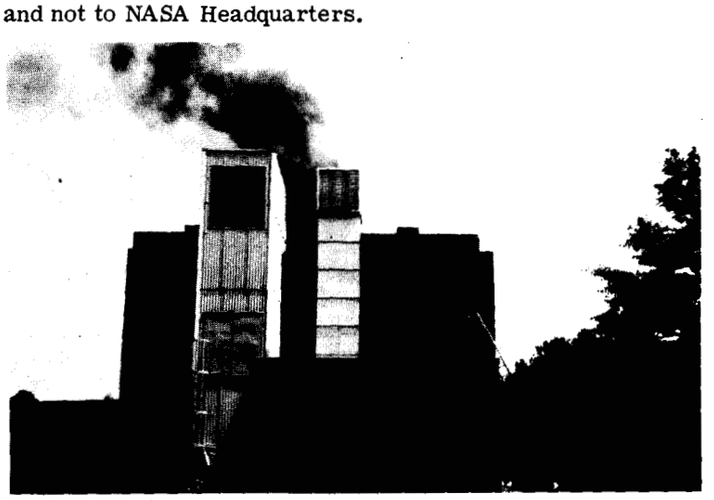
SENIOR TOURNAMENT. . .The Senior Men's Tennis Tournament was completed Sunday at the NASA courts. Nine senior men (age 45 or over) entered. Jim Mueller defeated Frank Nicholson 6-0, 6-1, for the title.

LIBRARY NOTICE. . .The Library has available an audio-cassette tape tour for persons wishing to become acquainted with the services offered by the Technical Library. This is especially useful for introducing new staff members, summer employees, and persons visiting Langley to the resources available for their use. For information concerning this tour, call 2786.

TENNIS CLUB NEWS. . .The NASA Tennis Team won the first match in the Suburban Tennis League by defeating Langley AFB 6-3. The results of individual matches were as follows: Singles - Jim Cox (Langley) defeated Dick Pincus 7-6, 3-6, 6-4; Billy Haigler (NASA) defeated Fred Stalians 6-2, 6-4; Bob Smith (NASA) defeated John Prather 6-2, 6-3; Charlie Bryant (NASA) defeated Dave Lanyon 6-4, 6-0; Ted Bright (NASA) defeated Dave Plummer 6-3, 6-0; and Bob Blakely (Langley) defeated Leonard Credeur 6-7, 6-4, 6-3. Doubles - Pincus-Bryant (NASA) defeated Stalians-Plummer 6-3, 7-5; Haigler-Bright (NASA) defeated Prather-Lanyon 6-1, 6-3; and Harris-Myers (Langley) defeated Smith-Credeur by default.

SAFETY BOOKLETS. . .The Safety Office has approximately 100 copies of the following booklets available: ''Read Before Driving,'' ''Carbon Monoxide,'' ''Motorcycling and You,'' and ''Tire Inflation and the Consumer.'' These booklets will be made available on a first come request basis. Call 3310 or 3950.

FORMS REQUESTS. . .All requests for forms and issuance should be sent to Management Support Division, MS 123, and not to NASA Headquarters.



ROOF FIRE: Center Photographer Dick Shaw had his camera handy when this fire broke out on the roof of Building 1218 on June 11. The fire was caused by debris left on the roof and no structural damage to the building was done. Firemen quickly extinguished the fire after access to the roof was gained.

AGED PAO DEPARTS NASA

Bart J. Slattery Jr., Captain, USN (Ret.), Director of Public Affairs at MSFC, announced from his wheelchair that he would retire from federal service effective June 30. Reaction to this startling disclosure was sudden and universal. After 31 years with his mitts in the national treasury, all agreed it was about time.

Slattery and his wife will reside in Huntsville at the request of the Mayor and Board of Aldermen of St. Louis, Missouri, their hometown, and at the insistence of the Chief of Police of Lubbock, Texas, where he once visited.

Slattery's mumblings were interpreted to mean that he has sure as hell met and worked with a great bunch of guys and gals in the Public Affairs Office of NASA - - he'll miss them. He carelessly added that the latch string hangs on the outside for all of them.

(Editor's Note: This retirement story was written by Slattery himself and we felt it worth passing on to you.)

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

LOST

''Handbook of Noise Control'' by C. M. Harris, file no. 534 H24; ''Boundary Layer and Flow Control Principle and Application'' by G. V. Lackmann, No. 6291323 Vol. 2. Please return to Technical Library.

''Audio Cyclopedia'' by Tremaine. Newcomb, 2365.

WANTED

Driving combination from Farmington area to W.A. on 8 shift. Townsend, 3636.

Driving combination from Beechwood to W.A. on 8 shift. Pearson, 3781.

To rent 3 or 4 bedroom furnished house for one month - July 22 - Aug. 22. Tredennick, 2514.

FOR SALE

6 piece white bedroom suite plus foam rubber mattress and box springs - $350. Berryman, 596-3988.

Boy's 20-inch Spyder bike with banana seat and high-rise handlebars - $15. Wells, 596-3707.

1968 Buick Skylark custom deluxe, air conditioning and many extras. Stephens, 838-1403.

Girl's 26-inch bike - $20. Hatfield, 229-4371.

Automatic transmission for 1962-65 Ford Falcon or Comet. Breen, 851-9446.

Antique and contemporary furniture - mahogany dining table with 4 chairs, china cabinet; four-poster bed, bureau, large bookcase, Singer slant-needle sewing machine with cabinet, sofa, chairs, lamps, etc. Morris, 595-0493.

Sears car top carrier with vinyl cover and lock, $25. Williams 851-0612.

3-bedroom, 2-bath house in Tidemill Farms - large porch, drapes, air conditioned, corner lot. Maddalon, 838-2821.

GOLDEN GATE UNIVERSITY OFFERS COURSES

The Golden Gate University, Langley Air Force Base, is offering a number of undergraduate and graduate courses in business administration during the summer semester which runs from July 9 to August 31.

Registration will be held through June 29, in Room 6, Building 669, daily 7:30 a.m. to 4 p.m.

For additional information call 764-3079.

BOND DRIVE OVER THE TOP

The Langley Research Center successfully completed the 1973 Savings Bond Campaign and will again fly the Minuteman Flag with one star. The campaign was successful in two ways. The Center personnel pushed the percent participation to 91.24% (according to NASA Headquarters computational rules LRC will achieve 93.2%) as 129 new subscribers authorized bond allotments totalling $1,650 per pay period. In addition, 208 staff members increased their bond allotments by an outstanding total of $3,650. The Center's total rise in bond allotments amounts to an increase of over $137,000 per year, an improvement of 14.5%.

All subscribers are reminded that there are substantial tax advantages to be realized from U.S. Bonds for retirement and for college education. Interest may be federal income tax free or the taxes may be reduced; however, certain steps must be taken to qualify for this tax break. A booklet, "The Tax Exemption Story," is being mailed to participants in this year's bond drive. Others may obtain copies from their division offices.

The Activities Association has provided two $25 Savings Bonds to be awarded at the end of the drive. Two drawings will be held at the Happy Hour today. One drawing will be from names of the new subscribers and one from the names of those who increased their bond allotments.

The final division standings are as follows:

Office of Director	100
Office of Director for Electronics	100
Office of Director for Structures	100
Office of Director for Aeronautics	100
ASO	100
Office of Director for Administration	100
FMD	100
MSD	100
Personnel	100
BDSD	100
PRD	100
Office of Center Dev. and Ext. Affairs	100
FDCD	99
LSAD	99
ESSD	97
MD	96
Procurement	96
SD	95
SATD	95
Loads	94
SED	93
RFED	93
Viking	92
Office of Scientific and Tech. Information	92
Office of Director for Space	91
ACD	90
RAFD	90
Office of Director for Engineering	90
Scout	90
FID	89
HVD	89
HSAD	87
SSD	87
IRD	86
OSD	86
FAB	83
PED	83
Office of Public Affairs	57

NOISE MEASUREMENT: Dr. Paul L. Michael (second from left), Speech and Audio Department, Pennsylvania State University, demonstrates noise measuring instruments to (from left): Robert L. McArthur, Langley Health Officer; Dr. Roger Kerlin, Pennsylvania State University; and Eugene Mason, Langley Environmental Engineer, at a one-day seminar held June 12 on making noise measurements in accordance with the Occupational Safety and Health Act requirements. Eighteen Center staff members attended the seminar in preparation for surveying LRC facilities.

SAFETY BOARD REPORT

In late 1971 a Safety Board was appointed to determine the cause of the explosion in the 9 x 6 Foot Thermal Structures Tunnel and make appropriate recommendations for avoiding future such accidents.

Although a strong safety program exists at Langley, a second Safety Board was appointed to review the general Center operations, hazards, policies, procedures, and administration of safety to assure maximum protection for all employees.

This board was composed of key management and safety personnel. The Center's processes and safety management were reexamined on a systematic basis utilizing panels within the directorates to inventory and assess the nature of hazards, effectiveness of policies, implementation of inspections and general management of design.

The reviews were progressive and deficiencies were corrected as they were made visible during the Safety Board tenure.

Realizing the personal interest of the employees in safety, a wide distribution of the Final Report of the Safety Board is being made at the Center. Copies are being distributed in the line organization from directorate to section head level. Facility safety heads, facility coordinators, and the Safety Office are also receiving copies.

It is suggested that each employee take advantage of this wide distribution and read this final report summary.

RETIREMENT PARTY

Hazel S. Redding, High-Speed Aircraft Division, will be honored at a retirement dinner and social beginning at 6:30p.m. at the Holiday Inn on Mercury Boulevard on July 13. Cost per person, which includes one dollar for gift, will be $6.25 (cash bar). Contribution for gift only will be one dollar. Contributions should be sent to Pat Ambrose, MS 404A, by July 6.

PROPERTY/STORAGE DISPOSITION

A new procedure for property storage and disposition is being initiated. This procedure will use a combined Property/Storage request, Langley Form 40, which will replace the current ''Property Disposition Request'' and the ''Request for Storage,'' Langley Form 83.

Under the new procedure, property may only be stored for six months before disposal action is initiated, unless an extended storage period has been requested by a program director. Those who have property in storage will be notified of the expiration of the storage period prior to disposal action.

Copies of the Langley Management Manual Instruction, LMI 4500.1, which sets forth this new procedure will be distributed to each property custodian, in addition to the normal distribution to Management Manual holders.

BONUS PROTECTION RENEWED

The NASA Employees Benefit Association held its 21st annual meeting on June 6-7 in Cleveland. Once again we have had a successful year. Claims for $1,399,338 were paid for life insurance, $91,300 for accidental death, and $126,109 for dependent life insurance, for a total claims paid out of $1,616,747. Norwithstanding an increase in our claims rate and an increase in claim payments as a result of the decision of the board last year to provide an additional 10% benefit without a change in billing rate, we received a return from Home Life of $162,595.

In view of the financial stability of our plan, the board agreed to provide the additional 10% insurance benefit for the new year and to maintain the same premium charge of $1.30 a thousand per quarter. Bonus protection certificates will be issued to each participant some time in July.

For the insurance year ending March 31, 1973, we had 14,387 members and $336,703,000 insurance in force. The percentage of participation of all employees increased from 53.1% to 53.2%, even though the number of eligible employees and the number of participants declined due to our reduction of complement.

The officers of the Langley Chapter of NEBA are Charles F. Barnett, President; James W. Norris, Vice President; and Edward A. Howe, Secretary-Treasurer.

MERIT PROMOTION NOTICE

Employees are reminded that a Secretarial Roster is being established to fill certain secretarial positions at the Center. This roster will be used in filling these positions between now and December 31. The positions covered are as follows: Clerk-Typist, GS-322-2, GS-322-3, and GS-322-4; Clerk-Stenographer, GS-312-3, GS-312-4, and GS-312-5.

Interested applicants for these positions should mail a completed Standard Form 172 to the Staffing and Special Programs Branch, Mail Stop 308. The specific qualifications required for each position are listed on the vacancy announcement entitled ''Secretarial Roster.'' This announcement is posted on bulletin boards throughout the Center.

The following Merit Promotion Announcement is currently open:

No. 73-59 - Secretary (Stenography) GS-318-5 or 6. Terminal Configured Vehicle Program Office in the Electronics Directorate. Closes June 27.

RECEIVES CERTIFICATE: Thomas E. Pinelli (right), Assistant to Center Educational Programs Officer, presents a NASA certificate in recognition of the students' creative endeavor in science and technology to John L. Grannis, Industrial Arts Teacher, Robinson Secondary School, Fairfax. Five NASA certificates were awarded at the Virginia Industrial Arts Association's state-wide spring festival which was held in Manassas.

SPACE JEWELRY AND PATCHES

The Activities Association. by special arrangement with the Johnson Space Center Exchange Store, will offer a limited assortment of space jewelry and patches for sale to Center employees. These items will be sold at a discount of 15% below retail price and include the following:

Tie-tac/pins of mission emblems for all 12 Apollo manned missions; tie-tac/pins of Mercury, Gemini, Apollo, LEM, Lunar Rover, and Skylab vehicles; and mission emblem patches for all manned Mercury, Gemini, Apollo, and Skylab missions.

Samples of items available will be on display, and orders will be taken, at the Activities Office, Building 1222, through July.

POLYMER CHEMISTRY COURSE

A short non-credit course in Polymer Chemistry is being offered to interested staff members. This course is intended to be an introduction to some of the basic principles of the chemistry of polymers.

The objective of the course will be to introduce polymer chemistry and behavior to engineers, technicians, and other personnel who have had no formal education in chemistry. The course will be taught at a level so that those with little or no formal education beyond high school but with some experience in the use of resins, plastics, fibers, films, etc., will benefit.

Instructors will be Dr. Robert A. Orwoll, Associate Professor of Chemistry, College of William and Mary, and Dr. David E. Kranbuehl, Assistant Professor of Chemistry, College of William and Mary. The textbook to be used will be Synthetic Polymers by Billmeyer.

Interested staff members should call Evelyn Myers, 2611.

FIRST SKYLAB MISSION

(Continued from page 1)

vent them from reconditioning their physiology from that of zero gravity to a 1-G environment.

If during the course of the mission there is some physical reaction to space which the biomedical invesgitators believe might be masked should the astronauts exit the spacecraft under their own power, they can be retrieved in a supine position so that their heart and vascular system never experience the vertical 1-G environment. Supine is lying on the back. There is also a possibility that they may suffer syncope or vertigo which could cause the crew to be unable to stand upright. This is considered highly unlikely.

After the astronauts are out, the interior of the spacecraft will be photographed, microbiological samples will be taken at selected sites, and the experiment data will be removed and placed in two storage facilities.

Because of the prolonged space flight of the astronauts, the goal of the Skylab recovery team is to deliver the astronauts to the mobile labs in less than an hour after splashdown.

As with the Apollo program, the recovery of the Skylab missions will be the responsibility of the U.S. Navy's two manned spacecraft recovery forces -- Task Force 130 in the Pacific and Task Force 140 in the Atlantic. Plans call for all Skylab recoveries in the Pacific by Task Force 130, while Task Force 140 serves as a back-up recovery force in case of an unplanned landing in the Atlantic.

An indication of the confidence and experience gained over the past decade in orbital space operations is the number of recovery ships to be deployed for Skylab.

For John Glenn's first Mercury flight, three aircraft carriers and 11 destroyers were deployed in the Atlantic and six destroyers in the Pacific. In the early Gemini program, five or six ships were stationed in the Atlantic and four to six in the Pacific.

For Skylab, one aircraft carrier will be deployed in the Pacific and then for only the last six or seven days of the mission.

ASEE LECTURE SERIES

The ASEE Guest Lecture Series for the next two weeks is given below. This series is sponsored by the NASA-ASEE Summer Faculty Fellowship Program in Research and is open to all interested personnel. Each lecture will begin at 10 a.m. in the 7 by 10 Conference Room (Building 1212, Room 200).

June 26 - ''Nonlocal Continuum Mechanics and its Applications,'' by Dr. A. Cemal Eringen, Princeton University.

June 28 - ''A First Iteration Toward the Idea of Management of Turbulence-Experiments on Free-Stream Turbulence in Ducts,'' by Dr. H. M. Nagib.

June 29 - ''NOx Formation in Fuel-Lean Gas Turbine Combustion,'' by Dr. David T. Pratt, Washington State University.

July 3 - ''Certain Aspects of the Statistical Theory for Turbulent Flows,'' by Dr. P. M. Chung, University of Illinois at Chicago Circle.

July 5 - ''Three Dimensional Transonic Flow Calculations,'' by Dr. A. Jameson, Courant Institute, N.Y.U.

July 6 - ''Some Aspects of Wave Propogation,'' by Dr. Wallace D. Hayes, Princeton University.

ACHIEVEMENT AWARDS: John P. Reeder (left), Chief of Research Aircraft Flight Division, presents Special Achievement Awards to Garry L. Jackman and William E. Parady ''for continuous outstanding judgment and diligence as Aerospace Engineering Technicians on both research and T-38 aircraft.'' Looking on at right is Graydon L. Elliott, Head of Research Aircraft Support Section.

NASA SOFTBALL NEWS

SCORES

Charlie Brown's All Stars	17	Ballers	15
Misfits	9	Simulation	7
SDC	18	Simulation	9
Wombats	11	C & S	10
Charlie Brown's All Stars	14	Misfits	6
Ballers	20	Wombats	20
Charlie Brown's All Stars	16	Simulation	9
SDC	19	C & S	5
SDC	31	Wombats	6
Ballers	10	Misfits	4
Charlie Brown's All Stars	23	C & S	2
Misfits	17	Wombats	16
Misfits	15	C & S	3
Simulation	8	Ballers	7
SDC	18	Charlie Brown	1
Simulation	15	Wombats	1

STANDINGS

Team	W	L	Pct.
SDC	4	0	1.000
Charlie Brown's All Stars	4	1	.800
Misfits	3	2	.600
Ballers	2	2	.500
Simulation	2	3	.400
Wombats	1	4	.200
C & S	0	4	.000

A FRIEND is a person with whom you dare to be yourself.

WHEN young, consider that one day you will be old and when old, remember you were once young.

TOLERANCE comes with age. I see no fault committed that I myself could not have committed at some time or other.

POWER LAWN MOWERS

If you are inclined to discount the hazards involved in the relatively simple act of cutting the grass, take a look at how a few of the tragedies have occurred: A youth who was mowing the lawn at home lost his balance, lurched forward and struck the machine with his left foot. In a second the whirring blades cut into his shoe and slashed off his small toe. A little girl's jugular vein was severed by a piece of metal hurled by a mower. Another child was struck in the heart by nail picked up and thrown by a mower. A lady was sitting on her doorstep when a 3-inch piece of steel was thrown from the blade of a rotary mower being operated across the street. The piece of steel, hurled with a speed of about half that of a revolver bullet, imbedded itself in her brain.

General causes of lawn mower accidents are:

1. Failure to clear the lawn of rocks and debris prior to mowing.
2. Cleaning grass or foreign objects from mower with power on.
3. Mower inadequately guarded.
4. Leaving mower engine running while emptying grass catcher (the mower may take off).
5. Attempting adjustments or repairs (other than carburetor) with power on.
6. Placing hands or feet in danger area when trying to start, stop, or move the mower.
7. Inexperience or inattention.
8. Attempting to mow grass when wet.
9. Permitting children near mowers.
10. Pulling mower rearward onto feet.
11. Mowing in close proximity to other persons.
12. Exposing self in front of self-propelled power mower.
13. Failure to insure safe footing while mowing on incline or variable terrain.
14. Attempting to push or change mower direction with foot instead of handle.

TECHNICAL PUBLICATIONS

The following technical papers have been published and distributed:

TM X-2700 - Preliminary Study of a Wall-Stabilized Constricted Arc by Randolph A. Graves and William L. Wells.

TN D-7133 - Evaluation of Magnesium-Aluminum Eutectic to Improve Combustion Efficiency in Low Burning-Rate Propellants by G. Burton Northam and Edward M. Sullivan.

TN D-7107 - Mixed Finite-Difference Scheme for Free Vibration Analysis of Noncircular Cylinders by Ahmed K. Noor and Wendell B. Stephens.

TN D-7174 - Studies Relating to Temperature Control of a Large Space Telescope by S. Katzoff.

TN D-7066 - Evaluation of an Aeroelastic Model Technique for Predicting Airplane Buffet Loads by Perry W. Hanson.

TN D-7129 - First-Order Optical Analysis of a Quasi-Microscope for Planetary Landers by Fredrich O. Huck, Archibald R. Sinclair, and Ernest E. Burcher.

TN D-7147 - An Investigation of a Sterile Access Technique for the Repair and Adjustment of Sterile Spacecraft by Franklin H. Farmer, Harry V. Fuller, and Richard M. Hueschen.

TR R-398 - A Unified Development of Several Techniques for the Representation of Random Vectors and Data Sets by W. Thomas Bundick.

STAFF MEMBERS RETIRE

Mildred H. Posey
OSTIP - Publications

Samuel S. Westbrook, Jr.
Instrument Research

Calvert L. Worthington
OSTIP - Photographic

Richard J. Moberg
Loads Division

Della P. Carter
Research Facilities Eng.

Frank T. Abbott
Loads Division

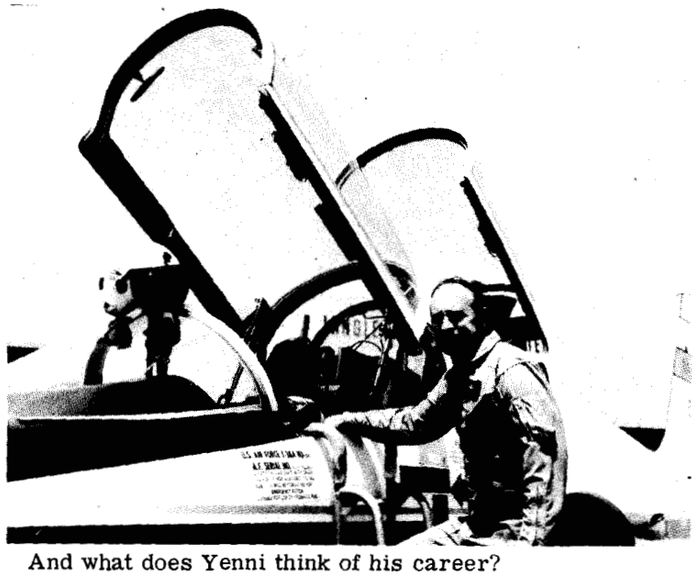
Personnel Profiles

By

Allan C. Hanrahan

MEET A MAN IN HIS FLYING MACHINE

Mr. Kenneth R. Yenni does more than just fly, even for the Langley Research Center where he has been employed since May of 1963. But being an Aeronautical Research Pilot in the Operations Branch of the Research Aircraft Division does call for a lot of flying, in a lot of different aircraft. He has qualified in over a hundred, in fact.



And what does Yenni think of his career?

''I think it's great,'' he said. ''I don't think there's another job in the world where you would get to fly so many different aircraft.''

And what of the risks?

''Well, if you have an engine failure and there is only one engine, it could spoil your whole day,'' he understated, but doing their homework and having great mechanics reduces the risks to the pilots to a negligible level, he agreed.

''I consider the job safer, really, than riding a motorcycle,'' which he does quite a bit, on his own time, of course.

Another off-the-job activity indulged in - by the entire Yenni family - is camping. A few weeks ago they all piled in the VW camping bus for a camping trip to Pennsylvania. And back in early December they enjoyed a camping trip to Florida, to see the Apollo 17 launch along with a stay at Disney World. The launch was a thrill, of course, and asked how he liked Disney World, Ken answered, ''that's a fabulous place; we didn't want to leave.''

By ''we,'' Yenni meant himself, his wife, Elizabeth, and their two sons: David, age twelve, and Rich, age eleven. Most of Yenni's interests are family oriented; he enjoys just working around the house, for example, and going boating with his wife and sons. At present Ken owns an outboard type but in the future he plans to acquire a sailboat. He has crewed a few times on both small and large craft and thinks it is a wonderful pastime; so much so that he wants all of his family involved in it.

Lest this fondness for boating lead you to assume that Kenneth was born and reared near the sea, let us dispel that assumption. He was born in Rochester, Pennsylvania (west of Pittsburgh) and was reared there and in Beaver, Penn., where in 1952 he graduated from Beaver High School, which is where he met his wife.

Then it was on to Villanova - on a Navy R.O.T.C. Scholarship - a Bachelor of Civil Engineering Degree in 1957, a four-year stint in the Navy - where he learned to fly - and then employment with NASA at Houston as a Recovery Engineer flying ASW Helicopters.

After eight months at Houston he transferred to Langley and - here he is, another Langley employee it was a distinct pleasure talking with.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of June 25:

Monday - Cream of shrimp soup, braised beef tips, veal and spaghetti, broiled or fried fish, ham omelette. Snack bar - Ham steak and egg, turkey club, hot roast beef, salami.

Tuesday - Beef noodle soup, corned beef and cabbage, meat loaf, shrimp creole. Snack bar - NASA submarine, barbequed pork, ham and cheese club, sausage and egg.

Wednesday - New England clam chowder, beef teriyaki, broiled or barbecued chicken, fried clams. Snack bar - Hot pastrami, NASA submarine, mini steak, pizza.

Thursday - Turkey gumbo soup, chopped steak, broiled or stuffed pork chops, veal parmesan. Snack bar - Turkey club, barbequed pork, hoagie, bacon, lettuce, and tomato.

Friday - Split pea with ham soup, country style steak, stuffed peppers, sauteed chicken livers. Snack bar - Ham and egg, NASA submarine, corned beef, hot roast beef.

The menu for the week of July 2 is as follows:

Monday - Tomato soup, business man's lunch, broiled red snapper, chicken chow mein. Snack bar - Ham and cheese club, barbequed pork, NASA submarine, hot pastrami.

Tuesday - Chicken and rice soup, steamship round, turkey a la king, broiled or fried fish, shrimp foo yung. Snack bar - Turkey club, sausage and egg, mini steak, hot roast beef.

Wednesday - H O L I D A Y

Thursday - Vegetable beef soup, delmonico steak, cordon bleu of veal, spaghetti with meat sauce, fried flounder. Snack bar - NASA submarine, corned beef, steak, bacon, lettuce and tomato.

Friday - Cream of mushroom soup, meat loaf, rump roast, broiled or fried chicken. Snack bar - Pizza, hoagie, ham and cheese club, chicken salad.

KEY ORGANIZATIONAL POSITIONS

The following have been selected for key organizational positions as indicated:

William M. Haraway, Jr., Head, Materials Technology Branch, Fabrication Division

William M. Johnson, Head, Plant Support Branch, Plant Engineering Division

WHEN you know a thing, to hold that you know it, and when you do not know it, to admit that you do not - - this is true knowledge

Questions and Answers

Q. When apprentices are selected from the Engineering Aide Examination Register, are the highest grades selected first or is a quota system used?

A. According to the Personnel Officer, for each vacancy which is to be filled from a register referred by the Civil Service Commission, whether apprentice, typist, carpenter, or whatever, the appointing officer has his choice of any one of the top three eligibles. This explains why a person whose name is on top of the list sometimes does not get an appointment when some persons lower on the list do. If the first selection is candidate 2, candidates 1 and 3 are returned to the top of the register to be considered with candidate 4 for the next vacancy, and the appointing officer may then select either candidate 1, 3, or 4. This system is followed until all vacancies are filled. Each candidate must be considered in numerical order at least three times before he can be eliminated from consideration.

Selections for employment opportunities at this Center are not based on preestablished quotas, but goals have been established to increase the utilization of minority group members and women in occupations in which their representation is not proportionate.

Q. With parking spaces at a premium in most of LRC's parking lots, how do some division chiefs justify reserved spaces in more than one location?

A. According to Glen Ford, Management Support Division, the policy followed by this office for the allocation of reserved parking spaces is outlined in Article XXV of Agreement between LRC and AFGE Local 2755 dated July 9, 1971.

Investigation indicated that a space had been reserved at more than one location for a division chief. Action is being taken to eliminate any duplicated reserved spaces.

CAN YOU SOLVE THIS PROBLEM?

A portable device for the rapid nucleation and precipitation of smoke particles is needed for use in combating fires. Even though in some cases toxicity and lack of oxygen can be overcome by use of gasmasks, when available, the visibility problem remains. Refer to SRI-1. Contact T.U. Office, extension 3281, for the problem statement or if you have a potential solution.

HOW SELDOM we weigh our neighbor in the same balance with ourselves.

PROFESSOR VISITS: During his visit to Langley on June 7, Dr. John F. Mee (right), Indiana University, was taken on a tour of the Visitor Center by W. L. Williams, Assistant Personnel Officer.

PROFESSOR VISITS CENTER

Dr. John F. Mee, Mead Johnson Professor of Management, Graduate School of Business, Indiana University, visited the Center June 7 to present a lecture on "Management by Objectives." His lecture served as a capstone to the local effort to implement the agency' Work Planning and Progress Review (WPPR) program. He spoke to LRC division chiefs, project office heads, and representatives from other Federal activities.

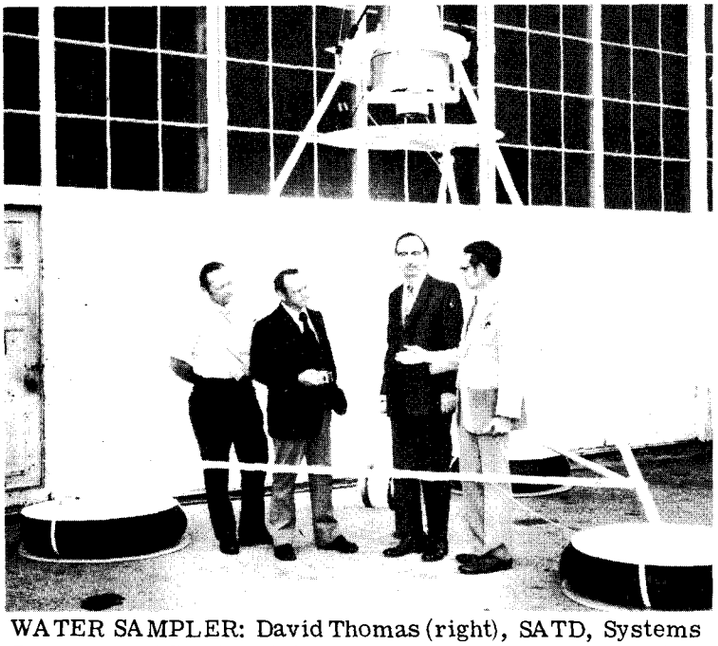
That same evening, Dr. Mee was the keynote speaker for the first organizational meeting to form a local chapter of the Society for Advancement of Management. The event was attended by 48 representatives of the community from the Federal government, city government, private industry, service components, and academic institutions. William H. Latham, Executive Director of S.A.M., New York City, was also present for the meeting.

W. L. Williams, Langley Assistant Personnel Officer, served as chairman of the local steering committee and he was assisted by M. P. Clark, Langley Training Officer.

EXCEPT in occasional emergencies there is not much that one man can do for another, other than to help him to help himself.

Langley Researcher

VOLUME 12, NUMBER 13 LANGLEY RESEARCH CENTER JULY 6, 1973



WATER SAMPLER: David Thomas (right), SATD, Systems Development Section, talks about a water sampling system designed at Langley for use by the Virginia Institute of Marine Science (VIMS). With Thomas (inside the sampler framework) are (from left) Leon Williams, SED Experiments Systems Section; Dr. Michael Bender, Chief of VIMS' Ecology Pollution Division, who accepted the sampler; and Don Davis Jr., Chief of Space Applications and Technology.

CARNIVAL PRIZES ANNOUNCED

How would you like to be the proud owner of a brand new sporty car? It's possible by just buying a ticket to support the NASA 1973 Summer Carnival which will be held Friday and Saturday, August 24 and 25 on the Activities grounds.

The grand prize for the Carnival will be a 1973 three-door Pinto Runabout, two-tone blue, equipped with radio, 4-speed transmission, all vinyl bucket seats, sun roof, front disc brakes, and simulated Mag wheels.

The second grand prize will be a $1500 U.S. Savings Bond.

Tickets will be sent to all Activities delegates and you may purchase your tickets from them for one dollar each.

Please help to make this the best Carnival ever. Tell all your friends to attend and volunteer your services to help in the booths.

BOND WINNERS

The Activities Association gave away two $25 Savings Bonds at the end of the Center's annual Bond Drive. Winners were as follows:

New Subscriber - J. A. Hutchby

Increased Bonds - Ray Goodman

WATER SAMPLING STATION MADE AVAILABLE TO VIMS

An automated water sampling station, developed at the Langley Research Center for use in remote marshlands, has been made available to the Virginia Institute of Marine Science (VIMS).

The prototype sampler is designed to provide an environmental research station that can automatically extract water samples from marshland areas not accessible to surface transport. The station can be deployed and retrieved by helicopter.

Work on the sampler began when the Ecology Pollution Division of VIMS requested assistance from Langley's Space Applications and Tchnology Division in developing a method of collecting water samples from hard-to-reach marshlands.

VIMS has been conducting studies of the flow of nutrients from tidal marshes into coastal rivers, Chesapeake Bay, and the Atlantic Ocean. The nutrient flow is necessary to continue production of sea life along the Virginia shores.

The studies have been hampered by the need for water samples from remote areas over extended periods of time.

The Langley-developed station consists of a 12-foot-high tripod structure that is about 13 feet in diameter at its base. Large foot pads with angle plates both anchor the station and keep it from sinking into marsh mud.

The water sampling equipment is mounted on a shelf inside the tripod's framework, and is equipped with its own power supply, controls, and as many as 28 sample collection bottles. The volume of sample and the frequency of collection are set before deployment and operate automatically.

The station can be airlifted by helicopter, towed by small boat, or trucked to desired locations. After deployment it can be activated at any time, and it will automatically shut off when the desired number of samples are collected. It can then be picked up, resupplied with sample bottles, and taken to another location.

One test demonstration was conducted at Carter Creek. A helicopter was operated from Wallops Station and the sampler system was remotely controlled from Langley. Another field test was made at Wachapreague on the Eastern Shore.

Aerodynamic tests in the VSTOL wind tunnel proved that the station could withstand winds of up to 90 miles an hour.

The coincidence of Hurricane Agnes at the time of early testing was put to good advantage by the Langley experimenters. The sampler system was used for six weeks to take water samples during the hurricane's aftermath.

VIMS is planning to use the station for studies of contaminants and living biological organisms, in addition to its nutrient studies. A Wallops helicopter will work with the Institute. (Continued on page 6)

HAPPENINGS

NEW ARRIVAL. . .Celebrating the birth of a seven-pound, nine-ounce daughter, Kelly Dianne, on June 25, is John P. Campbell, Jr., Viking Contracts Branch. The proud grandfather is John P. Campbell, Chief of Low-Speed Research Division.

BOND WINNERS. . .Winners of the June 22 Activities Association bond drawing were Phil Walker, Operations Support Division, who won a $50 bond and Gene Britton, Systems Engineering, who won a $25 bond. Staff members are reminded to give their entry to their Association delegates for each drawing. Interest seems to be lagging as there were only 616 entries in the last drawing. These drawings are free and are open to all employees and contractors, so fill out an entry and turn it in.

CONGRATULATIONS. . .Congratulations to Axel T. Mattson, Assistant Director for Center Development and External Affairs, on being elected president of the Yorktown Rotary Club.

NOTE OF THANKS. . .Pat Chiarito, formerly of Langley, recently retired from the Lewis Research Center and he sent the following note of thanks to his Langley friends: ''Mille grazie a tutte mi amici a NASA per le espressione generose di buona fortuna a me e mia moglia. Mi dispiace di lasciarvi e spero che anche voi tenete li stressi sentimenti. Ciao, e state felice per sempre.'' In other words - ''Many thanks to all my friends at NASA for your generous expressions of good luck to me and my wife. I shall miss you and hope that you will share the feeling. So long, and have a happy forever.'' Pat and his wife, Marion, plan to live in Italy for an extended period.

ENGAGEMENT. . .Pamela Anne Lawrence, who is a co-op student assigned as a machinist in the Instrument Development Section, is engaged to Vincent (Joe) Fleck, a co-op student in the Dynamic Model Section. Plans call for a March 9, 1974, wedding.

TENNIS NEWS. . .The NASA Tennis Team brought its record to 2 wins and 0 losses by defeating the Hidenwood-Glendale team 8-1. The results were as follows: Singles - Bob Murray (H-G) defeated Dick Pincus (NASA) 6-0, 6-2; Billy Haigler (NASA) defeated Chet Long 1-6, 6-1, 7-6; Bob Smith (NASA) defeated Buster Mesic 7-5, 6-2; Ted Bright (NASA) defeated Larry Paffrath 6-1, 6-0; Leonard Credeur (NASA) defeated John Ponton 6-2, 6-3; and Bill Compton (NASA) defeated Russ Nevins 6-0, 6-0. Doubles - Pincus-Compton (NASA) defeated Murray-Nevins 6-1, 6-1; Haigler-Bright (NASA) defeated Long-Mesic 6-0, 6-2; and Smith-Credeur (NASA) defeated Paffrath-Ponton 6-1, 6-1.

GOLF NEWS. . .The NASA Golf Association held its third tournament June 15 at Suffolk Country Club. Winners were as follows: First flight - Wayne Oakley 81-12-69, John Nettles 87-17-70, Wayne Kitchen 87-17-70, Roy Farmer 87-17-70. Second flight - Ronnie Amole 87-25-62, George Zender 85-21-64, Jim Weilmunster 85-21-54, Tommy Steele 88-23-65.

THANKS. . .The three Georges of Structures Lab - George Zender, George McGhee, and George Bewley - wish to thank all their friends who attended their retirement party. . . Frank A. Lofurno expresses his thanks and appreciation to all of his friends who participated in his retirement party. . .Dick Moberg says, ''Thanks, thanks, thanks for the retirement party. . .it was fantastic.''

FIFTY POUNDS LIGHTER: Gary P. Beasley, FDCD, shows the victory sign after losing 50 pounds in five months. He collected 10 cents a pound as an Incentive Reward from Hugh Bergeron (left), also of FDCD.

THERMAL SCIENCES SEMINAR

The 9th Annual Southeastern Seminar on Thermal Sciences (SESTS) will be held July 26 and 27 at the Sheraton Inn in Hampton. Old Dominion University is hosting this seminar, which is concerned with areas of Thermodynamics, Fluid Mechanics, Heat Transfer, and Energy Conversion.

Featured speakers will include Dr. Warren M. Rohsenow, MIT; Dr. Tom J. Love, University of Oklahoma; Dr. John A. Clark, University of Michigan; Dr. S. P. Kezios, Georgia Institute of Technology; and Dr. Alfred J. Eggers, National Science Foundation.

Contact Dr. Suren N. Tiwari, SESTS Chairman, at ODU-VARC, telephone 877-9213, for the seminar agenda, registration procedures, or additional information.

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Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

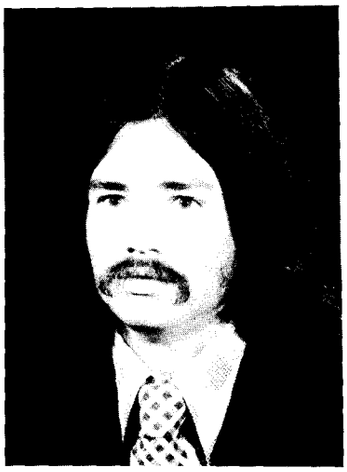
Dr. John G. Davis, Jr.
Ph.D., Eng. Mechanics
VPI & SU

Andrew B. Connor
Master, Bus. Adm.
Old Dominion

David C. Woods
MS, Physics
Old Dominion

John G. Wells, Jr.
Master, Engineering
Old Dominion

Edward F. Daniels
MS, Physics
Old Dominion



Mervin E. Hillard, Jr.
MS, Physics
Old Dominion

ADVANCED DEGREES RECEIVED

During Fiscal Year 1973, a total of 47 Langley staff members received advanced degrees from 15 institutions. In addition to those pictured here, photographs of degree recipients were previously included in the Langley Researchers dated November 10, 1972, March 2, 1973, and June 8, 1973.

Fifteen Doctor of Philosophy degrees were earned, seven from VPI and SU, and one each from Case Western Reserve University, Lehigh University, North Carolina State University, the University of North Carolina, University of South Carolina, Southern Methodist University, Virginia Commonwealth University, and the University of Virginia.

Thirty-two Masters Degrees were earned during the Fiscal Year. Sixteen were from George Washington University, seven from Old Dominion University, three from the College of William and Mary, two from North Carolina State University, and one each from Florida State University, University of Rochester, University of Virginia, and University of Southampton in England.

Since the initial degrees were received in 1951 through the Center's Graduate Study Program, a total of 584 Masters amd 141 Doctors degrees have been earned from 56 different institutions.

COLLOQUIUM SERIES TAPES

The following Langley Colloquium Series video tapes are available. For viewing arrangements, contact Dan Soloman, extension 3373.

''The U.S. Space Program Through the 70's'' by Dr. Wernher von Braun, former NASA Deputy Associate Administrator.

''Artificial Intelligence'' by Professor Marvin Minsky, Director, Artificial Intelligence Laboratory, MIT.

''High Energy Sources in Space'' by Prof. Wolfgang Priester, Director, Astronomical Institute, University of Bonn, Bonn, West Germany.

''Energy, Life, and Climate'' by Dr. David M. Gates, Prof. of Botany, and Director, Biological Station, University of Michigan.

''Extraterrestrial Intelligence'' by Dr. Frank Drake, Director, National Atmospheric and Ionospheric Center, Cornell University.

''The Relationship Between Human and Machine Thinking'' by Dr. I. J. Good, Professor of Statistics, Virginia Polytechnic Institute and State University.

''Science and Control of Social Behavior'' by Dr. Israel Goldiamond, Prof. of Psychology, University of Chicago.

''Concorde - A Technical Updating'' by E. H. Burgess, British Aircraft Corporation, Great Britain.

''Mariner 9 Review - Mars from Mariner 9: Implications for Viking'' by Dr. Carl Sagan, Center for Radiophysics and Space Research, Cornell University.

''Preliminary Geologic Results from Mariner 9'' by Harold Masursky, U.S. Geological Survey Center for Astrogeology.

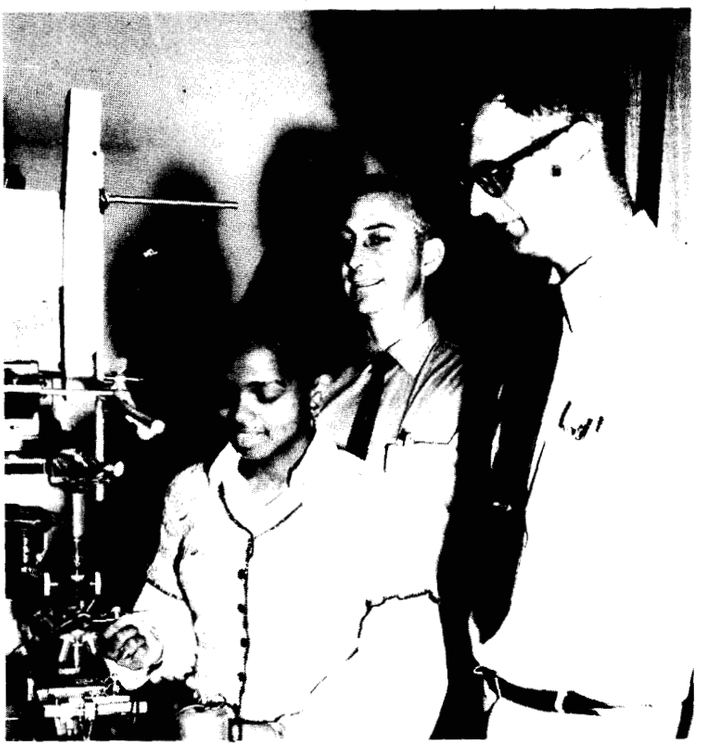
''Research Applications for National Needs'' by Sidney Sternberg, National Science Foundation.

''Biofeedback for Mind-Body Self-Regulation'' by Dr. Elmer Green, Head, Psychophysiology Laboratory, The Menninger Foundation.

''A Rapid Review of Eastern American Prehistory'' by Dr. James B. Griffin, Director, Museum of Anthropology, University of Michigan.

''The Coastal Seas - National Marine Resources'' by Dr. William J. Hargis, Director, Virginia Institute of Marine Science.

EEO HIGHLIGHTS



According to Fred M. Smith, Technical Assistant, Environment Space Sciences Division, there is a collaborative effort with the Operations Support Division to continue to provide training opportunities for their employees.

Shown in the photograph above are (from left): Chrystal J. Ruffin, Pre-apprentice Trainee assigned to the Optics and Electronic Section of ESSD; Bill T. Baugh, Engineering Technician in Technical Support Section D, Operations Support Division; and Dr. Edmund J. Conway, Head of of Optics and Electronics Section, ESSD.

Chrystal is a senior at Ferguson High School in Newport News and is enrolled in the Stay-in-School Program. She has made a significant contribution to the research effort in Dr. Conway's section in operating electronic equipment, assisting in conducting experiments related to developing a solid chemiluminescent ozone senor, and compiling and reducing experimental data. Based on her high quality of performance, she has been awarded a letter of commendation.

Robert B. Lee III (not shown) is an Aerospace Technologist assigned to the Aeronomy Section of the Planetary Physics Branch. He received his B.S. degree in Physics from Norfolk State College in 1966, finishing fourth in his class of 400. He received his M.S. degree in Engineering Physics from the University of Virginia in 1972. Bob is a valuable member of a team of research scientists performing advanced research in aeronomy and photometry.

Congratulations to the Environmental and Space Sciences and Operations Support Divisions. Are there other divisions where this kind of constructive activity is being carried out? If so, let the EEO Office hear from you.

NOTICE: All LRC apprentice graduates or graduates of the Engineering Technician Program who are interested in working toward a degree in Engineering Technology contact Scott Laney, MS 326, extension 2546.

OVERLOADED CAMPERS

Federal highway safety authorities are about to issue a consumer warning against the overloading of recreational vehicles. The particular target of the warning is the pickup truck with a camper mounted on it.

Many people are overloading these vehicles without realizing it and without understanding the danger involved. Driving a passenger car is one thing; driving a truck with a house on top is something quite different.

If the camper is overloaded, can the driver maintain control if a tire blows out at highway speeds? Or in a high-velocity wind? Probably not.

Not only have consumers been negligent in keeping within the gross weight capacity of the truck, but some truck manufacturers have been negligent in providing full information on weight-carrying capability. The Department of Transportation is about to crackdown on truck manufacturers for failure to provide complete information to consumers.

A truck may be labeled as having a certain gross carrying capacity - - but the buyer isn't told that, in order to carry this weight, the truck should be equipped with heavy-duty tires, heavy springs, and other special equipment.

When buying a truck/camper combination, select the camper first. Pick one that suits your family's needs. Check its weight. Then estimate how much more weight will be added by all the equipment necessary to furnish it: bottled water, groceries, a freezer, bottled gas for the stove, your luggage, the collective weight of the family - EVERYTHING.

Then, start looking for a pickup strong enough to carry it all. And don't forget to ask if it can carry that weight equipped as it is on the showroom floor.

—Information obtained from the U.S. Air Force

RETIREMENT PARTY

A retirement party honoring Edith C. Whitley, Space Systems Division, will be held on Monday, July 16 at Horne's Coliseum Inn in Hampton. The buffet dinner will start at 6 p.m. Cost for the dinner and donation for the gift will be $5. Names and contributions should be submitted to Evelyn S. Martin, MS 490, by July 12.

NAME_____ SECTION_____
WILL ATTEND_____ GIFT ONLY_____

ACHIEVEMENT AWARD: Hazel S. Redding, who retired from the Center last week, is shown receiving a Special Achievement Award from William P. Henderson, Assistant Head of Stability and Dynamics Branch, HSAD, "for her continued superior performance in the operation of the Langley High-Speed 7- by 10-foot Tunnel." Looking on are Edward C. Polhamus (left), Head of Stability and Dynamics Branch, and Mark R. Nichols, Chief of HSAD.

George W. Johnson

Kemp Parrish

Jerry M. Nichols

William S. Small

EMPLOYEES RECEIVE AWARDS

Six members of the Operations Support Division recently received cash awards for suggestions under the Incentive Awards Program. The recipients and their suggestions are as follows:

George W. Johnson - $200 for his part in the construction of an eight-channel electric voltage-level detector developed jointly with John R. Nayadley, IRD.

Kemp Parrish - $210 for the development of a technique using quartz glass as insulation material for fabricating insulation packages.

Jerry M. Nichols - $75 for a suggestion relative to upgrading the control system on a pneumatic compressor and providing an annunciator system for all compressor interlock circuits.

William S. Small - $100 for suggesting the development of an electronic method of operating the ejector system in the 8-Foot Temperature Structures Tunnel which increased the reliability of the tunnel.

David Vohringer - $100 for his modification of the small test carriage at the Landing Loads Track allowing for the testing of larger models and higher forward speeds.

Lloyd Nelson - $175 for his modification of a water-cooled copper segment that increased the accuracy of data received and saved research time in the Planetary Entry Radiation Facility.

David Vohringer

Lloyd Nelson

ASEE LECTURE SERIES

The ASEE Guest Lecture Series for the next two weeks is given below. This series is sponsored by the NASA-ASEE Summer Faculty Fellowship Program in Research and is open to all interested personnel. Each lecture will begin at 10 a.m. in the 7 by 10 Conference Room (Building 1212, Room 200).

July 10 - "The Structure and Modelling of Computing Systems," by Dr. Bruce Arden, University of Michigan

July 12 - "Some Aspects of Boundary Layer Interaction" by Dr. R. Melnik, Grummann Aerospace Corporation

July 17 - "The Nature of Adhesion," by Dr. J. Huntsberger, Dupont

July 19 - "Surface Tension of Molten Polymers," by Dr. F. David Petke, Tennessee Eastman Company

The guest lecturers are usually available for consultation after the lectures. For further information call Dr. G. L. Goglia, extension 2175, or John Witherspoon, extension 2517.

TECHNICAL PUBLICATIONS

The following technical papers have been published and distributed:

TR R-399 - The Inference of Atmospheric Ozone Using Satellite Nadir Measurements in the 1042 CM^{-1} Band by James M. Russell and S. Roland Dryson.

TN D-7105 - A Nonlinear Theory for Sonic-Boom Calculations in a Stratified Atmosphere by Nichael Schorling.

TM SX-2744 - Free-Flight Investigation of a 1/17-Scale Model of the B-1 Airplane at High Angles of Attack by William A. Newsom and Sue B. Grafton.

TM X-2712 - Low-Subsonic Aerodynamic Characteristics of a Shuttle-Orbiter Configuration Designed for Reduced Length by George M. Ware and Bernard Spencer Jr.

TM X-2723 - Stability and Control Characteristics of a Variable-Sweep Fighter Model at a Mach Number of 0.30 and Angles of Attack up to 36 Degrees by William P. Henderson and Jarrett K. Huffman.

TN D-7201 - Analytical Study of the Performance of a Gust Alleviation System for a STOL Airplane by Waldo I. Oehman.

TN D-7203 - Experimental Investigation of the Cornering Characteristics of a C40 x 14-21 Cantilever Aircraft Tire by Robert C. Dreher and John A. Tanner.

TN D-7215 - Some Effects of Grooved Runway Configurations on Aircraft Tire Braking Traction Under Flooded Runway Conditions by Thomas A. Byrdsong and Thomas J. Yager.

TN D-7242 - Analysis of Noise Produced by an Orderly Structure of Turbulent Jets by Jan C. Hardin.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of July 9:

Monday - Cream of asparagus soup, beef liver and onions, roast turkey, fried scallops, wieners and sauerkraut. Snack bar - Ham and cheese club, barbequed pork, NASA submarine, hot pastrami.

Tuesday - Chicken noodle soup, beef stroganoff, baked ham, broiled or fried fish, chicken croquettes. Snack bar - Hot roast beef, sausage and egg, mini steak, turkey club.

Wednesday - New England clam chowder, country style steak, chicken and dumplings, fried clams. Snack bar - Pizza, corned beef, ham steak and egg, bacon, lettuce and tomato.

Thursday - Turkey and rice soup, beef-ka-bobs, Swedish meatballs, broiled pork chops, cheese omelette. Snack bar - NASA submarine, steak, barbequed beef, chicken salad.

Friday - Bean with bacon soup, meat loaf, veal parmesan, broiled or fried chicken. Snack bar - Turkey club, ham and cheese, pastrami, grilled cheese.

The menu for the week of July 16 is as follows:

Monday - Corn chowder, corned beef and cabbage, veal and spaghetti, chuckwagon steak, ham omelette. Snack bar - Ham and cheese, hot corned beef, hoagie, bacon, lettuce and tomato.

Tuesday - Cream of potato soup, steamship round, broiled or fried fish, spareribs, baked lasagna. Snack bar - Barbequed pork, NASA submarine, turkey club, sausage and egg.

Wednesday - Vegetable beef soup, delmonico steak, meat loaf, jumbo shrimp, fried chicken. Snack bar - Mini steak, ham steak and egg, roast beef, NASA submarine.

Thursday - Puree of bean soup, beef teriyaki, roast pork, sauteed chicken livers, fish cakes. Snack bar - Turkey club, hoagie, steak and egg, salami.

Friday - Fisherman's chowder, chopped steak, fried flounder, spaghetti with meat sauce, grilled cheese sandwich. Snack bar - Pizza, barbequed pork, chicken salad, ham and cheese club.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

No. 73-61 - Supply Clerk, GS-2005-4 or 5; or Supply Technician, GS-2005-6. Management Support Division, Property Management Branch, Equipment Management Unit. Closes today.

No. 73-62 - Clerk (Stenography), GS-301-4 or 5. Personnel Division, Training and Educational Services Branch. Closes July 10.

No. 73-63 - Health Technician, GS-699-8 with promotional opportunity. Office of Safety, Reliability, and Quality Assurance; Occupational Health Services Section. Closes July 12.

No. 73-64 - Clerk-Typist, GS-322-3 with promotional opportunity. Instrument Research Division, Measurement Physics Branch. This position will be filled from the Secretrial Roster.

No. 73-65 - Supervisory Engineering Technician, GS-802-11 with promotional opportunity. Fabrication Division, Aerospace Model Development Branch, Composite Model Development Section. Closes July 13.

TECHNOLOGY AWARDS: Dr. John E. Duberg (left), Associate Director, presents cash awards for Tech Briefs to (from left): Richard J. Margasen, John E. Lamar, Ernest E. Burcher, Leonard P. Kopia, Judd R. Williams, and Stacey Mills. Tech Briefs are published and distributed nationwide by the NASA Tchnology Utilization Program.

WATER SAMPLING STATION

(Continued from page 1)

The project was under the direction of Don Davis Jr., Chief of the Space Applications and Technology Division (SATD). David Thomas, SATD Systems Development Section, and Leon Williams, Experiments Systems Section of the Systems Engineering Division, were responsible for the sampler development.

Dr. Michael Bender, Chief of VIMS' Ecology Pollution Division, worked with the Langley developers.

VIMS will build several more samplers, following Langley's drawings and instructions, and the design is available to anyone who may have a use for the device, through the Langley Technology Utilization Office.

SKYLAB FILM VIEWED AT REUNION

Jesse L. Kent, Operations Support Division, sent in the following article about the Skylab film.

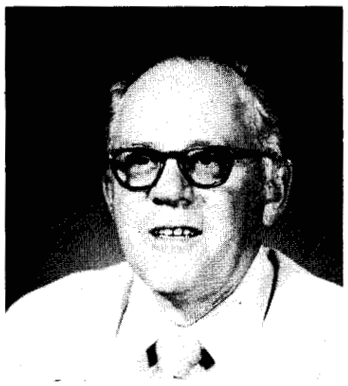
While the first Skylab crew was returning to Earth and splashdown in the Pacific, back East approximately 22 members of the Farmville School of Aeronautics were celebrating their 34th anniversary. The celebration was held June 23 at the Hotel Weyanoke in Farmville.

Thanks to the Public Affairs Office and others at LRC for making possible the timely showing of this Skylab film.

The group expressed appreciation and gratitude for a better understanding of the Skylab mission and were astound at the potential of proposed missions.

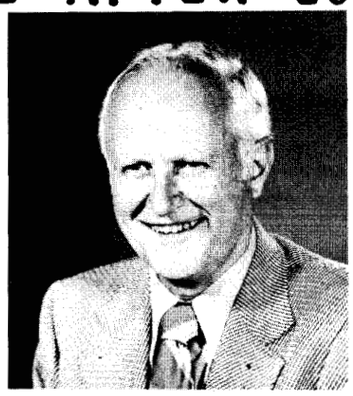
Comments were made concerning the similarity of the paddle wheel design of Skylab to that of an autogyro once rebuilt and flown at the school. Comments were also made as to the contrast of the Skylab space mechanics, bolt cutter, and hammer used to the do's and don'ts of aeronautics taught at the school. The ''Conrad Method'' was accepted and approved by the group.

STAFF MEMBERS RETIRE AFTER LONG SERVICE



Harry A. Barritt
Operations Support

George B. McGhee
Operations Support



Donald H. Carson
Procurement

John L. Cleary
Procurement

Robert R. Hall
Fabrication

Robert N. Conway
Off., Dir. for Administration

Graydon L. Elliott
RAFD

Charles N. Brooks, Jr.
RAFD

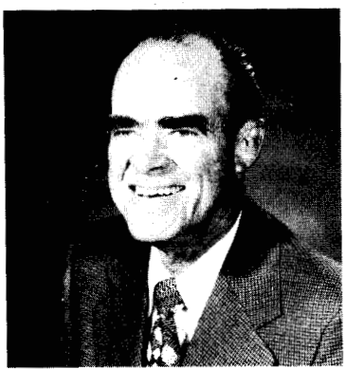
Daniel S. Wentz II
Office of Public Affairs

Stuart M. Perviance
Fabrication

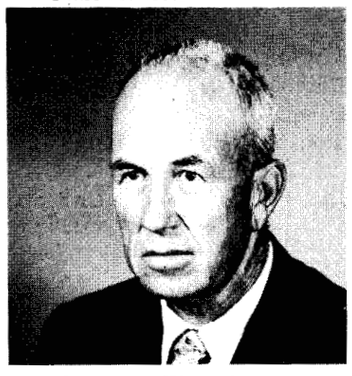
William L. Flowers
Fabrication

Francis S. Wolak
Fabrication

Charles F. Spear
Fabrication



Kaleb D. Osborn
RFED



Woodrow W. Johnson
Systems Engineering

Charles B. Hogan, Jr.
Safety Office

SUMMER STUDENTS: Seventeen outstanding high school students from this area are working at the Langley Research Center in a Summer Career Exploration Program. Front row (from left) are Richard Purman, Poquoson; David Harvey, Newport News; David Thrasher, Chesapeake; William Pociengel, Paul Lesner, Elwood Robinson, Marc Alderman, and David Allis, all of Norfolk. Back row are Richard Sawyer, Chesapeake; Susan Bonney, Norfolk; Vicki Gradel, Virginia Beach; John Lilly, Norfolk; Lillian Bailey and Charles Taylor, Virginia Beach; Mrs. Nadra Harkney, director of the Gifted Student Program, Hampton City Schools; Janet Riddick, Hampton; Vance Langston, Norfolk; and William Dees, Hampton.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

LOST

New black umbrella taken by mistake from the West Cafeteria on Monday, July 2. Diacont, 3333.

WANTED

Alternate drivers from Hilton Village to W.A. on 7:30 shift. Cacioppo, 2508.

Ride from Riverdale Apts. to W.A. on 8 shift. Carson, 3675.

FOR RENT

One bedroom furnished apartment in Seaford - $80 per month. Childs, 898-6719.

FOR SALE

Custom stereo TEAC 4010 tape deck, Sony 250 tape recorder, Kenwood 80-watt amplifier-tuner, Kenwood 5 in. 8 OHM speakers, Pioneer belt drive turntable enclosed in plywood walnut veneer cabinet - $1000. Trombley, 877-3178 after 4:30 p.m.

1953 Jeep - $400. Freeman, 877-4197.

Automatic transmission for 1962-65 Falcon or Comet. Breen, 851-9446.

Mahogany gateleg table - $40; 10-inch tricycle - $5; 30-inch by 50-inch plate glass mirror with gold frame - $20; 36-inch aluminum storm door with frame and screen insert - $10; 4 wooden kitchen chairs - $15; small round mahogany end table - $10. Witherspoon, 851-0552.

1971 Renault R-16 with sunroof, standard shift, Michelin radials - $1200. Kusic, 3917.

3-bedroom, 1-1/2 bath house in Wythe area. Daougherty, 2191 or 723-2279.

STUDENT CAREER PROGRAM

Seventeen high school students from the Peninsula and Norfolk area are attending a career exploration program at the Center this summer.

The program is designed to give work experience to outstanding high school junior and senior students. The experience is planned to help them make realistic choices of future vocations or careers. The six-week program will end July 27.

Peninsula students enrolled in the program are William Dees, a student at Kecoughtan High School; David Harvey, Hampton Roads Academy; Richard Purman, Poquoson High School; and Janet Riddick, Hampton High School.

Norfolk students are Marc Alderman, David Allis, Susan Bonney, Vance Langston, Paul Lesner, John Lilly, William Pociengal, and Elwood Robinson.

Students from Virginia Beach are Lillian Bailey, Vicki Gradel, and Charles Taylor.

Chesapeake students are Richard Sawyer and David Thrasher.

Norfolk area high schools represented include Lake Taylor, Granby, Norview, Maury, Washington, Kempsville, Kellam, Indian River, and Great Bridge.

The students were selected by their area school divisions as being academically gifted.

The students are working in several divisions at the Center, exploring jobs related to aerospace science and technology. Each has a sponsor who is responsible for guiding his student through the program.

THE COMPUTER is incredibly fast, accurate, and stupid. Man is unbelievably slow, inaccurate and brilliant. The marriage of the two is a force beyond calculation.

-- Dr. Leo Cherne

Langley Researcher

VOLUME 12, NUMBER 13 | LANGLEY RESEARCH CENTER | JULY 20, 1973

MINUTEMAN FLAG: Vernon Courtney (left) raises the Minuteman Flag with one star while Director Edgar M. Cortright (right) and Dennis J. Martin, Chairman of the Center's annual bond drive, look on. Center staff members earned the Minuteman Flag last year when more than 90% of the staff subscribed to savings bond. This year Center personnel pushed the percent participation to 91.24% to retain the flag and add a star.

TEAM STUDYING RURAL HOUSING

A winding road through ridged and hilly countryside; a simple house in rural West Virginia.

The hostile, airless void of outer space; a space station in orbit above the Earth.

What these disparate elements may have in common is being studied this summer by a team of investigators from West Virginia University.

The team is working at Langley Research Center on a preliminary project titled "Space Station West Virginia," looking for ways in which some modern technologies developed in space research may be applied to the rural, often completely isolated, environment of West Virginia.

The program is directed by Dr. Emil Steinhardt, associate professor of mechanical engineering and mechanics at West Virginia University. He is assisted by Dr. Edmund Rollo, state extension specialist in housing for the university. Three graduate students are working with the professors.

A recent meeting at Langley brought together the study group, members of the West Virginia Interagency Housing Council, and NASA advisors. The Council is composed of representatives from agencies and businesses concerned with housing in the state.

The summer project will allow the three groups to work

(Continued on page 3)

SKYLAB LAUNCH SET JULY 28; 56 DAYS IN ORBIT PLANNED

Alan L. Bean

The launching of the second crew to work and live aboard the nation's first space station, Skylab, will be no earlier than 7:08 a.m. EDT on Saturday, July 28. After conducting scientific and technical experiments for 56 days in Earth orbit, the crew is expected to splashdown in the Pacific at 8:38 p.m. EDT September 22.

The crew of the second manned visit to Skylab is headed by Alan L. Bean, commander, with Dr. Owen K. Garriott as science pilot and Jack R. Lousma as pilot. Bean, 39, is a U.S. Navy captain who walked on the Moon as the Apollo 12 lunar module pilot. Garriott, 41, is a civilian with a doctorate in electrical engineering. Lousma, 35, is a major in the U.S. Marine Corps. This will be the first space flight for Garriott and Lousma.

The crew will be boosted into orbit atop a Saturn-1B from Pad B of Launch Complex 39 at Kennedy Space Center.

Dr. Owen K. Garriott

Jack R. Lousma

HAPPENINGS

NEWLYWEDS. . .Wedding bells rang on July 7 when June E. Robinson, Plant Engineering Division, took her final vows with John Howell in Hampton.

CONGRATULATIONS. . .Congratulations to Sidney L. Powell, Fabrication Division, on being elected Associated Grand Guardian of Job's Daughters for the State of Virginia.

BOND WINNERS. . .Winners of the Activities Association's bond drawing on July 6 were Fred Rector, newly retired, who received a $50 bond and Carol Green, Flight Mechanics Division, who received a $25 bond.

HEAR, HEAR. . .Stereo hi-fi earphones can pose as big a threat to hearing as the live amplified music of a rock band, according to Dr. David Lipscomb, director of the University of Tennessee's noise research lab. Dr. Lipscomb stated that earphones can direct levels in potentially hazardous ranges to the ear. He found that all the commercial equipment he tested could easily exceed the danger level. Frequent or extended use of earphones can cause hearing loss, he warned.

ARCHERY CLUB. . .The NASA Bowmen Archery Club will hold a club shoot at the Newport News Park Archery Range at 2 p.m. on Sunday. Visitors are welcome and refreshments will be served. For further information call Clarence Young, extension 2675.

NEW HEIRESS. . .Celebrating the arrival of a seven-pound, nine-ounce daughter, Nancy, on July 10 is John C. Wilson, Army Engineer, Low-Speed Aircraft Division.

SESTS PROGRAM CHANGE. . .At the Ninth Annual Southeastern Seminar on Thermal Sciences (SESTS) to be held July 26 and 27 at the Hampton Sheraton Inn, Dr. R. D. Cess, of SUNY - Stoneybrook, will replace Dr. S. P. Kezios as the featured speaker at 3:30 p.m. on July 27. His topic will be ''Energy Transfer in Planetary Atmospheres.''

GOLF ASSOCIATION. . .The Langley Golf Association held its fourth tournament on July 6 at Langley. It was a best ball, team handicap tournament and winners were as follows: First Flight - Vincent Foretich (87) and Joe Stodghill (82), 33-59; Fred Eubank (78) and Bill McMillan (83), 27-61; Kenneth Test (81) and G. Haigler (79), 22-62. Second flight - W. E. Miller (87) and Tom Steele (94), 43-58; Walter Laughon (86) and Bill Hutcheson (86), 37-59; Dale Dalin (86) and B. Williams (103), 50-59. The next tournament will be held August 10 at Langley.

THANKS BLOOD DONORS. . .Margaret Satterfield, East Dispensary, wishes to thank staff members who donated blood during the last Bloodmobile visit to replace blood recently given to her husband, Leo.

AFGE NOTICE. . .The NASA Lodge 2755, American Federation of Government Employees, will meet on Wednesday, July 25 at 7:30 p.m. at the Central Labor Union Hall.

THE REAL problem of your leisure is how to keep other people from using it.

NEW OFFICERS: New officers of the Langley Camera Club are (from left) John Taylor, secretary; Boyd Perry III, president; Robert L. Wright, vice president; and John Diamond, treasurer.

CAMERA CLUB ELECTS OFFICERS

At the June meeting of the Langley Camera Club, officers for the coming year were elected. Boyd Perry III, Loads, was elected president and he will be asisted by Robert L. Wright, Viking, vice president; John Taylor, Research Facilities and Engineering, secretary; and John Diamond, Flight Instrument, treasurer.

The club will meet on August 20 at 7:30 p.m. in the Activities Building. Theme for the color-slide contest will be ''Action Sports.''

All persons interested in photography are invited to attend and bring a color-slide for the contest.

AIAA TO HEAR FARNHAM

Lee L. Farnham, General Manager of Space Systems at the General Electric Company Space Division, will speak on ''Earth Resources Technology Satellites'' at a meeting of the Hampton Roads Section of the American Institute of Aeronautics and Astronautics on Thursday, July 26 at the Hispaniola Restaurant.

Farnham will describe the Earth Resources Technology Satellite (ERTS-1) which was built by General Electric and launched by NASA a year ago. From its 570-mile-high orbit, the satellite is circling the Earth 14 times a day, covering the entire globe every 18 days.

Farnham's presentation will feature a number of photographs taken by the spacecraft, depicting 100-mile-square portions of the Earth's surface.

The meeting will be preceded by a social hour at 6:30 p.m., followed by dinner at 7:30 and the meeting at 8:30. Reservations may be made by calling Bill Woods, 851-5331, or George Greene, 898-6943.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

NEW STAFF MEMBERS: Twelve new professional employees joined the Center staff on Monday, July 9. The new scientists and engineers are front row (from Left) Long P. Yip, Thomas D. Norum, David J. Fratello, Mary L. Mason, Kenneth A. Hopping, and William B. Sewall. Back row - Dennis H. Petley, Craig W. Ohlhorst, William K. Abeyounis, Phillip A. Shidler, Willie R. Watson, and Robert V. Gifford. Another group is scheduled to arrive in Sept.

MERIT PROMOTION NOTICE

One of the key program responsibilities for Langley in the years immediately ahead is in the area of acoustics and noise reduction research. Our Aircraft Noise Reduction Laboratory will soon be operational and will become a focal point for a concerted attack upon the problems associated with aircraft noise. To meet this new program challenge, we have made a number of organizational changes including formation of a new Acoustics and Noise Reduction Division under the leadership of Homer Morgan. Positions 73-71 through 73-75 below have been recently advertised under the merit promotion procedures. Each represents an important element of our expanding acoustics research program and deserves serious consideration on the part of those on our staff whose professional interests and qualifications are appropriate to this area of research. Applications will be accepted through July 31.

No. 73-71 - Aerospace Engineer (AST, Fluid and Flight Mechanics), GS-861-9, 11, or 12.

No. 73-72 - Aerospace Engineer (AST, Flight Vehicle Acoustics), GS-861-9, 11, or 12.

No. 73-73 - Aerospace Engineer (AST, Fluid and Flight Mechanics), GS-861-9, 11, or 12.

No. 73-74 - Aerospace Engineer (AST, Flight Vehicle Acoustics), GS-861-9, 11, or 12.

No. 73-75 - Mathematician (AST, Data Analysis), GS-7, 9, or 11.

No. 73-66 - Supervisory Aerospace Engineering Technician, GS-802-12, with promotional opportunity. Research Aircraft Flight Division, Operations Branch, Research Aircraft Support Section. Closes today.

No. 73-67 - Supervisory Aerospace Engineering Technician, GS-802-11, with promotional opportunity. Research Aircraft Flight Division, Operations Branch, Research Aircraft Support Section. Closes today.

No. 73-68 - Engineering Technician, GS-802-9 or 10, two positions, Operation Support Division, Facilities Operations Branch, Technical Support Section B. Closes July 25.

No. 73-69 - Electrical Engineering Technician, GS-802-8 or 9, Operation Support Division, Electrical Support Branch, Plant Electrical Section. Closes July 27.

No. 73-70 - Engineering Technician, GS-802-9 or 10. Operations Support Division, Facilities Operations Branch, Technical Support Section E. Closes July 27.

TEAM STUDYING RURAL HOUSING

(Continued from page 1)

together and learn each other's objectives.

The preliminary study will hopefully lead to the eventual construction and demonstration of "Space Station West Virginia," a self-contained house or small community that would incorporate modern technology in supplying energy, water and sewage, fire control, and systems analysis.

"Space Station West Virginia" would also demonstrate the possible quality of future housing to the public, homebuilders, bankers, and public officials.

The study team will determine the problems associated with rural housing, establish how and where technology can contribute to solving the problems, evolve methods for continuing the project, develop new technology, and insure its use in building rural homes.

West Virginia is a prime candidate for the project. Slightly more than 60 per cent of the state's people live in a rural environment. The geography of the state, predominantly hilly and mountainous, presents problems for road building, water sewage lines, power, fire protection, and home building.

Dr. Steinhardt's study group will make use of the systems analysis approach that NASA and other government agencies employ in developing large projects, combining research, development, manufacture, scheduling, management, and operations into an integrated, cohesive program.

Success in the West Virginia project may lead to similar programs for other states or areas of the country, where space-age technology can be used to benefit the people of rural America.

KEY ORGANIZATIONAL POSITIONS

The following have been selected for the key organizational positions indicated:

George F. Palko - Head, Plant Schedules and Control Group, Plant Support Branch, Plant Engineering Division.

Alvin E. Schultz - Head, Operations Office, Hypersonic Vehicles Division.

G. Burton Northam - Head, LIDAR Applications Section, Environmental Sciences Branch, Environmental and Space Sciences Division.

EEO HIGHLIGHTS

PROGRAMMER TRAINEE: Peggy Fodrey (right), Computer Operator, Systems Operation Section, Business Data Systems Division, shows Sandra Ward, Programmer Trainee, the proper technique of tape and disc-mounting for computer.

The Data Systems Division employs Sandra Ward as a programmer trainee. She worked last summer as a math aid at the Center and last fall and spring participated in in the NASA work-study program. In the work-study program she served as an administrative aid and worked very closely with Gloria Alto, Loads Division, who became aware of Sandra's interests and talents and referred her to Sidney Pauls, Head of Analysis and Programming Branch, Business Data Systems Division.

Sandra has been exploring the computer programming field through the Data Processing Technology Computer Programming curriculum at Thomas Nelson Community College.

Sandra is looking forward to enrolling in a local college where she may continue her studies toward a B.S. degree in Mathematics with a computer background emphasis.

Congratulations to the Business Data Systems Division. What kind of employee development is your division participating in? Let us (EEO Office) hear from you, we would like to know about it. We would like to let others know about it, too.

UPWARD MOBILITY PROGRAM

To facilitate the planning of the Upward Mobility Program at the Center, a 4-page questionnaire was recently sent to all employees GS-7 or WG-10 and below. Results of the questionnaire are being analyzed in an effort to plan a more effective Upward Mobility Program and to have a skills file available on all these employees, particularly those who are under-utilized or in a dead-end position.

Employees GS-7 or WG-10 and below who have not completed their questionnaires are urged to do so and forward them to Eloise McGehee, Mail Stop 309, before Aug. 1.

TNCC classes to be offered under the Upward Mobility Program during the fall quarter 1973 will be English 101, Communication Skills; BUAD 100, Introduction to Business; SPDR 136, Oral Communications; Psych 128, Human Relations, which will meet at the Center from 1 to 4 p.m.; and Math 151, Introduction to Business Mathematics, which will meet at Thomas Nelson Community College from 4 to 7 p.m.

Classes will begin the last week in September.

Persons interested in enrolling in these classes should contact Eloise McGehee, extension 2838, Building 587, Room 214.

INVENTION AWARDS: In the top photograph Howard Edwards (left), Chief of Instrument Research, presents an invention award to (from left) Dr. Ronald A. Outlaw, Richard E. Stell and Ronald F. Hoyt for their joint invention entitled ''Insitu Transfer Standard for Ultra High Vacuum Gage Calibration.'' Center photo - William A. Brooks Jr., (right), Chief of Materials Division, congratulates Thomas T. Bales for his invention entitled ''Weld Brazing.'' Bottom photos - Sharing in the award with Bales on ''Weld Brazing'' were Ashby G. Lawson (left) and Winfrey E. Arnold.

STAFF MEMBERS RETIRE AFTER LONG SERVICE

Helen K. Wheary
Personnel Division

William C. Thorton
Structures Division

William C. Morris
Fabrication Division

Hubert Battle
Fabrication Division

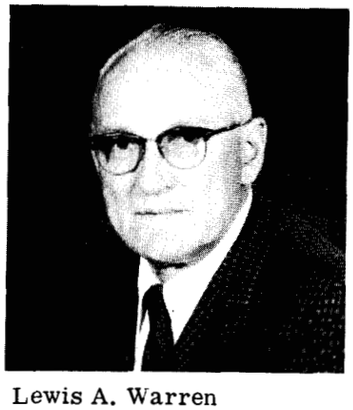
Gordon D. Almond
Operations Support Division

Govener Speer
Fabrication Division

George L. Bewley
Operations Support Division

Catherine P. Hart
Technical Editing Section

Charles W. Wood, Jr.
Fabrication Division



Lewis A. Warren
Operations Support Division

Dr. Kennedy F. Rubert
Hypersonic Vehicles Division

Thomas S. Bristow
Plant Engineering Division

SPACE JEWELRY AND PATCHES

Staff members are reminded that the Activities Association has a limited assortment of space jewelry and patches for sale. These items are being sold at a discount of 15% below retail price and include the following:

Tie-tac/pins of mission emblems for all 12 Apollo manned missions; tie-tac/pins of Mercury, Gemini, Apollo, LEM, Lunar Rover, Skylab vehicles; and mission emblem patches for all manned Mercury, Gemini, Apollo, and Skylab missions.

Samples of items available are on display and orders are being taked at the Activities Office, Building 1222, through this months.

ASEE LECTURE SERIES

The following lectures will be given in the 7 x 10 Conference Room, Building 1212, Room 200, at 10 a.m. All interested persons are invited to attend.

July 31 - ''Simulation of Climate by a Mathematical Model of the Atmosphere'' by Dr. S. Manabe, Geophysical Fluid Dynamics Laboratory.

Aug. 2 - ''A Brief Survey of Transonic Flow'' by Dr. B. H. Goethert, University of Tennessee Space Institute.

IF at first you don't succeed, you are running about average.

A DIPLOMAT is one who can tell a man he's open minded when he means he has a hole in his head.

ACHIEVEMENT AWARDS: Four members of the Low-Speed Aircraft Division recently received Special Achievement Awards. In the above photo Lucy White receives her award from John P. Campbell (right), Chief of LSAD, while M. O. McKinney, Head of Dynamic Stability Branch, looks on. Lucy was cited for ''providing exceptionally effective mathematical support of aeronautical research by special devotion to duty and by adapting and applying new data reduction techniques.'' In the top right photo Joseph L. Johnson (left), Head of Full-Scale Tunnel Section, presents an award to Charles C. Smith for ''superior performance in the conduct of a large-scale wind-tunnel investigation of the upper-surface blown flap STOL concept.'' In the center photo B. Ann Bell receives her award from Alexander D. Hammond, Head of Aerodynamics and Performance Branch. Ann was cited for her performance ''in the development of computer program and procedures to obtain computer-prepared plots rapidly during the course of V/STOL wind-tunnel investigations.'' In the bottom photo Richard E. Kuhn (left), Assistant Chief of LSAD, congratulates James L. Hassell for receiving his award for ''leadership and initiative in developing and coordinating the STOL aircraft research program at Langley and, in particular, for his studies of the adverse ground effects on powered lift STOL landing performance.''

RETIREMENT PARTIES

David D. Alexander, James W. Castle, Benjamin S. Caum, Leon B. Holt, Oren H. Jones, Herbert S. Moffett, and Charles W. Wood will be honored at a retirement party on August 8 at Sammy's Steak House, 12399 Warwick Blvd. A social hour will be held at 6:30 p.m. followed by dinner at 7:30. The cost will be $8 per person or $15 per couple. Reservations should be made by August 6 with Lewis Horsley or Bob Macklin, Mail Stop 205.

Fred Rector will be honored at a retirement party on July 26 at Pier I. A social hour will start at 6:15 (cash bar) followed by dinner at 7 o'clock. Cost for dinner and gift will be $7.50 per person or $14 per couple. Cost of gift only will be $1. Reservations and contributions should be sent by July 23 to Frances Thompson, MS 180-A.

Ernest W. Johnson and John T. Turlington, Systems Engineering Division, will be honored at a retirement party on July 25 at the Elks Club, 95 Tide Mill Lane, Hampton. A social hour will start at 6:30 p.m., followed by a buffet dinner at 7. Cost will be $5 per person or $8 per couple. Send names and contributions by July 23 to R. Woodman, MS 351.

****

Use this coupon for any of the retirement parties listed.

NAME_____ SECTION_____

WILL ATTEND_____ GIFT ONLY_____

CAN YOU SOLVE THIS PROBLEM?

An improved air hose for railcar pressurized air brakes is needed. The air hose usually measures 22 inches in length and 1-1/2 inches inside diameter. The hose must withstand an air line pressure of 60-100 psi and temperature between minus 50 degrees F and 150 degrees F. Refer to T-30. Contact the T. U. Office, extension 3281, for the problem statement or if you have a potential solution.

DUPLICATE BRIDGE

The NASA Duplicate Bridge Club recently started sponsoring a novice duplicate bridge game every Tuesday evening at 7:15 in the Activities Building. The game is designed primarily for people who are familiar with contract bridge rules and are interested in learning to play duplicate bridge. All interested persons are invited to attend.

Personnel Profiles

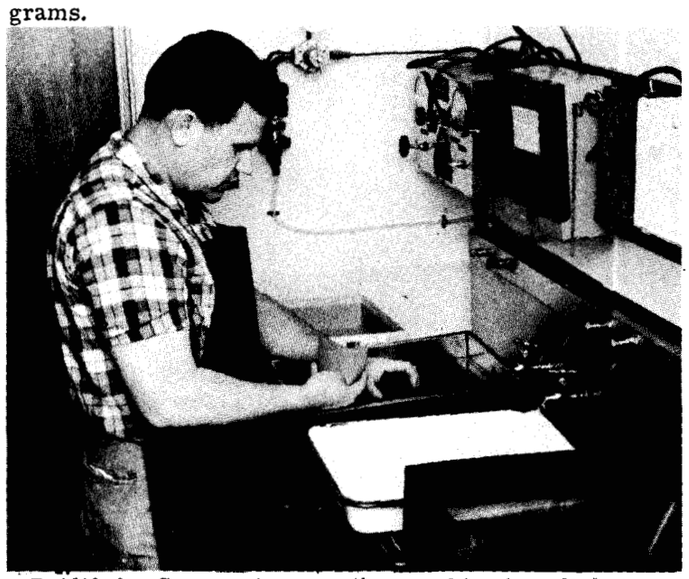
By

Allan C. Hanrahan

Meet One Sparrer Who Is A Wise Old Owl.

A number of people have suggested we write about Mr. James W. Sparrer, the gentleman shown at work in the photograph below, and it is a pleasure to do so although we feel incapable of doing this remarkable gentleman justice.

Mr. Sparrer, known by his many friends as Jimmy, is a Photographic Laboratory Aid in the Photographic Branch of the Office of Scientific and Technical Information Programs.



But life for Sparrer is more than working in a darkroom. It is boating and fishing with his wife, Kathleen, and his nine-year-old son, Preston; it is enjoyment of good books and good music; it is the use of his hands and the use of machines in woodworking; it is an awareness of current events and the world around him by way of subscriptions to a half-dozen magazines. And James A. Sparrer lives life with independence and a sense of humor.

Life for Jimmy began fifty years ago in the Seaford section of York County in the house in which he still lives: ''The old home place,'' he calls it.

Reared in York County, he graduated from what is now Poquoson High School in 1940, served an apprenticeship as a boilermaker in the Shipyard, and then went on to serve in the Navy from 1944 to 1946.

Jimmy began work at the Center in 1950 as an apprentice modelmaker and his woodworking, which was mentioned earlier, reflects that training.

Another interest mentioned earlier was boating and a friend of his related that a few years ago Jimmy ordered a boat hull and upon its delivery, with a little help here and there, proceeded to finish the construction of the craft, a 28-foot cabin cruiser. And as for fishing: ''It's amazing the way he handles light tackle!'' a friend exclaimed. In fact, the day we talked with him we learned he had spent most of the previous evening working on a gill net.

Sparrer was described as an athletic type. For example, many years ago he played semi-pro baseball for Seaford in the old Tri-County League, but we also found him an intellectual type. How else can you label a man who subscribes to (and reads) such wide-ranging periodicals as U.S. News and World Report, Kiplinger, Music Journal, Readers Digest, Sports Illustrated, and a magazine of natural history. In addition, he enjoys books on such subjects as geographical histories and lately he has been enjoying books by Russian novelists such as Tolstoy and Dostoevsky.

And let us not forget music. His interests are wide-ranging there also because ''if it is music pleasing to the ear,'' he enjoys it, he said. For instance, he related, ''The last time I was in Miller and Rhoads in Richmond I came out with two albums. One was of music written by Brahms and the other was music performed by the Sons of the Pioneers.''

A versatile and multi-faceted person, Mr. Sparrer.

For the benefit of the newer employees who may be reading this, and do not know him, it should be mentioned that Jimmy was rendered totally blind in a hunting accident some twenty years ago. So everything he accomplishes now he does without the benefit of sight, a fact that prompted one friend to remark: ''He is one of the most - if not THE most - remarkable person I have ever met.''

After a statement like that, anything we added would be anti-climactic.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

WANTED

Ride from Brentwood area to W.A. on 7:30 shift. Sentell, 3530.

Good home for friendly Sheep Dog, complete with dog house and chain - likes children. Ketchum, 851-6019.

FOR SALE

3-bedroom, 1-1/2 bath brick rancher with den, located in Fox Hill. Simonton, 851-2320.

Dachshund pups, shots and wormed. Grandle, 851-8433.

1971 Torino 500, 4-door sedan, air conditioned - $2175. Stephens, 898-6542.

Pencraft air conditioner, 24000 btu. Myers, 826-1849.

1968 Buick Skylard hardtop, 4-door, air conditioning - $750. Stephens, 838-1403.

Westinghouse 13-cubic-foot refrigerator - $50. Shultz, 596-9474.

Girl's Spyder bike - $20. Miller, 596-7178.

1972 Ford Gran Torino, 2-door hardtop, air conditioning - $2775. 877-3114.

1967 Ford Galaxie 500, small V-8, air conditioning - $500. Lloyd, 244-0050 after 6 p.m.

RCA Whirlpool automatic washer. Wray - 851-1104.

Will trade 12-cubic-foot refrigerator about 7 years old for deep freezer of equal value. Miller, 722-8993.

Motorcycle carrier, fits automobile bumper - $12. Davey, 898-5664.

Draperies - 8 ft. high, 39 feet, 6 inches wide in three sections, sandalwood color; also girl's white bedroom furniture including headboard, frame, vanity, bookcase and chest. Berryman, 596-3988.

26-foot Westerly cruising sailboat. Greene, 898-6943.

1964 Oldsmobile Cutlass, 2-door - $200. Price, 838-1054.

Questions and Answers

Q. In searching through the LRC telephone directory for the EEO Office, I found to my surprise that it is listed under the Office of the Director for Administration. This seems to raise some questions:

1. To those employees of the Administration Directorate who might feel that they are victims of discrimination and in need of the EEO Office's help, how credible is the EEO Office likely to look since it, too, is in that Directorate?

2. Couldn't a discrimination complaint from someone in the Administration Directorate put those officials in a potentially compromising conflict-of-interest position which they would prefer to avoid?

3. Couldn't the first two questions be effectively avoided by attaching the EEO Office directly to the Office of the Director?

A. Director E. M. Cortright said, ''Although it is certainly possible for a conflict-of-interest situation to occur, practical consideration of day-to-day management of the program weigh in favor of the present arrangement. The appeal channel is always there in cases of unresolved problems.''

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of July 23:

Monday - Tomato soup, stuffed cabbage rolls, cordon bleu of veal, broiled or fried fish. Snack bar - Ham and cheese, hot roast beef, NASA submarine, mini steak.

Tuesday - Minestrone soup, hot roast beef sandwich, sweet and sour pork, sauteed chicken livers. Snack bar - Turkey club, hot corned beef, ham steak and egg, bacon, lettuce and tomato.

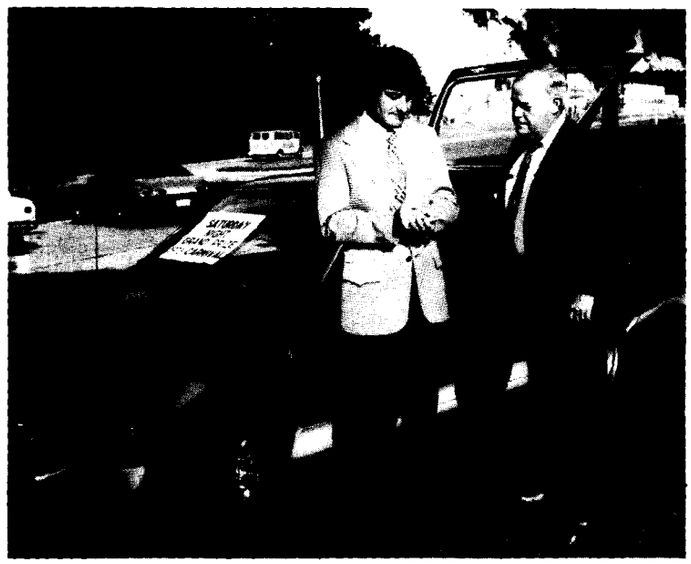
Wednesday - Crab bisque, sukiyaki, broiled red snapper, chicken cacciatore, chili con carne. Snack bar - Hoagie, barbequed pork, pizza, chicken salad.

Thursday - Manhattan clam chowder, beef burgundy, fried scallops, Salisbury steak, ham omelette. Snack bar - Steak sandwich, sausage and egg, pastrami.

Friday - Chicken gumbo soup, meat loaf, shrimp creole, chicken and dumplings. Snack bar - Barbequed pork, NASA submarine, ham and cheese, grilled cheese.

The menu for the week of July 30 is as follows:

Monday - Cream of mushroom soup, business man's lunch, barbequed beef spareribs, boiled ham, franks and beans. Snack bar - Ham steak and egg, turkey club, hot roast beef, salami.



FIRST CARNIVAL TICKET: Lucky Ticket! We're sure Raymond Romatowski, Director for Administration, hopes so as he purchases the first ticket for the Activities Association's Summer Carnival from Association President Herb Boulter. The grand prize, a 1973 Pinto Runabout, can be seen in front of the Activities Building and tickets for this and many other great prizes can be purchased from Association Delegates. A $100 savings bond will be given to the person selling the most tickets and everyone selling 100 tickets will be eligible for a drawing for two $50 bonds. There will be enjoyable games for both young and old, rides for the kids, casino for adults, lots of food and entertainment. Put August 24 and 25 on your calendar of events.

Tuesday - Chicken and rice soup, steamship round, fried chicken, Chinese egg rolls, broiled fish. Snack bar - NASA submarine, barbequed pork, ham and cheese, sausage and egg.

Wednesday - Vegetable beef soup, meat loaf, corned beef and cabbage, broiled or stuffed pork chops. Snack bar - Hot pastrami, NASA submarine, steak, pizza.

Thursday - French onion soup, stuffed peppers, veal parmesan, turkey a la king, shrimp cakes. Snack bar - Turkey club, barbequed pork, ham and cheese, bacon, lettuce and tomato.

Friday - Cream of asparagus soup, barbequed pork sandwich, country steak, fried or broiled fish. Snack bar - NASA submarine, ham steak and egg, corned beef, chicken salad.

Langley Researcher

VOLUME 12, NUMBER 16 LANGLEY RESEARCH CENTER AUGUST 3, 1973

CARNIVAL AUGUST 24 AND 25

Final plans are being made for the Activities Association's Summer Carnival which will be held Friday and Saturday, August 24 and 25 on the grounds surrounding the Activities Building.

The grand prize for the celebration will be a 1973 Pinto Runabout. The drawing for this prize will be held at 10 p.m. on Saturday night. The big prize for Friday will be a $1500 savings bonds. Winners do not have to be present to win these two prizes.

Prizes will be awarded through the day on both carnival days. Included on the list of prizes are a G.E. dutch skillet buffet, GE stand mixer with bowls, Farberware broiler/rotisserie, Oster 16-speed blender, Sunbeam hair dryer and comb, Regina electric broom, Proctor 12-cup perculator, his and hers Norelco shavers, Toastmaster oven-broiler, Oster haircutting set, hand mixer with Bundt pan and cake, 55-piece stainless steel flatware, king size card table and 4 chairs, 30-watt component system with 8-track tape, player and am-fm stereo radio, Motorola 14-inch remote control black/white portable TV, Motorola 9-inch ac/dc portable black and white TV with battery, his and hers bicycles, and many more to be announced later.

Tickets for these prizes may be purchased from Association Delegates.

HERE TODAY AND WHERE TOMORROW?

Well, at least with the Langley Federal Credit Union you know. It may not qualify as the ''Rock of Ages'' but, certainly, it has the steadfastness of a Gibraltar. Maximum allowable benefits to members have been a trade mark for 37 years.

The point, of course, is the so-called credit ''crunch'' with banks paying up to 9% for long term deposits. No one knows how long that rate will last since quarterly adjustments are built-in and certainly no one who meets the qualifications can be blamed for taking advantage of the current situation. However, there is consolation for those who do not choose to do so.

For instance, until now the Credit Union has consistently paid the highest return on the Peninsula for short-term deposits and probably will again under the law which says that the only thing constant is change. In the meantime, it has not been hurt. True, shareholdings have decreased but those withdrawing come generally under the term ''investors'' rather than that of ''savers'' - the backbone of the Credit Union. As a result, the average member is assured of a maximized dividend since income has held up with fewer shares for it to be divided between.

Mr. Average Member should do us both a favor - build up his share holdings to at least the maximum covered by share-life insurance: $2000. He can do this in small payday increments either in cash or by payroll deductions. His dividend will not be hurt but rather helped since the

(Continued on page 8)

LANGLEY CONDUCTS NOISE TESTS

Langley Research Center has been using its newly purchased Boeing 737-100 aircraft this week to measure noise contour profiles of takeoffs, landings, and steady flight.

The test information will serve as baseline data for comparison with predicted noise profiles and with actual noise reduction techniques that will be studied in later test projects.

This week's flights, made at Wallops Station, obtained acoustic data on aircraft and ground noise contours. The contours will be representative of those near and at long distances from an airport.

A secondary object of the operation was to obtain subjective response information from people inside a house as the aircraft flew overhead from several directions at a constant altitude.

The tests are part of a larger project centered at Langley, called the Terminal Configured Vehicle Program. It is concerned with developing equipment and operations that will help reduce noise and congestion at airport terminals, and develop reliable, all-weather operations.

This week's measurements were made by NASA engineers located in vans and on foot, measuring noise contours with hand-held sound-level meters. The test subjects stood or walked at several locations around the Wallops Station and along a nearby highway. Other people were located inside a conventional house and in an office building near the station.

After the Wallops tests, the aircraft will undergo extensive tests and modifications at Boeing Company facilities near Seattle. It will be permanently stationed at Langley early in 1974.

NEW AIRCRAFT: The newest research aircraft of Langley Research Center, a 737-100 twin-jet airliner, was used this week to measure noise contour profiles of takeoffs, landings, and steady flight. The flights were made at Wallops.

HAPPENINGS

BASEBALL NEWS. . .Congratulations to Charles Eichelberger, Systems Engineering Division, who recently coached his Warwick Moose Little League baseball team to the Virginia District VII Championship. His team will compete in the Virginia State Tournament which starts August 7 in Fairfax. Their first game will be played on Aug. 7 at 10 a.m.

NEW BOOKS. . .Three copies of the textbook ''Handbook of System and Product Safety'' by Willie Hammer have been placed in the Technical Library for reference use by interested personnel. This handbook can serve as a practical, comprehensive guide to system and product safety.

NOTE OF THANKS. . .Pattie Leatherman, Environmental and Space Sciences Division, wishes to thank all her friends for the lovely party, the most generous gift and the many good wishes on the occasion of her retirement.

BOWLING NOTICE. . .Anyone wishing to bowl or to enter a team in the NASA Duckpin League should notify Al Shearin, extension 2216, or Al Insley, extension 3454. Plans are being made to start bowling September 10.

HOME SAFETY. . .The Safety Office has for short term loan two copies of an excellent publication entitled ''A Design for Home Safety.'' Anyone building a new home, rebuilding or remodeling an older one could gain valuable information on home safety design from this publication. Anyone wishing to borrow this publication can do so by contacting the Safety Office, Building 1195T, extension 3310 or 3950.

CORRECTION. . .LRC Announcement 64-73 dated June 26, 1973, cited the telephone number of the limousine service to be 887-0279. This was an error. The correct number is 877-0279. If this number is busy, 877-0270 may be used.

TENNIS NEWS. . .The NASA Tennis Team won its third and fourth matches to remain undefeated for the season. The two wins came by defeating Williamsburg 9-0 and Suffolk 7-2. Results of the matches were as follows: Williamsburg - Singles - Charles Bryant (NASA) defeated B. Wetter 6-3, 6-1; Ted Bright (NASA) defeated J. Raney 6-2, 6-2; Bob Smith (NASA) defeated J. Edwards 6-4, 6-3; Jim Carter (NASA) defeated Bill Kelso 6-1, 6-1; Frank Nicholson (NASA) defeated W. Bass 6-2, 6-1; and Bill Compton (NASA) defeated Glen Rader 7-5, 6-4. Doubles - Bright and Smith defeated Edwards and Kelso 6-3, 6-2; Bryant and Nicholson defeated Wetter and Raney 6-3, 6-7, 6-3; and Carter and Compton defeated Rader and Bass 6-1, 6-3. Suffolk - Singles - Ned Ferguson defeated Charles Bryant (NASA) 7-5, 6-4; Billy Haigler (NASA) defeated Billy Harrell 6-4, 6-3; Bill Hill defeated Bob Smith (NASA) 6-1, 7-5; Jim Carter (NASA) defeated Walter Nurney 6-1, 6-1; Dennis Bartlett (NASA) defeated Bud Shelton 6-3, 7-5; and Burnell McKissick (NASA) defeated Jack West 6-1, 6-4. Doubles- Bryant and Smith defeated Harrell and Ellis 6-4, 6-4; Haigler and Carter defeated Hill and Nurney 6-4, 6-2; and Bartlett and McKissick defeated Shelton and West 3-6, 6-3, 6-3.

JUST ABOUT the time you think you can make both ends meet, somebody moves the ends.

RETIREE GETS A BIG ONE

William B. (Bill) Mayo, Assistant to the Head of Technical Services before his retirement in February 1972 (after about thirty years of service), is shown in the above photo with a 69-1/2-pound Black Drum he caught on June 22 while surf fishing at the ''Point'' near the Cape Hatteras Lighthouse.

At the time, Bill was on a two-week camping vacation at Buxton, N.C., with his grandchildren and other members of his family (shown with him in the photo).

Surf fishing is a pastime he has been enjoying for the past twenty-one years and this catch appears to be a North Carolina record because to date none larger has been found mentioned in the record book. Previously, his largest catch was a 40-pound Red Drum.

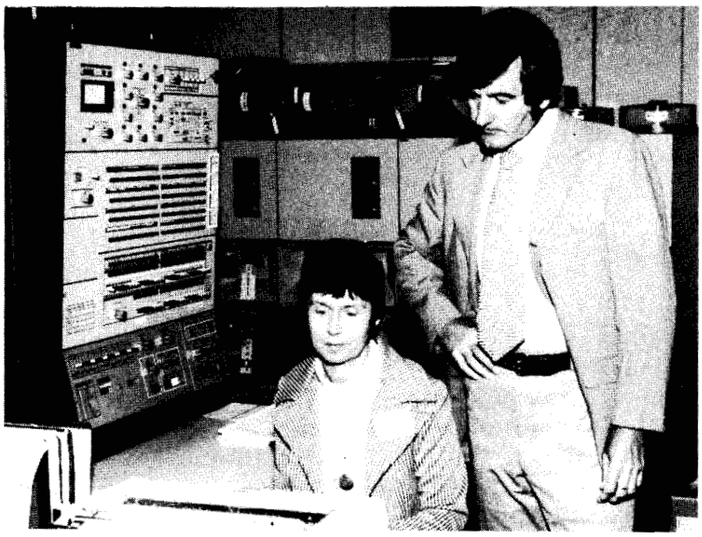
Congratulations, Bill!

UNDERGRADUATE COURSES: Two undergraduate engineering courses will be offered at the Center by Old Dominion University during the fall semester which begins Aug. 27. They are ENGN 304 - Structures, and ENGN 437 - Aerodynamic Design. For further information call the Training Office, extension 2517.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.



COMPUTER FACILITY: On July 18, Business Data Systems Division had an open house for divisions in the Administrative Directorate to see the new business computer facility so that Administration personnel could view the hardware that supports their activities. During the day, more than 200 staff members visited the facility. In the upper left photo Raymond Romatowski, Director for Administration, gets some on-the-job training as a computer operator from Peggy Fodrey. At upper right BDSD personnel explain the operation to Rupert Bullard (standing center), Programs and Resources Division. Shown with Bullard are standing (from left) Merle Anderson, Fritz Frederick, Bruce Fowler, and Lisa Yu. Henry Ogiba is seated at the console. In the bottom left photo Roger Smith (left), a summer employee in Programs and Resources, discusses the computers and budgets with Andrew Swanson (center), Chief of BDSD, and Robert Kirby, Chief of Programs and Resources. In the center right photo Jane Hess (right), Technical Library, is briefed on the tape dial by Sandra Ward, a summer employee in BDSD. In the bottom right photo Kirby receives coffee and cake from hostesses Edna Davidson, Kathleen Stowers, and Janette George, all of BDSD. The general reaction to the open house was that occasions such as this help foster the team spirit in doing the tasks of Administration.

FEDERAL EXECUTIVE DEVELOPMENT PROGRAM

The Office of Management and Budget, in cooperation with the Civil Service Commission, has established an experimental management development program called the Federal Executive Development Program (FEDP). Limited to GS-15's or the equivalent, its objective is to augment current agency executive development program through planned inter-agency work experience.

The FEDP will begin in late 1973 when 25 Federal employees who have demonstrated ''executive potential'' will be chosen competitively for year-long training programs. A key feature of the FEDP will be planned individual development.

Selectees will spend approximately two months of the program in specially designed group training at the Federal Executive Institute in Charlottesville. Remainder of the year will consist of one or more developmental work assignments and supplemental training experiences planned to meet the needs of each participant.

Program announcements and application blanks have been mailed directly to GS-15 employees in the Commission's Executive Inventory. Langley employees who qualify and wish to apply, but have not received information or application blanks, should contact the Personnel Division Office, extension 2242.

Interested personnel who have received the proper application material should send this material directly to: Federal Executive Development Program, Room 6235, New Executive Office Building, Washington, D.C. 20503.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

LOST

''Aircraft of the Fighting Powers'' Volume One (1941). Please return to Technical Library, MS 185.

FREE

Kittens, white, black, gray, and calico. Fischer, 898-7410.

WANTED

Ride from Fox Hill Town House to W.A. on 7 shift. Glinda, 3824.

Carpool from Yorktown or Peninsula area to Old Dominion University starting this fall. O'Neal, 898-6459.

Slide projector, 35 mm Kodak Carousel. Miller, 595-0731.

Sunfish rudder assembly. Bryant, 595-0819.

FOR SALE

Early American sofa, end tables, coffee table, lamps, hide-away bar, chairs; Whirlpool refrigerator; book shelves; metal storage cabinet; lawn mower, bar-bell weights; Winchester 270 hunting rifle; Ben Pearson #55 hunting bow with arrows; 7-piece bedroom suit; 9 x 12 shag rug; 9 x 12 oval rug; Gibson 8,000 btu air conditioner. Harper, 722-0423.

1969 Chrysler convertible - $1750;.243, Mauser action, sporter stock - $95. Berger, 877-4820 after 6 p.m.

Upright piano, antique white finish - $175. Gilman, 596-3388.

Drum set, 7 drums and 3 cymbals - $75; Hofner bass guitar and Silvertone power lead - $60. Willoughby, 898-6217.

1970 Terry travel trailer, 19-foot, self-contained, sleeps 6 - $2300. Rodgers, 877-9083.

Mediterranean living room furniture. Mascitti, 877-7711.

2 Spanish lamps and a Spanish rod iron candle holder with 9 cups for wall. Castle, 3383.

VIKING REVIEW: Following the Viking Orbiter Critical Design Review held last month at the Jet Propulsion Laboratory, James S. Martin Jr. (end of table), Manager of the Viking Project, and Langley Director Edgar M. Cortright (striped shirt) listen to comments from members of the Viking Review Advisory Panel and the JPL Orbiter System Manager's Advisory Panel. Seated around the table are (from left) Abe Moskovitz, OSS Safety, Quality and Reliability; Bob Kennedy (behind Cortright), NASA Headquarters, Viking Program Office; Israel Taback, Langley Deputy Project Manager (Technical); Walt Lowrie, Martin-Marietta Viking Program Director; and John Goodlette, Martin-Marietta Deputy Program Director for Technical Matters. The Viking Review Advisory Panel is composed of senior NASA personnel not directly associated with Viking. Their assignment is to advise Viking officials as to their comments and recommendations concerning the design, progress, and other pertinent factors after attending the Critical Design Review. Members include senior representatives from Langley, Goddard, Johnson, and JPL. Langley members are Barton Geer, Howard Edwards, Hubert Clark, Roger Adnerson, and James Stitt. The Orbiter System Manager's Advisory Panel operates on the same unbiased principle. The panel is composed of senior members of JPL who are not directly involved with Viking. They advise Henry Norris, JPL Orbiter System Manager, following each major Orbiter review.

CREDIT UNION NOTICE

As part of the annual audit of the Langley Federal Credit Union, the Supervisory Committee has mailed statements of account to the entire membership. Members who did not receive a statement should advise the Supervisory Committee, P.O. Box 607, Langley Air Force Base, VA 23665. Report any discrepancies to the Supervisory Committee.

36-inch tall by 12-foot diameter swimming pool with pump and accessories - $55; 20-inch 5-speed Spyder bicycle - $45; 20-inch bicycle - $5. Yamaki, 595-1688 after 5 p.m.

1967 Chrysler, 4-door sedan - $600. Miller, 595-0731.

1968 Ford convertible with air conditioning. Graves, 722-0041.

1971 Honda Trail 70, 4-speed - $200. Reaves, 596-4532.

Early American maple furniture: RCA home entertainment center - $300; hutch and buffet - $90; serving cart - $25; magazine rack - $15; coffee table - $10. Hunter, 874-0913.

1963 Chrysler New Yorker - $150. Muraca, 596-9267.

1971 22-foot Wellcraft, 27 channel C-B radio, 50-gallon gas tank, built-in fishing equipment, twin 65 hp Mercury engines. Smith, 898-6019.

Pattie W. Lomax receives her award from William F. Lawson, Head of Administrative Services Branch, MSD.

Earl F. Stahl (right), Chief of Operations Support Division, congratulated Kenneth R. Williams.

SPECIAL ACHIEVEMENT AWARDS

Six staff members recently received Special Achievement Awards. The recipients and their citations are as follows:

Pattie W. Lomax, Management Support Division, ''for her sustained superior performance in performing receptionist duties in Headquarters Building at Langley Research Center.''

Kenneth R. Williams, Operations Support, for ''his consistent display of initiative, resourcefulness and innovativeness, as shown in a recent request from the Department of Transportation, to perform tests on sections of rail in order to determine the best skin temperature of the rails during installation to avoid cracking and/or buckling.''

Benjamin O. Smith, Personnel Division, for ''assisting in the formulative planning and presentation of the NASA Human Rights Seminar at the Center.''

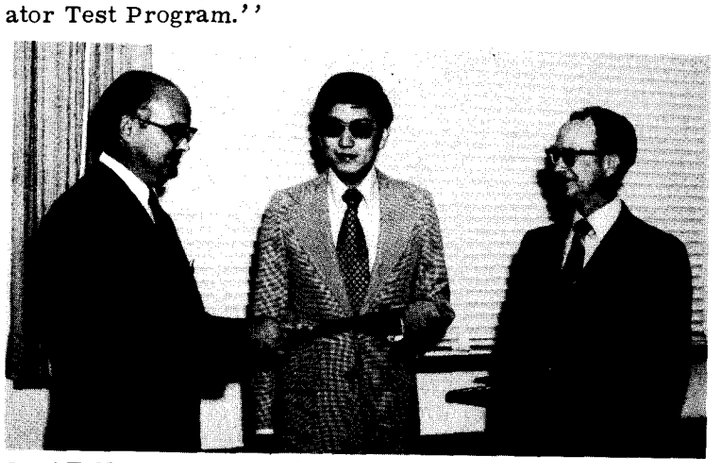
Barbara A. Pasternak, Instrument Research Division, for ''programming calculations of light scattering properties of atmospheric aerosols and for preparation and field application of special programs for an optical radar control and data system.''

Laut T. Nguyen, Low-Speed Aircraft Division, for ''contributions and personal dedication to theoretical studies of automatic spin-prevention systems.''

Betty C. Quigley, Viking Project Office, for ''outstanding clerical and administrative contributions to the Viking Engineering Mechanics, Science Instruments and Technical Administration groups and the Balloon Launched Decelerator Test Program.''

Williams L. Williams (left), Assistant Chief of Personnel, presents an achievement award to Benjamin O. Smith.

Barbara A. Pasternak receives her award from Howard B. Edwards, Chief of Instrument Research Division.



Laut T. Nguyen receives his award from Joseph R. Chambers (left), Head of Simulation and Analysis Section, while John P. Campbell, Chief of LSAD, looks on.

James S. Martin Jr., Manager of Viking Project Office, presents an achievement award to Betty C. Quigley. Shown on the table is a model of the Viking Lander.

HAWAIIAN VACATION

The Activities Association has been allotted additional seats on the charter flight to Hawaii on September 29 to October 6.

The holiday package includes round-trip jet flight, accomodations at the Princess Kaiulani Hotel at Waikiki, traditional lei greeting upon arrival, and all tips, taxes, transfers, and baggage handling paid. The cost is $349 per person, based on double occupancy. This fee does not include meals.

The trip is open to all NASA employees, members of their immediate families, and retired NASA employees and their families.

For reservations call Kathi Warfel, Activities Building, extension 2058. The last date to reserve seats will be Aug. 15, and a $100 deposit per person is required.

LOCAL CULTURAL ACTIVITIES

Aug. 3 - Hampton City Hall Council Chambers, Film Classic Series, ''Dear John,'' 8 p.m. Free.

Aug. 3 & 4 - Wornom's Crafts Bazaar, Hilton Store, 10 a.m. - 5 p.m.

Aug. 3-5 - Chesapeake Bay Artists Association, Summer Art Festival, Oceanview.

Aug. 4 - Hampton Roads Coliseum, Jackson 5 Concert, 8:30 p.m.

Aug. 5 - Mariners Museum Band Concerts, North Courtyard. Free.

Aug. 5 - United Trinity Methodist Church, Pine Arts Festival, Eugene Moore, baritone, 7:30 p.m. Free.

Aug. 6 - Hampton Roads Coliseum, Loggins and Messina, 8 p.m.

Aug. 8 - Hampton Recreation Department, The Hampton Crusaders Chorus, Kecoughtan High School, 8 p.m. Free.

Aug. 9 - U.S. Continental Army Band ''Concert Under the Stars,'' Continental Park, Ft. Monroe, Free.

Aug. 9 - Senior Citizen Happening - Trip Schedule - overnight to Natural Bridge. Contact Happy House, 524 S. Armistead Ave., Hampton, Hampton Recreation Department.

Aug. 10-11 - Buckroe Beach Boardwalk Art Show.

Aug. 11 - Denbigh Day, Denbigh High School - parade and entertainment.

Aug. 12 - Mariners Museum, Band Concerts, North Courtyard. Free.

Aug. 15 - Hampton Recreation Department, Family Movie, Kecoughtan High School, 8 p.m. Free.

Aug. 15 - Hampton Roads Coliseum, ''America,'' 8:30.

Aug. 16 - U.S. Army Continental Band, ''Concert Under the Stars,'' Continental Park, Ft. Monroe. Free.

Aug. 17 - Film Classic Series, Orson Welles in ''Citizen Kane,'' Hampton City Hall Council Chambers, 8 p.m. Free.

CAN YOU SOLVE THIS PROBLEM?

For use in routine ear examinations, an instrument is needed that could produce a fluctuatory pressure from negative to positive at a rate of 2 to 3 times a second. It should be capable of variable pressure with a range of plus or minus 300 mm of water with a dial so that the pressure reading can be correlated with the threshold of the tympanic membrane motion. Refer to SwRI-1. Contact the T.U. Office, extension 3281, for the complete problem statement or if you have a solution.

QUALITY INCREASES: Four members of the Langley Directorate, US Army Air Mobility Research and Development Laboratory recently received Quality Step Increases. In the top photo Thomas L. Coleman, Head of AAMRDL, congratulates Arthur E. Phelps III, Low-Speed Aircraft Division, while Joseph L. Johnson, Head of Full-Scale Tunnel, looks on. In the center photo G. Larry Roderick, Materials Division, is shown with William A. Brooks, Chief of Materials Division. In the bottom photo Coleman presents the award to Dr. Raymond L. Foye, Materials Division. David D. Loendorf (not pictured), Structures Division, also received a Quality Step Increase.

Personnel Profiles

By

Allan C. Hanrahan

Of Air And Earth

Here he comes! Here comes Lee H. Person, an intrepid airman with his roots in the soil and his heart in the clouds. You may glimpse him traveling in one of the hundred or so different types of aircraft he is familiar with or then again, you may watch him as he guides his tractor along the furrows of his garden located by the waters of Patricks Creek. You may see him sailing and you may observe him tooling along the highway in one of his autos he has just been tuning or tinkering with.

You may see Mr. Person on the go but do not be deceived; basically, he is really a person who enjoys his home and the company of his family.

Person flies because he enjoys it but also because he is an Aeronautical Research Pilot in the Operations Branch of the Research Aircraft Flight Division, a position about which he says, ''It's a job hard to beat,'' even though it entails ''a lot of study - a lot of paperwork,'' he added later.

Person learned to fly in the Naval Aviation Cadet Program back in 1953, after he had completed two years of college at North Carolina State in Raleigh, where, incidentally, he had lived since the age of fifteen. He went on to become a Marine Corps pilot and after discharge from the service he returned to N.C. State and earned a B.S. degree in Mechanical Engineering.

After graduation he went to work for the Duncan-Hines Division of Proctor and Gamble but in less than a year, and after having spent such interesting and exciting years in the Marine Corps, decided, ''Cookie making was not my bag,'' he remarked.

So, in early 1962 he began a happy association with the Langley Research Center.

The job does call for some travel; a recent four-and-a-half month project in the United Kingdom, for example, so Lee enjoys just being home and ''fixing all those things things that broke while I was away,'' he said.

Lee was born in Baton Rouge, Louisiana, in 1932, and his family lived there until they moved to Raleigh where Lee was graduated from high school and also met his wife, Ann. They have one daughter, Kim, age 16, who by chance and dint of hard study has already finished high school and begins at Christopher Newport College in September.

Lee admitted that he couldn't think of many things that he didn't like to do, and by the length of his list of interests we are obliged to believe him.

In addition to cars, sailing, flying, and gardening (which, by the way, stems from his family having owned a farm in Louisiana and many summers spent on an uncle's farm) there are woodworking, model airplanes, hunting and fishing. He reported, however, that he is probably ''the world's worst fisherman.''

That may be true, we do not know but this we do know - he is a 'Person' who leads one interesting life and we were pleased to 'profile' him.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of August 6:

Monday - Cream of potato soup, beef liver and onions, fried clams, broiled or fried chicken. Snack bar - Ham steak and egg, turkey club, hot roast beef, salami.

Tuesday - Fisherman's chowder, beef teriyaki, veal and spaghetti, broiled or fried fish. Snack bar - NASA submarine, barbequed pork, ham and cheese, sausage and egg.

Wednesday - Turkey noodle soup, delmonico steak, baked ham, Swedish meat balls, shrimp foo yung. Snack bar - Hot pastrami, NASA submarine, mini steak, pizza.

Thursday - New England clam chowder, meat loaf, veal parmesan, broiled red snapper, turkey a la king. Snack bar - Turkey, barbequed pork, hoagie, bacon, lettuce, and tomato.

Friday - Split pea with ham soup, country style steak, southern fried chicken, fried flounder. Snack bar - Ham and egg, NASA submarine, corned beef, hot roast beef.

The menu for the week of August 13 is as follows:

Monday - Cream of shrimp soup, pepper steak, roast turkey, broiled or fried fish. Snack bar - Ham and cheese, steak, hot pastrami, turkey club.

Tuesday - Chicken noodle soup, beef chop suey, sauteed chicken livers, wieners and sauerkraut. Snack bar - Barbequed pork, NASA submarine, hot corned beef, sausage and egg.

Wednesday - Beef noodle soup, braised beef tips, chuckwagon steak, broiled or fried chicken. Snack bar - Pizza, hoagie, ham and cheese, hot roast beef.

Thursday - Bean with bacon soup, rump roast, baked lasagna, fried shrimp, cheese omelette. Snack bar - Hot pastrami, NASA submarine, mini steak, bacon, lettuce and tomato.

Friday - Cream of chicken soup, meat loaf, veal cordon bleu, barbequed chicken. Snack bar - Barbequed pork, turkey club, ham and egg, chicken salad.

KEY ORGANIZATIONAL POSITIONS

The following has been selected for the key organizational position indicated:

Thomas P. Kelly - Head, Materials Processing and Development Section, Materials Technology Branch, Fabrication Division.

REGULATION ON TRANSPORTING CLASSIFIED MATERIAL BY AIR

Staff members who occasionally hand-carry classified material aboard commercial aircraft are reminded of the following regulation which is quoted from the ''NASA Physical Security Handbook,'' Chapter 8:

''The hand-carrying of Confidential and Secret material aboard commercial aircraft will be permitted only on commercial domestic flights, on a case-by-case basis, and with the specific concurrence of the Security Officer and, for NASA Headquarters, the Director of Security. The hand-carrying of classified material on commercial international flights is prohibited. Classified material may be hand-carried aboard Government-owned or charter aircraft on domestic or international flights.''

ASEE LECTURE SERIES

The ASEE Guest Lectures for the final week is given below. These lectures will be held in the 7 by 10 Conference Room (Building 121, Room 200).

Aug. 7 - ''Conversion of Solar Energy in Space to Produce Power on Earth'' by Dr. Peter E. Glaser, Arthur D. Little, Inc., Cambridge, Mass. Time - 3 p.m.

Aug. 9 - ''Where and How to Use Technology in Future Commercial Transport Designs'' by Dr. A. J. K. Carline, General Dynamics, Fort Worth. Time - 10 a.m.

CREDIT UNION NEWS

(Continued from page 1)

no-cost life insurance actually serves to increase it materially. An eligible member with $2000 in shares receives at 6% a dividend of $120 per year. Add to this the free $67 premium the cheapest whole-life insurance would cost at age 45 and you get $187 or an annual return of 9.35% on the $2000. Changes the picture, doesn't it?

On the other side of the coin, the situation is even brighter. As noted earlier, the Credit Union is in excellent financial position and has plenty of money for worthwhile loans. You can't have things both ways: if you pay more to borrow, you must charge more when you lend. Since the Credit Union has charged Mr. Average Member the lowest rate on consumer loans since 1936 and that rate is still legally frozen, it follows - as the day the night - that LFCU rates are something special. All we ask is that you ask.

■■■■■

THE BEST thing for gray hair is a sensible head.

CARNIVAL WORKERS NEEDED

The Activities Association's Carnival is in its final planning stages. As usual, the Carnival success or failure will depend on employee support - both financial and physical.

Clubs and leagues which are subsidized by the Association are being asked to take over operation of the boothes. Organization members not contacted should contact the president of their respective groups if they wish to work.

Anyone who does not belong to a club or league and who wishes to work during the Carnival may either mail the form below to MS 496 or call extension 2508.

I will support Carnival 73 by donating _____ hours on Friday, Aug. 24 and/or _____ hours on Saturday, Aug. 25.
Times desired _____
Signed _____ Extension _____

MERIT PROMOTION NOTICE

The following Merit Promotion Announcements are currently open:

No. 73-77 - Procurement Officer, GS-1102-14 with promotional opportunity. Office of the Chief, Procurement Division. Closes August 8.

No. 73-78 - Supervisory Engineering Technician, GS-802-11 with promotional opportunity. Fabrication Division, Materials Technology Branch, Materials Processing and Development Section. Closes August 15.

RETIREMENT PARTIES

A retirement party honoring Robert N. Conway, Assistant Director for Administration, will be held on Friday, August 10 in the private dining room of the West Cafeteria. Hors d'oeuvres will be served and a cash bar will be open at 4:45. Cost for the party and donation for the gift will be $4.50 for singles or $8 per couple. Names and contributions should be sent to William W. Metz, MS 181, by Aug. 8.

John Munick, Procurement Division, will be honored at a retirement party from 5 to 7 p.m. on August 29 at the Langley Officers' Club (Williamsburg Room). Cost will be $4.50 per person or $7 a couple, not including cash bar. Contributions should be sent by Aug. 21 to Betty Brendel, MS 134, or Sandra Ray, MS 146A.

****

Use this coupon for any of the retirement parties listed.
NAME _____ SECTION _____
WILL ATTEND _____ GIFT ONLY _____

Langley Researcher

VOLUME 12, NUMBER 17 LANGLEY RESEARCH CENTER AUGUST 17, 1973

MATTSON NAMED TO POLLUTION BOARD

Axel T. Mattson

Axel T. Mattson, Assistant Director for Center Development and External Affairs, has been appointed to the State Air Pollution Control Board by Governor Lindwood Holton. Mattson's term will be for four years.

The appointment was made early this month, and Mattson sat with the five-member board for the first time at its meeting on August 6.

The mission of the Air Pollution Control Board is "To achieve and maintain such levels of air quality as will protect human health, welfare and safety and to the greatest degree practicable prevent injury to plant and animal life and property, will foster the comfort and convenience of its people and their enjoyment of life and property, and facilitate enjoyment of its attractions."

In connection with his new appointment, Mattson has been interviewed on a number of local television shows.

AIAA PLANS AFTERNOON MEETING

Dr. Hermann Schlichting

Dr. Hermann Schlichting, Director, Aerodynamic Re-Research Institute, Gottingen, West Germany, will be guest speaker at an afternoon meeting of the Hampton Roads Chapter of the American Institute of Aeronautics and Astronautics. The meeting will be held at 2 o' clock on Thursday, Aug. 23 at the Activities Building.

Dr. Schlichting, who presented the 1973 AIAA Wright Brothers Memorial Lecture, will speak on "Recent Progress in Boundary Layer Research."

Dr. Schlichting, who has had a distinguished career in fluid mechanics, was a student of Dr. L. Prandtl. He has written over 100 technical publications in the field of fluid mechanics including his popular textbook entitled "Boundary Layer Theory." Since 1938, he has been professor of Fluid Mechanics at the Technical University of Braunschweig.

The meeting will be preceded by a buffet luncheon at 12 noon at Hornes Coliseum Inn on Mercury Boulevard. Reservations for the luncheon may be made by calling Bill Woods, 2483, or George Greene, 3691. Price of the buffet is three dollars per person.

LANGLEY AIDS WETLAND STUDIES

Two government agencies - - one federal and one state - - are working together to identify and protect vegetation in the wetlands of Tidewater Virginia.

Scientists from Langley Research Center and the Virginia Institute of Marine Science (VIMS) are trying to identify wetlands vegetation through the use of aerial photography.

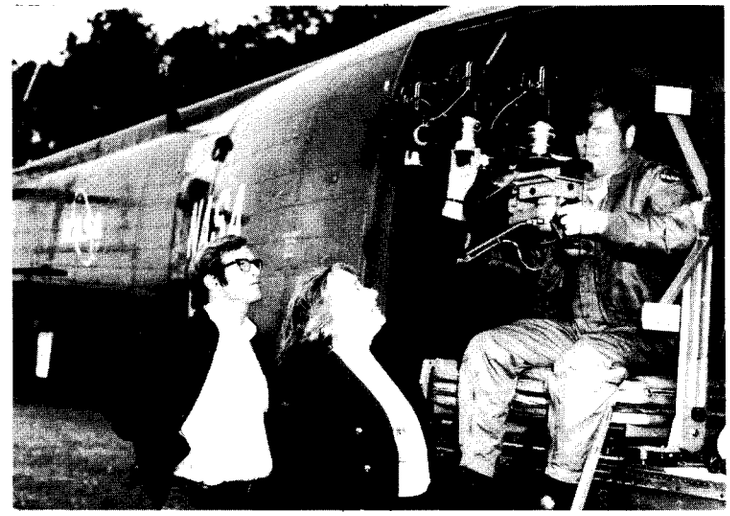
Helicopter-borne high-resolution photographs will provide more accurate knowledge of various species of vegetation than has been gained by scientists slogging through swamps on foot.

Marine scientists and ecologists realize the importance of seemingly worthless marshes and swamps. These wetlands areas - - both salt water and fresh water - - are nursery grounds for many kinds of vegetation that support fish larva and young fish. Marsh vegetation provides the base of the food chain for marine life and for the large bird and animal populations that teem in wetland areas.

VIMS scientists have selected sites in Sweet Hall Marsh and Purtin Island Marsh, both in the York River drainage basin, for the studies. Both areas have important species of vegetation in enough quantity to classify the predominant species.

Target areas in the two marshes are photographed each

(Continued on page 5)



WETLAND STUDIES: Scientists check their cameras before beginning a helicopter run over York River marshlands to identify vegetation. The high-resolution camera system will provide more accurate knowledge of various species of vegetation, leading to better protection measures. Dr. Kenneth Marcellus (left) is principal research scientist for the Virginia Institute of Marine Science, and Ruth Whitman is project engineer for Langley. The two agencies are working together on the project. The NASA photographer is Alton Moore.

HAPPENINGS

REGISTRATION REMINDER. . .Registration for George Washington University graduate courses will be held Monday, August 27 from 9 a.m. to noon in Building 586. Registration for Old Dominion University graduate engineering courses at VARC will be held at VARC on Wednesday, August 22 from 3 to 6 p.m.

FORM REVISED. . .The Library Material Request Form (Form 31) has been revised in an effort to expedite requests for material from the Library. Previous editions are obsolete and the new yellow forms are available from stock. A new requirement enacted since these forms were printed requires that when supplying RTOP and J.O. the Fund Source should also be given. Suggestions for improvements should be addressed to Marshal Hughes, MS 185, extension 2788.

FORMER STAFF MEMBER HONORED. . .Dr. Adolf Busemann, former Chief Scientist at the Center, has been honored by his colleagues in the Department of Aerospace Engineering Sciences, University of Colorado. Called the ''father of the swept-back wing,'' his colleagues honored him by commissioning a bust in his honor. Executed by Denver artist Elaine Pear Cohen, the bronze likeness will be permanently on display at the Engineering Center.

BOWLING NOTICE. . .The NASA Bowling League for NASA and contract employees begins September 4 at Century Lanes. Anyone interested in bowling, is requested to contact one of the following league officers: Jerry Sisson, president, 838-3910; Meg Lynch, vice president, 595-4282; Pam Hopkins, secretary, 723-4333; or Dot Braswell, treasurer, 723-8933.

NOTE OF THANKS. . .Fred Rector, Publications Branch, and William O. Moore, Operations Support Division, wish to thank their respective friends and co-workers for the banquet and gifts given to them on the occasions of their retirements.

UPWARD MOBILITY REMINDER. . .All applications to attend the Thomas Nelson Community College classes for the fall quarter which are given as part of the Upward Mobility Program must be processed by the Training Office before August 30. Titles of courses to be offered were listed in the last issue of the Researcher. Please call Eloise McGehee, 2838, for further information about the Upward Mobility Program.

THANKS STAFF. . .Edith C. Whitley sends a special thank you to all her friends and well wishers for their kindness, thoughtfulness, consideration, gifts, and the party on the occasion of her recent retirement from the Center. ''It was one of the nicest parties I have ever attended,'' she said, ''even if it was my own.''

NAMED TO NEW POSITION. . .David R. Scott, former astronaut, has been appointed Deputy Director of NASA's Flight Research Center at Edwards, California. As an astronaut, Scott flew on Gemini 8, Apollo 9, and was Spacecraft Commander of Apollo 15. After leaving the astronaut corps in 1972, he was named Technical Assistant to the Apollo Program Manager at Johnson Spacecraft Center. Prior to accepting his new position as Deputy Director, he served as Special Assistant for Mission Operations and GFE (Government Furnished Equipment) in the Apollo Spacecraft Office. In 1971 Scott commanded Apollo 15 which was the fourth manned lunar landing mission and was the first to visit and explore the Hadley Rille and the Appennine Mountains. On the Gemini 8 mission in 1966, he and Neil Armstrong performed the first successful docking of two vehicles in space.

JANE DRUEN EARNS CPS RATING

Jane O. Druen

Chalk another one up for Langley. Jane O. Druen, secretary to David G. Stephens, Head of Noise Effects Branch, Acoustics and Noise Reduction Division, has received notification from the Institute for Certifying Secretaries, Kansas City, Missouri, that she has attained the Certified Professional Secretary rating by successfully completing all six examinations covering Environmental Relationships, Business and Public Policy, Economics of Management, Financial Analysis and the Mathematics of Business, Communications and Decision Making, and Office Procedures.

Jane was graduated from Warwick High School and since entering on duty with NASA in 1962, she has attended evening classes at Christopher Newport College and Thomas Nelson Community College and has taken several on-the-job courses in preparing for the examinations. She is an active member of the Peninsula Chapter, National Secretaries Association (International) and the Hampton Roads Branch, National Association of Government Secretaries (NAGS).

LRC continues at the top of the list for the Peninsula area in the number of persons with CPS status - Jane brings the total to four. Other Center CPS's are Evelyn Myers and Eloise McGehee, both of Training and Educational Services Branch, Personnel Division, and Gloria Alto, Acoustics and Noise Reduction Division.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

Questions and Answers

(For the benefit of readers, Safety Office officials have asked and answered the following question.)

Q. Have you observed the new pedestrian signs (X-Ped in walk have right of way) recently installed adjacent to crosswalks in front of various buildings where personnel traffic is heavy? Do you know what these markings mean?

A. Air Force Regulations 125-9 dated December 21, 1972, paragraph 3, b, 1 requires all traffic, other than emergency vehicles, to yield the right of way to all pedestrians in cross-walks. Pedestrians, however, may not enter crosswalks when it is apparent that motor vehicles cannot stop in time. Pedestrian traffic is heavy throughout the day between buildings 1230 and 1229, 1232-A and 1225, and 1219 and 1195-A. Foot traffic is also heavy between the cafeteria and the adjacent parking lots. During morning and evening rush hours, let's show that extra consideration to pedestrians and our fellow drivers.

Q. What is the time limit in which one can receive workman's compensation for an alleged job related injury?

A. According to Section 8119, Notice of Injury, Failure to Give, Federal Employees Compensation Act, an employee injured in the performance of his duty, or someone on his behalf, must give notice within 48 hours after the injury. The notice should be given to the immediate superior of the employee by personal delivery or by depositing it in the mail. The notice should be in writing. It should state the name and address of the employee; the year, month, day, and hour when and the particular locality where the injury occurred; the cause and nature of the injury; and be signed by and contain the address of the individual giving the notice.

Compensation may be allowed only if the notice is given within 48 hours after the injury or if the immediate superior of the employee has actual knowledge of the injury. However, the Secretary of Labor may allow compensation if (1) the notice is filed within 1 year after the injury and reasonable cause for the delay is shown; or (2) the requirement for 48 hours' notice is waived.

RETIREMENT PARTIES

A retirement luncheon honoring Gloria B. Mette, Office of the Director for Systems Engineering and Operations, will be held on Thursday, Sept. 6, in the Officers' Club at LAFB from 12 noon to 1:30 p.m. Cost for the luncheon and donation for the gift will be $4 per person. Names and contributions should be sent to Jackie Kallick, MS 112, by August 31.

John Munick, Procurement Division, will be honored at a retirement party from 5 to 7 p.m. on August 29 at the Langley Officers' Club (Williamsburg Room). Cost will be $4.50 per person or $7 a couple, not including cash bar. Contributions for gift only will be $2. Names and contributions should be sent by August 21 to Betty Brendel, MS 134, or Sandra Ray, MS 146A.

VOLUNTEERS ANYONE?

The Activities Association would like to challenge all Division Chiefs and above to donate 1/2 hour to the Clown Drown Booth - on the ''hot'' seat. Come on employees, ''bug your boss'' to get him to volunteer. Contact Herb Boulter, 3234, MS 234.

ASEE DESIGN TEAM: Key personnel in the NASA-ASEE Engineering Systems Design Group are (from left) Dr. Paul D. Cribbins, Assistant Project Manager; Dr. G. L. Goglia, Co-Director of the Center's ASEE Programs; Dr. Wayne D. Erickson, Technical Advisor; and Dr. J. Darrell Gibson, Project Manager. The Design Team is presenting a briefing today on the results of their summer activity.

(Photo by Andrew Carey)

PROFESSORS STUDYING ENERGY PROBLEM

A special study group of 22 college professors and graduate students have been searching for ways to help solve the nation's energy problems this summer at the Langley Research Center.

The 11-week systems design program has brought together specialists from 19 colleges and universities to study various energy problems and how they effect transportation. Academic areas represented include engineering, economics, political science, psychology, geology, physics, and law.

The project is jointly sponsored by NASA and the American Society for Engineering Education (ASEE), through a contract with Old Dominion University. The program ends today and a final report will be published in mid-October.

The design team hopes to determine how the United States can best overcome eventual depletion of its fossil fuels, particularly petroleum and natural gas, by shifting to other fuels. The U.S. has only about ten years' supply of natural gas and 25 to 30 years of petroleum remaining in the ground.

Major shifts in fuel supplies will have an extreme effect on national transportation needs, since that facet of the economy consumes about one-fourth of the total U.S. energy supply.

One particular new fuel source being studied by the design team is hydrogen. Its use in the domestic air transportation system is one of the first candidate experiments recommended by the study group.

TENNIS CLUB NEWS

The Tennis Club is sponsoring a Hawaiian Luau on Friday, August 31, at 6 p.m. on the Activities grounds. Alternate location, in case of bad weather, is the Cafeteria. Price is $3 per person. Bring your own MuMu. Lots of Hawaiian-style food and drinks will be featured. Watch your bulleting boards for further details. All Tennis Club members and family are welcome.

The Tennis team finished the season with victories over Hilton, 6-3, and Beechmont, 6-0, to bring their perfect match record to 6-0. The team certainly cut a wide swath through Peninsula competition this season and we can all be proud of them.

Aaron J. Ostroff

Frank E. Mershon

Jesse D. Timmons

Ann H. Suit

SPECIAL ACHIEVEMENT AWARDS

Five staff members recently received Special Achievement Awards. The recipients and their citations are as follows:

Aaron J. Ostroff, Flight Instrumentation Division for ''the the development of theoretical and engineering techniques to improve the performance of large space telescopes.''

Frank E. Mershon, Viking Project Office, for ''outstanding performance in assuring the adequacy of the structural and mechanical designs and in formulating and directing major Viking Lander structural and thermal test program.''

Jesse D. Timmons, Viking Project Office, for his ''outstanding contributions to the development of the Viking Decelerator System.''

Ann H. Suit, Management Support Division, for ''her excellent performance in the handling of special events at Langley Research Center.''

Shirley D. Adams, Analysis and Computation Division, for her ''high level of achievement as Star Software Project Office secretary.''

Maurice K. Morin, Head of Star Software Systems Project Office, presents a Special Achievement Award to Shirley D. Adams.

LOCAL CULTURAL ACTIVITIES

Aug. 18-19 - Senior Citizen Happening, weekend camping at Jamestown 4-H Camp. Contact Happy House, 524 S. Armistead Ave., Hampton Recreation Department.

Aug. 19 - Fine Arts Festival, Trinity United Methodist Church, David Boothe, violinist, 7:30 p.m., free.

Aug. 19 - Mariners Museum Band Concerts, North Courtyard, free.

Aug. 19 - Colonial Williamsburg Capitol Concerts, Tayler Vrooman & Company, Capitol General Courtroom, 8:30 p.m.

Aug. 22 - Family Movie, Hampton Recreation Department, Kecoughtan High School, 8 p.m., free.

Aug. 23 - U.S. Army Continental Band, Concert Under the Stars, Continental Park, Ft. Monroe, free.

Aug. 24 - Mariners Museum, Opening Schooner Exhibition.

Aug. 25 - Hampton Roads Coliseum, James Brown Concert, 8:30 p.m.

Aug. 26 - Mariners Museum Band Concerts, North Courtyard, free.

Aug. 26 - Colonial Williamsburg Capitol Concerts, Tayler Vrooman & Company, Capitol General Courtroom, 8:30.

Aug. 30 - U.S. Army Continental Band, Concert Under the Stars, Continental Park, Ft. Monroe, free.

Aug. 31 - Film Classics Series, ''Gran Hotel,'' Hampton City Council Chambers, 8 p.m., free.

VELIKOVSKY'S BOOKS AVAILABLE AT LIBRARY

Dr. Immanuel Velikovsky will be the guest speaker at the Langley Colloquium Series on December 10. In anticipation of his colloquium presentation, a special collection of his books and the Journal Pensee (several copies are devoted to ''Immanuel Velikovsky Reconsidered'') will be available at the Technical Library. It is hoped that these will be promptly read and returned, as the demand for them is expected to exceed the supply.

Dr. Velikovsky will discuss his theories of the evolution of the solar system, which have enormous implications on almost all of the natural sciences. The basis of his theories are correlations which he found in ancient documents and legends of a great natural catastrophe that occurred at the time of the great exodus from Egypt. He reports in his book ''Worlds in Collision'' that events which are now called ''the plagues of Egypt'' were not only natural in occurence, but also global in effect.

He has attributed events such as manna from heaven, the rain of fire and stone, the boiling of the seas, and other legends to an astronomical event - - the near collision of the Earth with a heavenly body.

A number of Dr. Velikovsky's hypotheses which follow from his interpretations of the ancient writings have been strikingly verified.

VIKING MOVIE: Dr. Gerald Soffen, Viking Project Scientist, is taking a major role in a new NASA technical film called ''The Search Begins,'' soon to be released. The film is primarily on the Mariner 71 mission, with the last portion linking the results to the Viking 76 landing. Soffen and the camera crew are shown here in the Colorado desert with a full scale Viking Lander. The NASA film will be produced by Jet Propulsion Laboratory.

LANGLEY AIDS WETLAND STUDIES

(Continued from page 1)

month from several altitudes, using four cameras at two different focal lengths to obtain vertically telescoped photographs. The photos are used to find unique textural signatures of known plant communities during several seasons.

VIMS scientists check vegetation types on the ground to verify the photographic work.

VIMS is also working with Wallops Station in the use of multispectral aerial photography to identify features of specific vegetation with low-resolution photos.

The ultimate aim of the experimental program is to provide VIMS with a timely method of classifying plant life existing in specific marshes so VIMS can better advise other state agencies in decisions concerning the use of marshlands.

Dr. Kenneth Marcellus is principal research scientist for VIMS, and Ruth Whiteman, Space Applications and Technology Division, is project engineer for Langley.

NASA SOFTBALL LEAGUE

FINAL STANDINGS

Team	W	L	Pct.
SDC	17	1	.944
Simulation	12	6	.667
Misfits	11	7	.611
Charlie Brown's All-Stars	10	8	.555
Ballers	7	11	.389
Wombats	5	13	.277
C&S	1	17	.056

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

FOUND

Man's light brown frame glasses in Room 227, Bldg. 1244. Call Hunt, 2326.

LOST

General radio type 1232A tuned amplifier - null detector, Inv. No. 134129. Contact F. Stewart, 3492.

WANTED

Organist for Grace Methodist Church, Shoe Lane and and Country Club Road. D. Hewes, 596-4746.

FOR SALE

2 cribs with mattresses, need painting - $12 each; 2 reclining baby car seats - $8 each; nursery lamp - $2; chiffo-robe - $10. Russin, 877-5067.

Twin bed mattress and springs - $30. Miller, 826-3095.

Browning 12-gauge automatic shotgun, 30-inch barrel, full choke, raised rib unventilated - $140. Davidson, 596-7935.

Power lawnmower - $12; metal garage door - $35; 1963 Studebaker Lark - $125 or best offer; baby crib - $4. Otero, 851-2957.

17-1/2-foot Deep Vee runabout, twin 1971 50 hp Johnson engines, radio, and many accessories - $2500. Pitts, 877-6398.

Rolleicord Va twin-lens reflex camera with leather case and two filters - $75. D. Price, 874-1322.

Enamel canner with lid - 36-qt. capacity with 9-jar rack - $5. Huffman, 722-8401 after 5 p.m.

Hide-a-bed sofa with custom made zip on covers - $25; gold floral pleated, lined draperies with valance and hooks, 86 feet long x 120 inches wide - $25. 5 hp mini-bike, helmet included. Wells, 596-3707.

All-wood Flying Dutchman Olympic-class 2-man centerboard racing sloop, fully equipped, 2 sets of sails, 2 masts, trailer, top and bottom covers - $2150. South, 851-2154.

Small 8-foot plywood fun boat, 2 upholstered seats, takes 5-10 hp outboard - $50. Hewes, 596-4742.

1972 Dodge Colt station wagon, 4-speed transmission - $1900 or $350 cash and assume payments. Farmer, 722-0927 after 6 p.m. or week-ends.

10-foot MacDinghy fiberglas sailboat. Shaw, 877-6064.

1964 Plymouth Valiant - 4-door sedan, air conditioned, new tires - available Sept. 1 - $395. Miller, 595-0731.

1967 Ford Fairlane 500, 4-door, 289 V8 engine, recently overhauled. Wriggs, 877-7497.

1969 Frontier mobile home, 12 x 60, 2 bedrooms with air conditioner, washer and dryer, furnished or unfurnished. Wilkins, 596-9414.

2 books - ''Formulas for Stress and Strain'' 3rd edition by Roark - $5; ''Marks Mechanical Engineers Handbook'' 6th edition by Baumeister - $15. Githens, 723-5324.

CAN YOU SOLVE THIS PROBLEM?

A means of characterizing the motion of the bones of the shoulder joint is needed. The method should allow a means of identifying motion in the three planes as well as rotation. The motion can be expressed as an angle with an accuracy of plus or minue 5 degrees. Refer to TU-37. Contact the T.U. Office, extension 3281, for the problem statement or if you have a potential solution.

GROUP AWARD: Director Edgar M. Cortright (center) recently presented a Special Achievement Award to the Low-Speed Model Cryogenic Wind-Tunnel Team for ''their work in the practical application of the cryogenic cooling concept for high Reynolds number aerodynamic testing to the Langley Low-Speed Model Cryogenic Wind Tunnel and in the conduct and analysis of experiments which demonstrated the feasibility of the concept.'' Shown with Dr. Cortright are (from left) Jerry B. Adcock, Harleth G. Wiley, Irvin L. Hamlet, Robert A. Kilgore, Michael J. Goodyer, William O. Moore, Edwin E. Davenport, and Ira H. A. Abbott. The award was accepted by Kilgore and Goodyer.

MERIT PROMOTION NOTICE

The following Merit Promotion Announcements are currently open:

No. 73-79 - Public Information Officer, GS-1081-13, with promotional opportunity. Office of Public Affairs and Educational Programs. Closes today.

No. 73-80 - Supervisory Electrical Engineering Technician, GS-802-11. Operations Support Division, Electrical Support Branch, Facilities Electrical Section. Closes August 21.

No. 73-81 - Aerospace Engineer (AST, Experimental Facility Techniques) GS-801-12 or 13. Structures and Dynamics Division, High-Temperature Structures Branch. Closes August 24.

No. 73-82 - Clerk (Typing), GS-201-4, with promotional opportunity. Office of Safety, Reliability and Quality Assurance, Safety Office. Closes August 24.

COURSES OFFERED STAFF

The future is yours and Golden Gate University, located at Langley AFB, can provide the gateway to that successful future on September 5, the first day of a two-week registration period. Golden Gate University offers a variety of interesting and informative college and graduate level courses leading to degrees in real estate, management and advanced degrees in public and business administration. The courses are open to the public.

Although most classed are filled early, course registration can be completed anytime up to the start of classes on September 24 at the Golden Gate University Office, located at the Langley AFB Education Office, or by calling Golden Gate, 764-3079. The fall quarter will run from September 24 through December 15 at Langley.

The education program is part of a nation-wide military program comprised of 22 military installations in seven states with headquarters at Golden Gate University, San Francisco. More than 1600 students were enrolled in these programs last year. The institution is accredited by the Western Association of Schools and Colleges and provides aspiring students a firm background in the theoretical and practical aspects of subjects.

FREE BOATING COURSES

Help insure that you contribute to the success of the recent Safe Boating Week slogan ''Safe Boating is No Accident'' by learning the fundamentals of safe boating operation through the Hampton Roads Power Squadron free boating courses.

The annual fall offering of this course in the lower Peninsula area will begin at C. Alton Lindsay Junior High on Briarfield Road on September 11 at 7 p.m. Registration is on September 11 and 18, with the first class session also on the 18. For the first time, the Squadron will also be offering the course in the Williamsburg area at Queens Lake Intermediate School on Queens Drive West. Registration and the first class session will be on Sept. 10.

The classes will run from 7 to 9 p.m. each Monday in Williamsburg, and each Tuesday in Hampton, for 13 weeks and will cover Boat Handling, Seamanship, Charting, Piloting, Compass Use, Aids to Navigation, Rule of the Road, Trailering, and the special situations of our local waters.

The course is aimed at the new or prospective outboard owner, but sailors, big boat owners, and even experienced skippers will find the course useful. The seasoned skipper may also find the course a good method for teaching teenage offspring proper safe boating procedures or as a means for helping the first mate in acquiring more enthusiasm for the delights of boating activity through better understanding of safe boating operations. If you and your family have already taken the course, then try to get a neighbor or a friend to sign up.

Several Center personnel are involved with teaching this free course. Ken Albert, Procurement Division is current Commander of the Hampton Roads Squadron.

KEY ORGANIZATIONAL POSITIONS

The following have been selected for the key organizational positions indicated:

Lisle E. Taylor - Staff Assistant, Computer Management Branch

Roy C. Dunkum, Jr. - Head, Computer Operations Section, Computer Management Branch

Personnel Profiles

By

Allan C. Hanrahan

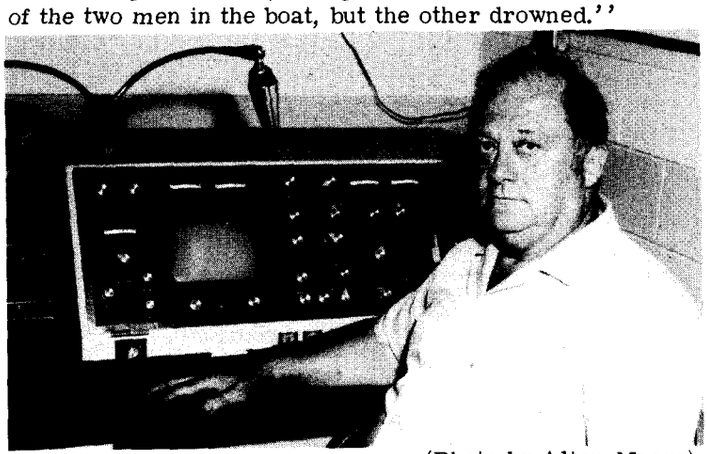
FOUR THOUSAND DAUGHTERS???

In the three subsequent paragraphs is quoted a news item that we happened to read in the July 25 issue of the Newport News Times-Herald and entitled, ''Vacationers Aid Swimmers.''

''Members of Bethel 31, Jobs Daughters, helped save a man involved in a motorboat accident in North Carolina last weekend.

''Sidney Powell, associate grand guardian of the Virginia Jobs Daughters, and several members of the chapter were at Gaston Lake, N.C., when they saw a motorboat flip over.

''Powell and the girls, part of the 40-member chapter vacationing at the lake, brought their boat to the aid of one of the two men in the boat, but the other drowned.''



(Photo by Alton Moore)

Now, the name Sidney Powell was vaguely familiar and a quick check revealed that it was indeed the same Sidney L. Powell who is an Engineering Technician in the Materials Processing and Development Section of the Fabrication Division, and whose wife, Frances, is a clerk-typist in the Instrument Development Section of the Fabrication Division.

The Powells own a cottage on Lake Gaston and frequently host groups of Jobs Daughters and it was on one of these occasions when the unfortunate incident occurred. When Powell and some of the girls reached the accident site one of the men had already sunk out of sight.

When we first spoke with Powell about the incident he put it this way: ''Like I told the 'fella' when he later thanked me - 'Just thank the good Lord that I happened to be in the right place at the right time'.''

''And if there's any credit,'' Powell told us, ''the girls deserve just as much...''

''It was something the way those girls acted. None of those kids panicked. They did everything just right.''

Sidney and his wife have no children of their own but as he told us: ''I tell everyone I have 4000 'daughters' in the state of Virginia.''

Jobs Daughters, as most of you know, is an organization started in 1921 for girls aged twelve to twenty who have a male relative who is a member of the Masonic Order. Jobs Daughters is affiliated with the Masonic Order in a number of ways but is a separate organization.

Powell has been in the Masonic Order for over twenty years and is a Master Mason as well as a Thirty-Second Degree Scottish Rite Mason and Shriner. And Mrs. Powell is a very active member of Eastern Star. However, if we began enumerating the offices they have held and the work they have done in their respective organizations we would have to continue this in to the next issue.

Sidney is a fifty-four-year-old native of Isle of Wight County but has lived on the Peninsula since about the age of three. He attended public schools in Hampton and Newport News as well as the welding school in the Shipyard.

He has worked at the Center since 1942 and presently is involved with scanning electron microscopy, a subject he really warms up to.

Sidney wouldn't admit to any hobbies or special interests, as such, although in passing he mentioned how he enjoyed water skiing and he opined as how he had probably helped hundreds of girls to learn to ski.

There is their church, the Northside Church of Christ and, of course, working with youth by way of the Jobs Daughters and Demolay (a boys organization affiliated with the Masonic Order).

''It's worth all the effort you put into it,'' stated Sidney, referring to working with youth.

And we'll wager that Sidney's effort is no small amount.

CAFETERIA MENU

The following menu will be served in the cafeterias durthe week of August 20:

Monday - Cream of celery soup, chopped steak, fried scallops, corned beef and cabbage. Snack bar - Ham and cheese, hot roast beef, NASA submarine, mini steak.

Tuesday - French onion soup, skirt steak, Chinese egg rolls, broiled or fried chicken, chili con carne. Snack bar - Turkey, hot corned beef, ham steak and egg, bacon, lettuce, and tomato.

Wednesday - Crab bisque, meat loaf, broiled or fried fish, veal scallopini, ham egg foo yung. Snack bar - Hoagie, barbequed pork, pizza, chicken salad.

Thursday - Chicken gumbo soup, beef stroganoff, fried clams, chicken and dumplings. Snack bar - Steak, sausage and egg, pastrami.

Friday - Corn chowder, beef ka-bobs, broiled red snapper, Salisbury steak. Snack bar - Barbequed pork, NASA submarine, ham and cheese, grilled cheese.

The menu for the week of August 27 is as follows:

Monday - Tomato soup, sukiyaki, pork chops, fried chicken, franks and beans. Snack bar - Ham steak and egg, turkey club, salami. hot roast beef.

Tuesday - Shrimp gumbo, steamship round, stuffed peppers, broiled or fried fish. Snack bar - NASA submarine, barbequed pork, ham and cheese club, sausage and egg.

Wednesday - Vegetable beef soup, delmonico steak, meat loaf, baked ham, cheese omelette. Snack bar - Hot pastrami, steak, pizza, NASA submarine.

Thursday - Chicken rice soup, hot roast beef sandwich, chicken, beef burgundy, sweet and sour tuna. Snack bar - Turkey club, barbequed pork, ham and cheese club, bacon, lettuce and tomato.

Friday - Cream of mushroom soup, country steak, broiled or fried fish, spaghetti with meat sauce. Snack bar - NASA submarine, ham steak and egg, corned beef, chicken salad.

SUMMER CARNIVAL PROVIDES FUN FOR THE FAMILY

GRAND PRIZE: Kathi Warfel calls special attention to one of the grand prizes which will be given away during the Activities Association's Summer Carnival on August 24 and 25. The Pinto Runabout will be given away on Saturday. Friday's grand prize will be a $1500 Savings Bond. (Photo by Hubert Lloyd assisted by Ronny Booth)

Summer is rapidly drawing to an end so let's all come out and enjoy the fun and fellowship at the Activities Association's Summer Carnival on August 24 and 25.

Two dances have been scheduled for the Carnival festivities. Furnishing music on Friday, August 24, from 9:30 p.m. to 1:30 a.m. will be Smee. The Pace Setters will provide the entertainment on Saturday, August 25 - again the hours are from 9:30 p.m. to 1:30 a.m. These dances are the climax to each afternoon and evening of fun which the Summer Carnival provides for the entire family.

A variety of rides for the youngsters and food galore will be available at reasonable prices. So bring the whole family and spend the day and evening.

Prize tickets for drawings for the two grand prizes - 1973 Pinto Runabout and a $1500 Savings Bond - and many other prizes to be given away by drawings, are available from your division representative or the Activities Building.

There is no requirement for the winner or the ticket stub to be on the grounds for either of the grand prizes; however, for all other drawings the winning stub must be on the grounds.

CARNIVAL PRIZE LIST -FRIDAY, AUG. 24

5:00 - 9-inch Motorola ac/dc black and white portable TV
5:20 - Hand mixer and bundt pan
5:40 - Set of insulated cups
6:00 - Flandria 10-speed bicycle
6:20 - Tensor desk lamp
6:40 - Tetherral set
7:00 - Mr. and Mrs. electric shavers
7:20 - Regina electric broom
7:40 - Oster 16-speed blender
8:00 - Reclining chair
8:20 - Soundscene portable radio
8:40 - Ice Bucket
9:00 - Broiler rotisserie and shish kebob
9:20 - G.E. stand mixer
9:40 - Toastmaster oven broiler
10:00 - $1500 Savings bond

CARNIVAL PRIZE LIST - SATURDAY, AUG. 25

2:00 - 14-inch Motorola remote control b/w portable TV
2:20 - Haircutting set
2:40 - Volleyball and badminton set
3:00 - Flandria 10-speed bicycle
3:20 - Popcorn popper
3:40 - Oneida steak knife set
4:00 - Motorola component set
4:20 - Am/fm portable radio
4:40 - Proctor 12-cup percolator
5:00 - Royal electric typewriter
5:20 - Croquet set
5:40 - Picnic outing kit
6:00 - Grill with utensils and two chairs
6:20 - Dutch skillet buffet
6:40 - Oneida 55-piece flatware
7:00 - Hettrick Daytona tent
7:20 - Fondue set
7:40 - 6-quart control master pressure cooker
8:00 - King size table, 4 chairs, serving cart
8:20 - Spray, steam and dry iron
8:40 - Electric ice cream freezer
9:00 - 2 season tickets to Va. Red Wings Hockey games
9:20 - Sunbeam hair dryer and comb
9:40 - Can opener and knife sharpener
10:00 - 1973 Pinto Runabout

Langley Researcher

VOLUME 12, NUMBER 18 LANGLEY RESEARCH CENTER AUGUST 31, 1973

RESEARCH HELICOPTERS: NASA has selected the Sikorsky Aircraft Division of United Aircraft Corporation to negotiate a contract to design and build two high speed multi-purpose research helicopters similar to this artist's concept.

RESEARCH HELICOPTER CONTRACT AWARDED

NASA has selected the Sikorsky Aircraft Division of United Aircraft Corp., Stratford, Conn., for negotiation of a contract to design, fabricate, flight test, and deliver two Rotor Systems Research Aircraft (RSRA). The contractor's proposed cost is approximately $25 million.

The RSRA will be a helicopter capable of flying with wings and auxiliary engines. It will be used as a flying laboratory for development of advanced rotor systems technology and flight testing of promising new rotorblade concepts in a jointly sponsored and funded NASA/Army research program. (Continued on page 3)

NASA ANNIVERSARY OPEN HOUSE

NASA will be 15 years old on October 1. Langley (which will be 56 years old that same day) will celebrate the anniversary with an Open House on Saturday, October 6.

Director E. M. Cortright is inviting all Langley employees, their families and friends, and the general public to help celebrate 15 years of progress in space exploration and aeronautical research.

More details on the special celebration will be announced in future issues of the Researcher, but the Open House will feature displays, tours, demonstrations, exhibits, and refreshments.

Langley employees are needed as tour guides and hostesses. During the day special guides will be stationed aboard buses that will crisscross the Center, and hostesses will be located in Building 1244 and other sites to help greet visitors.

If you would like to volunteer your talents and some of your time between the hours of 9 a.m. and 4 p.m. Saturday, October 6, please call Guy Boswick, 3511.

MOORE HEADS FUND CAMPAIGN

Center Director Edgar M. Cortright has announced the appointment of Frank V. Moore, Procurement Division, as Director of the Center's 1973-74 Combined Federal Campaign.

This will be the sixth Combined Federal Campaign conducted at the Center. Included in the combined drive are area United Fund organizations, the National Health Agencies and International Service Agencies.

The Center's goal this year has been set at $125,000. Last year staff members exceeded this goal by nearly $20,000, donating a total of $144,826.

Moore stated that plans are being made to begin the campaign during the last week of September, with the traditional one-day drive tentatively scheduled during the first week in October. Complete plans will be announced in the next issue of Langley Researcher.

Moore also announced his campaign staff appointments. Mary A. Jackson, High-Speed Aircraft, will serve as Financial Chairman with Gwendolyn Leach, Financial Management, serving as Co-Chairman. Appointed to the supporting staff are: Willis C. Cross Jr., Management Support; Helen Hudgins, Programs and Resources; Ernestine F. Martin, Financial Management; Janet M. McKenzie, EEO Office; and James H. Ojiba, Management Audit Office.

CAMPAIGN COMMITTEE: Frank V. Moore (seated) has been named Director of the Center's annual Combined Federal Campaign. Members of his campaign staff are (seated) Mary A. Jackson (left) and Gwendolyn Leach. Standing are (from left) Willis C. Cross, Ernestine Martin, Janet McKenzie, and James Ojiba.

HAPPENINGS

ENGAGEMENT. . . Patricia O. Thomas, Personnel Division, is engaged to Leo A. Redwood, Newport News. Plans call for a September 15 wedding.

NEW PUBLICATIONS. . . Several new publications are available in the Safety Office - ''Safe Handling of Compressed Gases in Laboratory and Plant'' and a wall chart ''Using Compressed Gases Safely.'' Primary facility coordinators should request each, in writing, from the Safety Office, Mail Stop 219.

GOLF TOURNAMENT. . . The Gloucester Jaycees will conduct a handicap golf tournament at the Gloucester Country Club on Spetember 29 and 30. The tournament is open to the general public and will be limited to 72 entrees. Entry fee is $12 which will include one practice round. Anyone interested in playing in the tournament should contact Raymond Burris, Hayes 642-4120.

LIGHTER FLUID HAZARD. . . The Air Force has reported safety problems with the Rodgers Butane gas cigarette lighter fluid container. One manfacturer's refill container (Allied Products) may blow out the center spout during refill, resulting in complete discharge of gas from the container.

NOTE OF THANKS. . . Banks Holt, who retired recently from the Center, wishes to thank his friends and co-workers for his retirement party and lovely gifts. To each he extends happiness and good health.

HORSEBACK RIDING. . . The Bent Spur in Charlottesville will host a western riding trip on Thursday, September 6, for NASA employees. Bus will leave Newmarket at 6 a.m. Cost, including the western riding trip, bus, and cold drinks, will be $20 per person. For reservations call Pamela Lawrence, 595-5912.

NASA GOLF ASSOCIATION. . . The association recently held its fifth tournament. Dan Bridges shot an 81 to win low gross in the first flight. He also took low net with 81-14-67. Jim Hass was low gross winner in the second flight with an 85. Ken Seals was low net winner with 89-25-64.

CARNIVAL VOLUNTEERS THANKED

The Activities Association wishes to thank all the many volunteer workers whose efforts made ''Carnival 73'' the biggest ever.

The support offered by some of our contractors - - R&W, B. D. Ashe, and Klate Holt - - was outstanding.

A special thanks is extended to Oran Nicks, Deputy Director, and Howard Edwards, Chief of Instrument Research Division - - the two good guys who came out to be dunked in the Clown Drown. This was truly the most outstanding feature of the Carnival.

DOUBLE AUCTION: At 12:30 p.m. on Thursday, Sept. 6, the LFCU will auction in its parking lot a 1971 Chevrolet Custom Impala, 2 doors with vinyl top, 8 cylinders, factory air conditioning, AM/FM radio, power steering and brakes, and automatic transmission; and a 1972 Plymouth Cricket, 4-door sedan, 4 cylinders, bucket seats, and power brakes. Both excellent as a second car at a reasonable price.

VIKING MEETING: Dr. John E. Naugle (seated at right), NASA Associate Administrator, Office of Space Science, attended the August 16-17 meeting at Langley of the Viking Science Steering Group (SSG). The group met to plan science testing of the instruments involved in the 13 investigations onboard Viking and to discuss mission profile strategies to be used during mission operations. Others seated at the table are (from left) Dr. Gerald A. Soffen, VPO, Project Scientist; A. Thomas Young, VPO, Science Integration Manager; and Dr. Conway W. Snyder, JPL, Orbiter Scientist. Another Langley member of the SSG, Dr. William H. Michael, Chief of ESSD, is not visible in the photograph.

THE ICING ON CREDIT UNION SHARES

Once or twice a year, the LFCU has a few words for all its members and particularly those approaching 55 years of age. The words are ''share-life insurance'' enhanced by ''at no out-of-pocket cost.'' This unique credit union plus means that, in case of death, a member's shares up to $2000 are matched dollar for dollar by the Pilot Life Insurance Company. Between the ages of 6 months and 55 years, that is, with ''age 55'' being the operative term.

At 55, the coverage on new deposits drop to 75%, to 50% at age 60, to 25% at age 65, and to 0% at age 70. As an example: after 55, the maximum coverage is $1500 or the amount then in shares, whichever is greater. As indicated, the coverage on shares held on the dates in question remains in force - unless the shares are withdrawn - until death.

Remember, too, the additional return on shares represented by this insurance. For instance, at age 45 share holdings of $2000 not only earn high dividends but save an additional 2% in insurance premiums. And the easiest possible way to achieve this $2000 nest-egg is through payroll deductions.

Just call extension 3606 for the form necessary to pay yourself first.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

JOHNSON CENTER DEDICATED

Official dedication ceremonies for the Lyndon B. Johnson Space Center were held Monday at the NASA site in Houston.

The former Manned Spacecraft Center was renamed in honor of the late President on February 17. Dedication ceremonies were scheduled to coincide with the 65th anniversary of Johnson's birth.

The program included brief addresses by Johnson Space Center Director Christopher Kraft, NASA Administrator James C. Fletcher, Texas Governor Dolph Briscoe, and Mrs. Lyndon Johnson.

Ceremonies included the unveiling of a bust of LBJ carved by noted sculptress Jimilu Mason. The bust, donated by Houston's Chamber of Commerce and Albert Thomas Space Hall of Fame, will be prominently displayed at JSC.

Following the main ceremonies, a special ''Johnson Room'' was opened to the public in the Visitors' Center. The room will contain memorabilia collected from Johnson's years in Washington.

On prominent display in the Johnson Room will be a desk used by the President for signing bills, a chair from the Cabinet Room, photographs of Johnson as Vice President, original cartoons about the space program, and the original U.S. copy of the Outer Space Treaty signed in 1967 by the United States, the Soviet Union and many other nations.

The Johnson Room will contain a portrait of the late President by Boris Chapliapin. The life-like painting was donated by Time magazine.

The resolution to rename the Manned Spacecraft Center in honor of Johnson, who was a strong advocate of space exploration and the application of space technology to life on Earth, was introduced in Congress shortly after his death.

KEY ORGANIZATIONAL POSITIONS

The following have been selected for the key organizational positions indicated:

Vernon W. Saunders - Head, Research Aircraft Support Section, Operations Branch, Research Aircraft Flight Division.

Robert L. Mundie - Assistant Head, Research Aircraft Support Section, Operations Branch, Research Aircraft Flight Division.

Richard H. Newman - Head, Mechanical Unit, Technical Support Section, Systems Development Branch, Systems Engineering Division.

REMINDER TO NEBA MEMBERS

NEBA participants who have dependent coverage are reminded that their children have a guaranteed conversion privilege when they reach age 19.

The Home Life Insurance Company transmits a reminder letter to the member through the Langley Chapter in the month prior to the dependent's reaching age 19. However, this is only true if their records indicate the information. After an employee has had a child accepted, additional children have automatic coverage with the guarantee privilege. There are circumstances where Home Life is not aware of children reaching age 19. There is also a possibility of an error in the records or procedures, whereby a member might not receive the advance reminder letter. Such instances have occurred.

AIAA FELLOWS: John P. Campbell (left), Chief of Low-Speed Aircraft, and John P. Reeder, Chief of Terminal Configured Vehicles Program, have been elected Fellows of the American Institute of Aeronautics and Astronautics in recognition of their ''many outstanding contributions and acknowledged leadership in the professional aerospace community.'' Campbell has been active in the V/STOL aircraft field since 1949. In 1968 he received the Paul E. Haueter Award presented by the American Helicopter Society for contributions to the development of V/STOL aircraft. Reeder, who flew as a research pilot for over 25 years, has won the AIAA's Octave Chanute Award and the Burroughs Test Pilot Award from the Flight Safety Foundation, Inc. He is also an Honorary Fellow of the American Helicopter Society.

RESEARCH HELICOPTER CONTRACT AWARDED

(Continued from page 1)

Sikorsky will perform the work under a cost reimbursement type contract. The first flight of the RSRA is planned in early 1976.

The joint NASA/Army research program employing the RSRA will be conducted by Langley Research Center and the Langley Directorate of the Army Mobility Research and Development Laboratory. Its objectives include development of technology to increase rotor aircraft speed, performance, reliability, and safety, and to reduce noise, vibration and maintenance. The technology will have potential application in military and civil aviation.

The aircraft will be designed to accommodate testing of a wide variety of rotors with only minor modifications. Candidate concepts to be tested include variable diameter, variable geometry, controllable twist, slow-turning and gas driven or augmented rotors. These rotors may have from two to six blades with hingeless, gimballed or articulated hub mechanism.

Fully loaded, with two pilots and a research engineer, the RSRA will weigh about 11,300 kilograms (25,000 pounds).

Extensive onboard instrumentation will provide inflight data for study of the dynamic and aerodynamic characteristics of the rotors being used.

■■■■■

Most children have the guarantee to obtain up to $5,000 life insurance regardless of the child's health, occupation, or military status at the time he is eligible for conversion. In some few cases, the child has been restricted to $1,000 limitation.

NEBA Langley Chapter officials have advised that future quarterly premium notices will also carry a reminder of this valuable option.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of September 3:

Monday - H O L I D A Y

Tuesday - Turkey noodle soup, beef liver and onions, veal and spaghetti, turkey with dressing. Snack bar - Hot corned beef, NASA submarine, ham and cheese club, sausage and egg.

Wednesday - New England clam chowder, delmonico steak, Swedish meat balls, broiled or fried fish. Snack bar - Hot pastrami, turkey club, barbequed pork, bacon, lettuce, and tomato.

Thursday - Cream of chicken soup, pepper steak, broiled or fried chicken, barbequed pork chunks over rice, ham omelette. Snack bar - Hot roast beef, NASA submarine, ham steak and egg, chicken salad.

Friday - Bean with bacon soup, meat loaf, broiled or fried fish, veal cordon bleu. Snack bar - Barbequed pork, pizza, ham and cheese club, mini steak.

The menu for the week of September 10 is as follows:

Monday - Cream of asparagus soup, Hungarian beef goulash, shrimp Newburg, sauteed chicken livers, beef and macaroni. Snack bar - Steak, NASA submarine, salami, turkey club.

Tuesday - Chicken noodle soup, rump roast, baked lasagna, chuckwagon steak, fish cakes. Snack bar - Hot corned beef, ham and cheese club, sausage and egg, bacon, lettuce and tomato.

Wednesday - Beef noodle soup, fried spot, chicken cacciatore, broiled ham. Snack bar - Barbequed pork, hot roast beef, NASA submarine, pizza.

Thursday - Minestrone soup, steamship round, turkey a la king, fried clams. Snack bar - Hot pastrami, turkey club, ham steak and egg, chicken salad.

Friday - Fisherman's chowder, meat loaf, broiled or fried fish, veal parmesan. Snack bar - Barbequed pork, mini steak, grilled cheese, bacon, lettuce, and tomato.

IS THERE EXTRATERRESTRIAL LIFE?

Dr. Cyril Ponnamperuma, international authority on exobiology and the chemical origin of life, will speak on "The Chemical Basis of Extraterrestrial Life" at the September 10 Colloquium Series.

Dr. Ponnamperuma is Director of the Laboratory of Chemical Evolution, Department of Chemistry, University of Maryland. He was born in Ceylon and educated at the University of Madras, the University of London, and the University of California at Berkeley, from which he received his Ph.D. in 1962.

Following is an abstract of his talk:

"Modern astronomy tells us that there are billions of stars in the universe. Each one of these is like our own sun and can provide the energy and the warmth required for life. The number of sites in the cosmos where life could originate and evolve is as countless as the stars.

"Laboratory experiments, simulating conditions on the primordial earth, have shown that most of the building blocks of life could have been formed in the prebiotic milieu by the action of various forms of energy on the earth's primitive atmosphere. They would have accumulated in the primordial ocean before the origin of life. If the laws of chemistry and physics are universal laws, a similar sequence of events may have taken place elsewhere in the universe.

CARNIVAL WINNER: Winner of the 1973 Pinto runabout, which was presented as the grand prize at the Activities Association's, Summer Carnival was O. J. Cooper, Poquoson. Herb Boulter (right), president of the Activities Association, congratulates a happy Mr. and Mrs. Cooper.

CARNIVAL WINNERS LISTED

Winners of the ground prizes at the annual Summer Carnival were as follows:

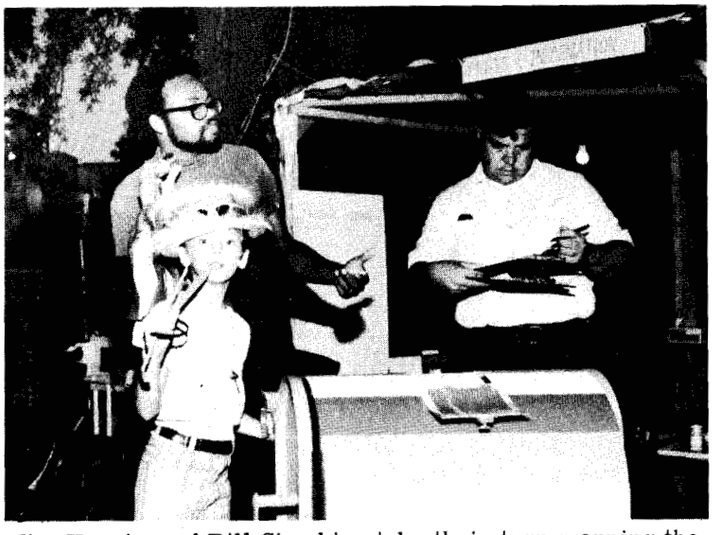
Friday - 9-inch Motorola television, Jerry Hansbrough; hand mixer, bundt pan and bundt mix, J. W. Wainwright; set of insulated cups, Yi Tung; Flandria 10-speed bicycle, W. B. Booth; tensor desk lamp, Virginia LaPrade; tetherball game set, J. N. Hoell; Mr. and Mrs. electric shavers, Dale Emswiler; Regina electric broom, Elsie Eason; Oster 16-speed blender, John Hallmark; reclining chair, J. M. Hoell; Soundscene portable radio, Marie Ashe; ice bucket and barware set, T. L. Smith; rotisserie/broiler and shish kebab set, L. Garrison; G.E. stand mixer, E. B. Draper; Toastmaster broiler/oven, J. M. Hoell; and $1500 U.S. Savings Bond, Kathleen Stowers.

Saturday - 14-inch Motorola television, David Thomas; haircutting set, Randolph Smith; volleyball and badminton set, Inez Coulbourn; Flandria 10-speed bicycle, Mike Smith; popcorn popper, R. H. Fournier; Oneida steak knife set, John Joyce; Motorola component stereo with 8-track tape player, Roy Thomas; am/fm portable radio, Mary Edwards; Proctor 12-cup percolator, Harvey Herring; Royal electric typewriter, J. M. Hoell; croquet set, C. Seitz; picnic outing set, B. Taylor; grill with utensils and 2 lawn chairs; Valerie Arnn; Presto skillet/buffet, Venita Denton; Oneida 55-piece flatware set, Judy Hill; Daytona II tent, Betty Joyner; fondue set, T. L. Smith; Motorola am/fm radio, J. W. Keyes; Cosco card table with 4 chairs and cart, M. Thomas; spray, steam, and dry iron, Janet Ramsey; electric ice cream freezer, Peggy Caldwell; 2 season tickets to Va. Red Wings hockey games, J. G. Thompson; Sunbeam comb/dryer, Evelyn Allison; can opener and knife sharpener, R. E. Hudson; and 1973 Pinto, O. J. Cooper.

"The recent analysis of meteorites and the discovery of a number of organic molecules in the interstellar medium suggest that the processes of chemical evolution must be commonplace in the universe."

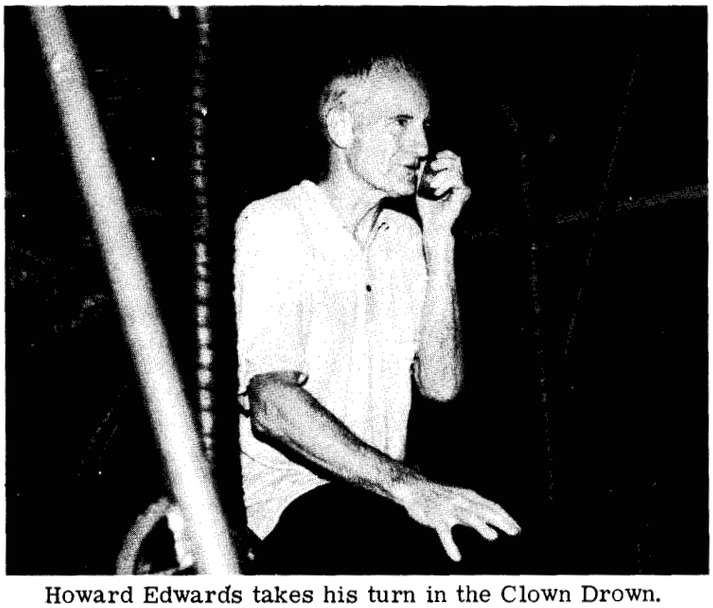
The Colloquium, which will be held in the Activities Building, includes a social with coffee from 2:30 to 3 p.m., the lecture from 3 to 3:50 p.m., and discussion at 3:50.

PHOTOGRAPHIC HIGHLIGHTS OF ANNUAL SUMMER CARNIVAL

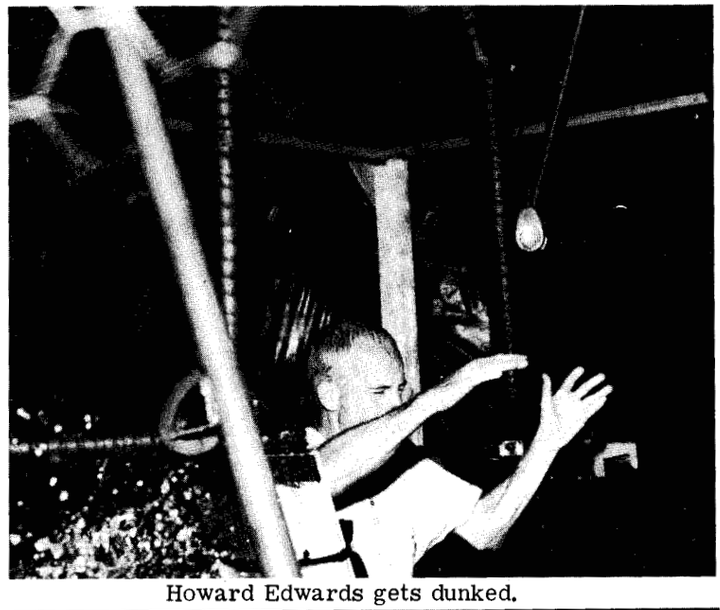


Jim Harris and Bill Simpkins take their turn manning the prize and information booth.

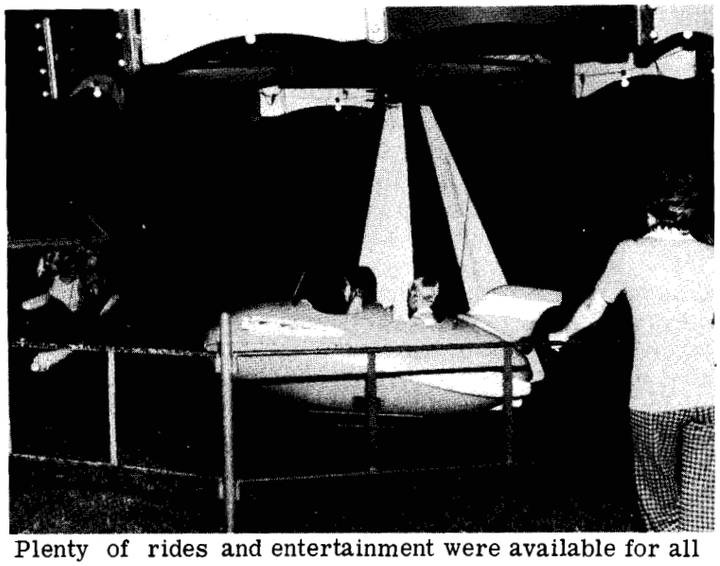
Hash slingers are David Throckmorton, Kent Test, and George Palko.



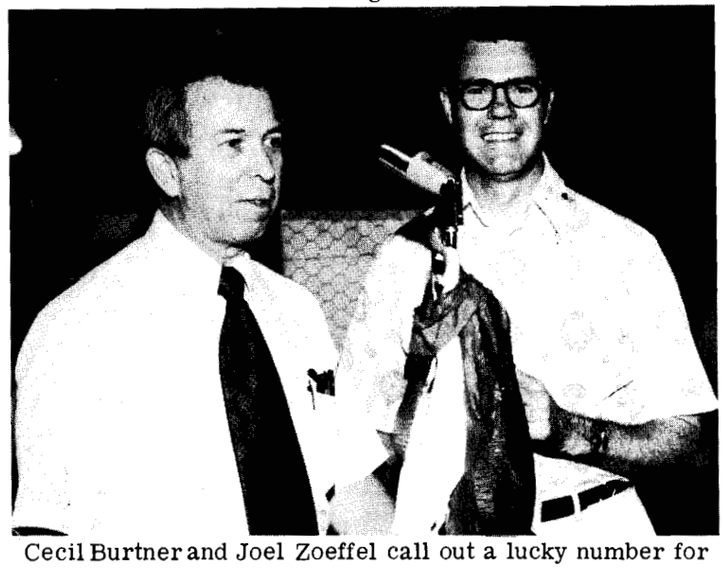
Howard Edwards takes his turn in the Clown Drown.



Howard Edwards gets dunked.



Plenty of rides and entertainment were available for all age groups.



Cecil Burtner and Joel Zoeffel call out a lucky number for one of the many ground prizes.

STORING GASOLINE DANGEROUS BUSINESS

Is it worth risking your life, your home and your car just to avoid running out of gasoline?

''Every consumer who 'stockpiles' gasoline exposes his family and his possessions to the real danger of deadly explosion and fire,'' the president of the National Fire Protection Association (NFPA) warned.

''With various parts of the nation facing gasoline shortages, many householders and motorists are hoarding fuel without thinking about the tragedies they could cause,'' says Charles S. Morgan, head of the international fire safety organization.

''The more fuel stored in the house and car, the more fuel there is to give off vapors - - and to explode and burn in case of fire. It takes just one lighted cigarette, one electrical spark or one pilot flame on an appliance to ignite gasoline vapors. And in a flash a vapor-filled room or car becomes a flaming death trap.

''Be alert to gasoline's danger signals,'' Morgan urges consumers. ''Any smell of gasoline in a storage room or automobile trunk is good evidence of a vapor leak in the container and should be taken care of immediately.''

To store gasoline at home, the NFPA president advises use of an approved safety can - - never a glass jug, discarded bleach bottle or other makeshift container.

Keep the gasoline in a well-ventilated area where it can't be tipped or damaged accidentally. Never store it in the same room with hot water heating equipment, where a pilot light or sparking switch could set off an explosion of accumulated vapors. ''This means that home storage areas such as utility rooms and garages shouldn't be used for gasoline, especially if heating equipment is located there,'' Morgan emphasizes.

''Carrying extra gasoline in the trunk of the car also can create an explosive situation. Gasoline vapors can filter from the trunk into the car's interior where the striking of a match or an electrical system spark can set off a powerful explosion.

''If spare gasoline must be carried on the road, use a metal or approved plastic can that is absolutely vapor-tight,'' the NFPA president recommends. ''Approved safety cans, which should be used elsewhere, are designed to vent vapors, which makes them unsuitable in an automobile. Instead, use a container with perfect seals on both the cap of the fill opening and the pouring spout. Also, never fill the container completely - - leave a little room for the gasoline to expand as it's warmed by the heat of the day and of the car.''

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

No. 73-83 - Supervisory Production Controller, GS-1152-11 or 12 with promotional opportunity. Fabrication Division, Planning Control Office. Closes Sept. 7.

No. 73 - 84 - Digital Computer Systems Administrator, GS-330-13 with promotional opportunity. Business Data Systems Division, Analysis and Programming Branch. Closes Sept. 7.

No. 73-85 - Supervisory Engineering Technician, GS-802-9 with promotional opportunity. Plant Engineering Division, Plant Support Branch, Construction and Repair Section. Closes Sept. 7.

EEO HIGHLIGHTS

HAMPTON INSTITUTE STUDENT: Angela Barnes, a psychology major at Hampton Institute assigned to the Acoustics and Noise Reduction Division, discusses the use of Passenger Ride Quality Simulator with Jack Leatherwood, Noise Effects Branch.

The Directorate for Center Development and External Affairs has extended the Center's community relations through the Office of Research Grants and University Affairs by awarding a grant in the amount of $72,000 to Hampton Institute. Under the grant, psychology students work very closely with the Langley engineering staff in various facilities in an effort to determine the kind of ride qualities that will be most suitable to airline passengers.

The Hampton Institute students have been working in simulators and in the facilities of three NASA Divisions: Flight Dynamics and Control (FDCD), Low Speed Aircraft (LSAD), and Acoustic and Noise Reduction (ANRD). FDCD operates the Langley Visual-Motion Simulator. Gloria James has been working with Ralph Stone, Aerospace Technologist, on the Visual-Motion Simulator in an attempt to determine criteria for acceptable ride qualities.

Hope Herring has been working with Elliot Schoonover, Aerospace Technologist, LSAD, in the analysis of data received from passengers flying on various aircraft and riding the various simulators throughout the Center.

Angela Barnes has been working with Jack Leatherwood, ANRD, on a study to determine the effects of noise and vibration on air travelers.

The students also served as test subjects on flights both on the Passenger Ride Quality Simulator and a Boeing 737 used by ANRD to study aircraft noise and ride quality characteristics.

THE WORLD is slowly learning that because two men think differently, neither need be wicked.

No. 73-86 - Engineering Technician, GS-802-9 or 10. Operations Support Division, Facilities Operations Branch, Technical Support Section C. Closes Sept. 7.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

FREE

Kittens - white, black, gray, and calico. Wray, 722-7335.

WANTED

Roommate to share 2-bedroom town house in Denbigh area, starting Oct. 1. Paul Berger, 2426 or 877-4820 after 7 p.m.

FOR RENT

3-bedroom, 1-1/2-bath house in Willow Oaks - large den, fenced patio and yard - $250/mo. Harman, 851-7909.

2-bedroom house in Wythe - $100/mo. McGuire, 851-4287.

LOST

Anyone knowing the wherabouts of the following Mylar drawings please contact Henk, 2326, or Hengeveld, 2297: LD-255943 through 255956; 256067 through 256075; 658317 and 658372; 750274 through 750279; 750425 through 750436.

FOR SALE

1972 Chevelle Malibu, 2-door sport coupe. Rainey, 596-9402.

Kenmore dishwasher, white, top loading - $30. Hemstreet, 877-7394.

Rebuilt 40 hp VW engine with extras - $250; many VW spare parts for engine and chasis; 2-cycle Wayne air compressor with hose - $150. Newman, Gloucester 642-6238.

650 dual line Holley carburetor, 360 degree aluminum Offenhauser intake manifold - $50. Byrd, 595-0160.

1964 Plymouth Valiant - 4-door sedan, air conditioned, new tires - $395. Miller, 595-0731.

Bell and Howell/Cannon-Canonet f1.9 35mm Rangefinder camera, automatic exposure, including flash unit - $40. Price, 877-7912.

Boy's 5-speed bike. Ott, 851-8218.

13-foot wood sail boat ''OK Dinghy'' class - $200. Staggs, 877-9605.

1964 Plymouth - $350; 1965 Chrysler - $450. Kanoy, 722-0036.

Irwin 31-foot fiberglas sloop, fully equipped. Harrington, 868-7330.

1966 Plymouth Satellite, 383-4BBL, automatic transmission on console. For test drive, give one day notice to change flat or bring own tire. I have jumper cables. Rowell, 851-7973.

FOR SALE: China lavatory with chrome legs and towel bars; also one pair lady's navy blue Dr. Locke shoes - size 9A - worn one time. 722-6448.

33 pieces of Fostoria crystal, Laurel pattern - $5 each; 2 pairs long white curtains with wide fringe - $14 pair; Homart window fan - $15. Johnson, 722-8768.

1968 VW Bettle - $900. McConnell, Gloucester 693-4961.

Kenmore electric console sewing machine, croquet set with cart and cooler, 2 old desks, 2 antique ice cream chairs, antique swivel desk chair, Avon collection. Barricklow, 596-5108 after 5 p.m.

1966 Plymouth Fury station wagon, V8, air conditioning - $500. Tennis, 723-7528.

Aria hollow body electric guitar with cord - $90; Bundy flute with case - $100. Olstad, 898-5330.

1969 Chevrolet pickup truck, V8, 8-foot fleetside, 32-inch camper shell, r/h, tape player. Burris, Hayes 642-4120.

CHAMPIONS: Charlie Brown's All Stars won the NASA Softball Championship with a tournament record of 3 wins and no losses. Members of the team are kneeling (from left) Dave Gorjup, Lamont Poole, C. A. Brown, Larry Rowell, Phil Young, and Pete Mumola. Standing - Lee Avis, Kevin Noonan, Dave Reubush, Charlie Fields, Bob Gifford, Craig Ohlhorst, and John Wallace, manager. Not pictured are George Lawrence, Tom Rees, Sam Majors, Ron Johnson, Jim McKinney, Wade Adams, and Bruce Little.

CHARLIE BROWN'S ALL STARS WIN SOFTBALL CHAMPIONSHIP

Who is the most unlikely team to win a ball game? Charlie Brown's All Stars! Believe it or not Charlie Broan's All Stars not only won a softball game, they won the 1973 NASA Softball Championship.

The All Stars finished the regular season in fourth place with an unspectacular record of 10 wins and 8 losses, having used 20 players in between vacations and travel.

When tournament time came the All Stars were at full strength and roared through the double elimination tournament undefeated. The success was due to the timely hitting of George Lawrence, Kevin Noonan, Pete Mumola, John Wallace, Lamont Poole, and Bob Gifford, the very effective pitching of C. A. Brown and Phil Young, and a fine overall defense.

Results in the double elimination tournament were as follows:

First round - Charlie Brown's All Stars 16, SDC 8; Misfits 15, Simulation 7.

Second round - Charlie Brown's All Stars 10, Misfits 8; Simulation 2, SDC 0.

Semi-final - Simulation 14, Misfits 11.

Championship Game - Charlie Brown's All Stars 6, Simulation 3.

Tournament Standings - Charlie Brown's All Stars 3 wins and 0 losses; Simulation 2-2, Misfits 1-2, and SDC 0-2.

IN ANY controversy the instant we feel anger we have already ceased striving for truth, and have begun striving for ourselves.

WHOEVER has resigned himself to fate, will find that fate accepts his resignation.

Hampton I design sailboat, 2 sets of sails, 3 hp motor, and trailer - $850. Patterson, 2291828.

QUESTIONS AND ANSWERS

Q. Would you please list all the various special employment programs the Center is participating in (examples - Y.E.S., OEO, Summer Faculty Fellowship Program, N.A.S., etc)? Also include the approximate percentage of each program supported by NASA.

A. According to John J. Cox, Personnel Division, the names of special employment programs, percentage of NASA support, and number of positions in each program are as follows:

Professional Summer Employment Program, 100% support, 60 positions

Summer Aids Program (YES), 100% support, 75 positions

OEO/NASA Clerical Training Program, 100% support, 20 positions

Stay-In-School Program, 100% support, 40 positions

College Work Study Program, 30% support, 27 positions

National Research Council (NAS), 100% support, 18 positions

ASEE Summer Faculty Fellowship, 100% support, 45 positions

Public Service Careers Program, 100% support, 14 positions

Q. I've noticed that the branch secretary positions advertised recently as vacancies under our Merit Promotion Program call for Clerk-Stenographer types to fill the position rather than for the Clerk-Typist types who have historically filled these type positions. Is this an attempt to close a door of promotion opportunity for our clerk-typist? Is stenography really a requisite for these positions? Announcements 73-5 (Clerk-Stenographer) and 73-16 (Clerk-Typist) seem to be the same position. If 73-16 was filled, who's doing the branch's stenography work? Or was there any stenography work in the first place? And while I'm at it, why are some branch secretaries' promotion potential to GS-6 (73-50) while others are only to GS-5?

A. John Cox, Personnel, pointed out that the title and grade assigned to a particular position are determined after an analysis of the duties and responsibilities of the position. Announcement No. 73-5 was for a Clerk-Stenographer because the position description listed stenographic duties. No qualified stenographers applied. This left two choices: (1) Do not fill the vacancy; or (2) Restructure the position so that stenographic skills are not required. The position was restructured and readvertised as a Clerk-Typist (73-16).

The position described in Announcement 73-50 was not a Branch Secretary. It was a position that carries more responsibilities than those of a clerical assistant and had at one time been filled by a GS-8.

WORDS IN PEOPLES' MOUTHS

KICKS TO PRESENT LECTURE

John C. Kicks, Production Manager, Kulite Semiconductor Products, Inc., Ridgefield, New Jersey, will give a lecture in IRD Conference Room 225 on September 11 at 9 a.m.

Kick will speak on "Applications of Advanced Solid State Technology to Measurement of Physical Parameters Such as Pressure, Stress, Force, and Acceleration." He will present a description of a wide range of state-of-the-art transducers which are distinguished by their compact size, high output, outstanding dynamic and steady-state characteristics and excellent reliability.

Before joining Kulite, Kicks was with Boeing Seattle where he designed and used transducers in the many Boeing projects. He knows transducers from the manufacturing process through the ultimate use by the engineer.

All interested technical personnel are invited to attend. No advance reservation is required.

For further information call S. E. Pearson, extension 2162.

Langley Researcher

VOLUME 12, NUMBER 19 LANGLEY RESEARCH CENTER SEPTEMBER 14, 1973

CFC POSTER CHILD: Jamie Clark, a student at the Sarah Bonwell Hudgins Regional Center, has been selected as a Combined Federal Campaign poster child. Jamie is shown sitting by a CFC poster. The photograph was taken by Sgt. Malcolm Williams, TASO Photo Section, Ft. Eustis.

One-Day Drive Set For Oct. 2

Frank V. Moore, Director of the Center's 1973-74 Combined Federal Campaign, has announced that Tuesday, Oct. 2 has been designated for the intensive one-day CFC drive.

A kick-off meeting for division chairmen and keymen will be held in the Activities Building on Thursday, Sept. 27 at 9 a.m.

This will be the sixth Combined Federal Campaign conducted at this Center. Each year staff members have set an example for the rest of the community to follow. It is anticipated that this year employees will once again show they care by their willingness to invest in the betterment of the community.

In a fine display of self-help and cooperation, students at the Sarah Bonwell Hudgins Regional Center will assemble material for campaign workers to use in the Center's annual CFC drive. The Hudgins Center is partially financed by the Peninsula United Fund and provides preschool and vocational training for the mentally retarded.

Langley's CFC goal this year has been set at $125,000. Last year staff members donated a total of $144,826 to the combined effort.

A list of division chairmen and other key campaign workers will be published in the next issue of the Researcher.

CENTER TO OBSERVE ANNIVERSARY WITH OPEN HOUSE ON OCTOBER 6

The Langley Open House, celebrating NASA's Fifteenth Anniversary, will give employees and the general public a good look at some of the Center's major activities.

Several facilities will be open to visitors during the October 6 celebration, each manned by volunteer guides who will explain their organization's work. Flight demonstrations of research aircraft are also planned.

Visitors will park in specially marked lots near the West Gate, then board shuttle buses that will take them to each stop along a planned tour route. The buses will pass each stop about every five to seven minutes, and visitors will be free to get off or on at any stop.

Among the facilities to be open are the 16-Foot Transonic Tunnel, the Environmental and Space Sciences Laboratory, Fatigue Research Laboratory, Structures Research Laboratory, Mechanical Development Section, Data Reduction and Flight Control buildings, and the Structural Dynamics Research Laboratory.

At either end of the tour route are the Langley Visitor

(Continued on page 6)

VIKING LANDER: One display of unusual interest which can be seen at the Visitor Center during Open House on October 6 will be a full scale engineering model of the Viking Lander. Viking is a Langley managed project and its goal is to place an instrumented spacecraft on the planet Mars in 1976.

HAPPENINGS

SKYWATCHERS. . .The Skywatchers Astronomy Club will meet in the Activities Building on Wednesday, September 26 at 7:30 p.m. Subject of the meeting will be the observation of Mars and Comet Kohoutek. A viewing session will be held after the meeting, weather permitting.

NOTE OF THANKS. . .John Munick wishes to thank his friends and coworkers for their thoughtfulness, well wishes, banquet and gifts given to him on the occasion of his retirement.

BARBECUERS BEWARE. . .Several deaths have resulted from the use of refrigerator shelves for barbecue grids. Many of these shelves were found to be cadmium coated. Cadmium was released during the heating, transferring poisonous fumes to the cooked meat. Cadmium poisoning was the result. Do not use any metal shelving for cookouts unless it has been approved for that purpose.

THANKS. . .Walter B. Wolberg, Financial Management, expressed the following thanks: ''For your many expressions of sympathy when my mother died, thank you.''

PENINSULA CRUSADE. . .The Greater Peninsula Crusade presents Dr. Jerry Falwell at 8 p.m. September 16-22 at the Hampton Coliseum. Free admission. Free parking.

ACCIDENT WITNESSES. . .On May 3 at or about 3:40 p.m., John C. Gregory, Fabrication Division, was involved in a serious accident at the intersection of Magruder Boulevard and Semple Farm Road. His injuries were so severe that he does not remember the events of the accident. It is a practical certainty that there were vehicles ahead of and behind Gregory. Anyone who saw this accident is requested and urged to contact Mrs. John C. Gregory, 596-5110 after 5 p.m.

KEY ORGANIZATIONAL POSITIONS

The following have been selected for the key organizational positions indicated:

C. Wayne Williams - Head, Publications Branch, Office of Scientific and Technical Information Programs

Ernest A. Mackley - Manager, Hypersonic Research Engine Project Office, Hypersonic Vehicles Division

PANEL DISCUSSION ON COMPUTER SYSTEMS

The Institute for Computer Applications in Science and Engineering (ICASE) will sponsor a panel discussion on ''Trends in Computer Hardware and Software'' on Monday, September 24 from 1:30 to 3 p.m. in the Activities Building.

Panelists will be Professor James C. Browne, University of Texas at Austin; Dr. R. Stockton Gaines, Institute for Defense Analysis; Professor Saul Rosen, Purdue University; and Professor Stephen W. Sherman, University of Houston.

Browne, Gaines, and Rosen are three of the nation's leading experts in computer systems. They will give their views on the current state of the art and the developments they forsee within the next five to ten years. Some of the topics to be discussed include computer networks, data management and storage devices, time sharing, and operating system design. Sherman, who spent the summer of 1973 at ICASE, will act as moderator.

The discussion is open to all interested Langley staff members.

STAFF MEMBERS RETIRE

Sivey R. Marshburn
Plant Engineering Division

Charlie E. Warren
Operations Support Division

CREDIT UNION A-OKAY

Despite the ''credit crunch,'' the Langley Federal Credit Union continues to sail along in good shape. True, some adjustments were necessary and some short term borrowing was required to provide ready cash while the Credit Union decided on the optimum course of action. However, Langley was fortunate in comparison with many credit unions. Its loans to shares ratio has been such that over the years it could build ample reserves of government securities. It is a matter now of deciding how best to make use of these resources. Those credit unions who were ''loaned out'' do not, of course, have any such cushion.

The immediate cause of the present situation was the need for money felt by outside financial institutions. Desperate enough to offer as much as 9% for long term deposits, they naturally attracted the funds of investment minded members despite the loss of fluidity and the various restrictions and penalties involved in any withdrawal. However, the blow would have been much worse except for the great majority of LFCU's members whose saving programs are geared to regular deposits as assured by payroll deductions. The trick, of course, is for Langley not only to hold the shares it has but to attract new deposits in increasing amounts and present plans are intended to do just that. For instance, it is envisaged in 1974 that the LFCU will more than meet its competition as regards both dividend rate and the frequency of its declaration.

In the meantime, the need for operating capital dictates a move already taken by credit unions and banks nationwide: a raise in interest rates. LFCU with loan insurance at no out-of-pocket cost and interest rates still lower than elsewhere, will remain the best place for its members to borrow. However, interest on new car/boat loans has been pegged at an annual percentage rate of 10.8%. The rate on personal loans remains at the old 1% per month on the unpaid balance and share pledge loans at 3/4%.

Meteoroid Satellite Still Functioning

Remember when more than 850 Langley employees and their families made the journey to Wallops Island last summer to see the launch of the Scout vehicle and its Meteoroid Technology Satellite payload? Were you among the more than 2,000 spectators? The Meteoroid Technology Satellite, built and launched by Langley Research Center and designated Explorer 46, has achieved the mission objective for its primary experiment, and the experiment continues to operate after more than a year in orbit.

Launched August 13, 1972, from Wallops Island, the mechanically complex spacecraft fully deployed 6 bumper experiment panels. The other 6 panels did not fully deploy; however, all 12 panels were pressurized and are providing good data. The partial deployment of 6 panels did, however, have a serious effect on the spacecraft attitude which resulted in overheating and eventual shutdown of the spacecraft batteries. Nevertheless, the project team succeeded in nursing the spacecraft through to substantial success. They kept the batteries in use long enough to record nearly 2000 penetrations on the Meteoroid Impact Flux Detectors, a secondary experiment. These results showed conclusively that previous microphone-type sensors had greatly overestimated the population of small meteoroids.

The primary objective of the mission was to establish the effectiveness of bumper-protected structures in resisting meteoroid penetrations. Hence, the spacecraft was designed with a backup solar-powered telemeter for the Meteoroid Bumper Experiment. This telemeter has continued to function properly and the primary objective of the mission has been accomplished.

The results show that bumpers are more effective than anticipated. After the first year in orbit, only 31 of the 96 cells have been penetrated, and NASA Headquarters has agreed to continue the experiment for a second year to increase the data yield in the experiment.

BASKETBALL CHAMPS: The Beavers basketball team, composed of personnel from LTV Aerospace, Computing and Software, and NASA, completed the 1973 summer season with an unblemished record of 20 wins and no losses. Shown kneeling (from left) are Ken Jones, Gary Gibson, Bill Wilkins, Bill Wessel, and Bob Glasgow. Standing - Harvey Herring, Cecil Kirby, Phil Renfroe, Bob Glover, and Mike Luther.

Awards Ceremony October 26

Roy F. Jackson

Roy F. Jackson, Associate Administrator for the Office of Aeronautics and Space Technology, will be the guest speaker for the Center's Annual Awards Ceremony which will be held Friday, October 26 at 1:30 p.m. in the NASA Hangar, Building 1244.

The Awards Ceremony is held annually to recognize individuals and groups at the Center for their outstanding contributions and achievements. In addition to those receiving awards, all supervisors and all staff members having 25 or more years of service are invited to attend.

As Associate Administrator of OAST, Jackson is responsible for the direction of NASA research and technology development programs to meet the Nation's future requirements in aeronautics and space. These projects cover a broad range of scientific and engineering disciplines with most of the work managed by the Ames, Lewis, Flight, and Langley Research Centers, all of which are organizationally assigned to OAST.

Prior to his NASA appointment, Jackson was vice president and assistant general manager of the Northrop Corporation Aircraft Division, a position he had held since 1966.

Jackson was born in San Francisco in 1919. He graduated from Stanford University in June 1941 with distinction, receiving an A.B. degree in Mechanical Engineering with an Aeronautical option. After graduation, he joined the National Advisory Committee for Aeronautics (NACA) at the Ames Research Center.

ASME MEETS SEPTEMBER 27

Dr. Jack D. Daugherty, vice president for Laser Research at AVCO Everett Research Laboratory, Incorporated, will speak at a meeting of the Hampton Roads Chapter of the American Society of Mechanical Engineers on Thursday, September 27 at the Colonial Restaurant, 10453 Jefferson Avenue.

Dr. Daugherty will speak on ''Lasers - Recent Developments and Uses.'' The current high power gas laser devices, gas dynamic, electric and chemical lasers will be discussed by Dr. Daugherty. Movies of some applications will be shown.

As a principal research scientist at the AVCO Laboratory, Dr. Daugherty has conducted research in various areas of plasma physics, high voltage electron devices, gas discharge physics and lasers. He is presently active experimentally and theoretically in the development of high energy, pulsed electric lasers.

The meeting will be preceded by a social period at 6:30 p.m. and dinner at 7:15.

Reservations must be made by September 25 with John Allred, extension 3806 or 877-5881 (home), or John Chappell, 247-2662 (work) or 595-1867 (home).

VIKING BIOLOGY INSTRUMENT: Dr. John Naugle, NASA Associate Administrator for Space Science (second from right), inspects a Viking Biology Instrument at the TRW Inc. facility in Redondo Beach, Calif., during a recent briefing visit. With Dr. Naugle are (from left) Dr. S. I. Rasool, NASA Headquarters; Dr. Peter Staudhammer, manager of the Nuclear and Electric Systems Lab, TRW Systems Group; and Dr. Vince Johnson, NASA.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

WANTED

Driving combination from Bayberry area to W.A. on 8 shift. May 3886.

Good quality chain saw. Mulqueen, 877-8263.

FOR SALE

Two tickets to VPI-VMI football game at Blacksburg Nov. 17. Moore, 851-2223.

1965 Chrysler Newport, 4-door, air conditioned - $395. Collins, 868-9213.

1969 Buick Sportwagon, air conditioned. McCutchon, 877-6210.

3-bedroom, 2-bath rancher, air conditioned, 2-car garage, located in Claiborne Place - $39,100 or rent $300 per month. Sharpe, 595-3122.

1967 Ford Ranchwagon - $600. Weidner, 596-4346.

Vitreous china lavatory - Lisa style (E-3475) by Eljer - twilight blue. Yates, 723-9324.

33 hp electric Johnson outboard motor - $300. Baltes, 723-1953.

1965 TR4A with new top. Shaw, 877-6064.

1970 Chevrolet, 8-cylinder, 4-door, air conditioned, straight stick. Hudgens, 596-1997.

Two Bell-Magum motorycle helmets, size 7-1/8 and 7-1/2 - $35 each. Tomaine, 877-1301.

1967 Oldsmobile, 4-door, air conditioned - $650. Cottle, 877-8359.

EMPLOYEES RECEIVE CASH AWARDS

Several staff members (pictured at right) recently received cash awards for suggestions under the Incentive Awards Program. The recipients and their suggestions are as follows:

Albert R. Philips, Fabrication, received $750 for his suggestion relative to a technique for positioning of locating orifice tubes in cast pressure instrumented wind tunnel models which will allow a complete set of pressure measurements to be made on relatively small models and components and will lead to wind tunnel results that open a new area of research.

Edna C. Cox and Sallie M. Harvey, Technical Editing Section were awarded $25 each for a joint suggestion concerning an improved method of applying pressure to waxed-back prints.

Ben A. Goddin, Operations Support, earned $25 for his suggestion relative to solving a potentially dangerous situation by devising a method to cover exposed sharp ends of cut nail retainer clips which are used for noise insulation treatment.

Gene A. Wagner, Operations Support, received $75 for a method of identifying thermocouples in blind spots.

William C. Tennis, Operations Support, was presented $25 for suggesting the addition of necessary information to Form PROC/P-17 (Dec. 1969).

Joseph T. Coe, Flight Instrumentation, was awarded $45 for his suggestion relative to condensing data records on magnetic recording tape.

Mildred F. Hartman, Financial Management, received $120 for suggesting coding blanket purchase agreement folders to designate fiscal year.

John J. Rehder, Space Systems, earned $75 for suggesting the establishment of a central coordination and distribution system for programs developed at LRC by users of Wang calculators.

FGAA TO HEAR PERATINO

Chris Peratino, Director, Office of Audits, Smithsonian Institute, will be guest speaker at a meeting of the Peninsula Chapter of the Federal Government Accountants Association on Wednesday, September 19. He will speak on "Operational Auditing in the Smithsonian Institute."

The meeting will be held at Plantation Barbecue. A social period will begin at 6:30 p.m., followed by dinner and the program. For reservations call Joe Haggerty, extension 3867. Guests are invited to attend.

KEEP your enthusiasms, and forget your birthdays - formula for youth!

INEXPERIENCE is what makes a young man do what an older man says is impossible.

Electric train - 8 cars and 10 feet of track - $5. Garletts, 851-1848.

Linton oboe, professional model - $300; Selmer Paris Clarinet, series nine - $300. Bowman, 898-5650.

1967 Chevrolet Impala, V8, 4-door. Savedge, 722-5761.

Boy's 20-inch, 3-speed bicycle - $20. Rowland, 851-0212.

1964 Chevrolet Impala, 2-door hardtop - $300. Gates, 851-5948.

Albert R. Philips (left) receives congratulations and a check for $750 from James H. Parks, Assistant Director for Systems Engineering and Operations.

Henry A. Fedzuik, Head, Office of Scientific and Technical Information Programs, congratulates Edna C. Cox (left) and Sallie M. Harvey for their joint suggestion.

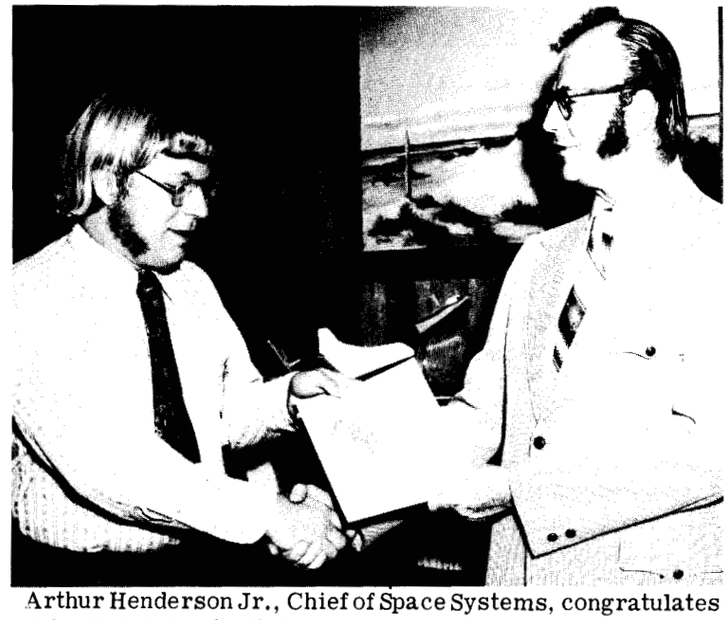
Ben A. Goddin

Gene A. Wagner

William C. Tennis

Joseph T. Coe

Joseph R. Struhar, Assistant Chief of Financial Management, presents an award to Mildred F. Hartman.



Arthur Henderson Jr., Chief of Space Systems, congratulates John J. Rehder (left) for his suggestion.

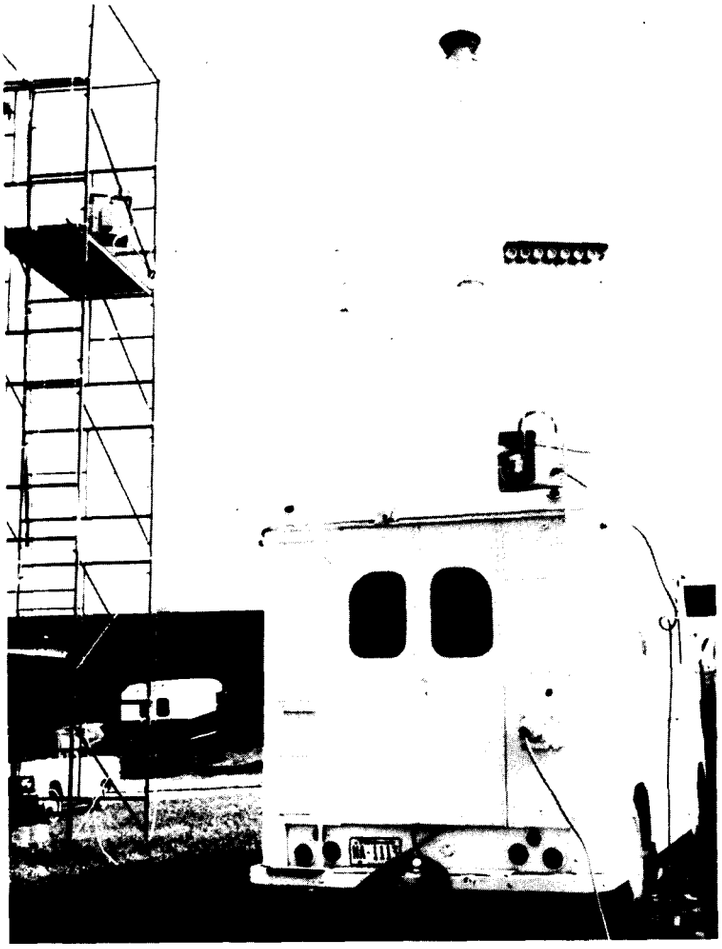
AEROSOL RESEARCH GROUP: Members of the team who took part in a Virginia Air Quality Program are (from left) Ronald Sentell, David Woods, Richard Storey, Dr. Patrick McCormick, John Smith, William Huelton, and Dr. Frank Harris.

NASA Supports Air Quality Program

Through a request by the State Air Pollution Control Board, Region VI, the Aerosol Research Group of the Photo Electronic Instrumentation Section, Instrument Research Division, participated in a cooperative program during August with the State and Old Dominion University to determine the air quality at a site in Norfolk.

The NASA field experiments utilized instrumentation and measurement techniques originally developed to support current NASA programs. Specifically, the NASA measurements were aimed at characterizing the particulate pollution in terms of chemical composition, morphology, size number distributions, mass loading and source (anthropogenic or natural). The measurement were made on a continuous 24-hour basis for a period of 2-1/2 weeks.

Old Dominion University was responsible for the gaseous pollutant measurements. The data collected by NASA will be used to verify, interpret and refine the data presently being collected by SAPCB's network of air monitoring stations and definitize current methodology.



INSTRUMENTATION VAN: The equipment used by the Aerosol Research Group to determine the quality of air was stored in this van. Air samples came in through the chimney and were analyzed with special equipment inside. Filters (mounted on right of van) collected the air matter. The weather station, which was used for weather data, was also mounted on the van and the high volume sampler is shown at the left of the van.

NASA ANNIVERSARY OPEN HOUSE

(Continued from page 1)

Center and the main hangar. The hangar will house a special exhibit depicting Langley's five main fields of research and development activity: Aeronautics, Space Technology, Structures, Applications, and Viking.

The large exhibit was created and built at Langley for display at the Lewis Research Center's Inspection September 19-21. It will be returned to Langley in time for the Open House.

Surrounding the hangar exhibit will be most of the research aircraft used here in aeronautics programs, and some special equipment used in space and applications projects.

Within the exhibit's five areas will be models, photographs, demonstration hardware, samples, and short explanations of major programs.

The Activities Building will be the site of special lectures on aeronautical programs at Langley. Food and drink will be on sale by the Activities Association, providing visitors a place to relax during the tour.

MERIT PROMOTION NOTICE

The following Merit Promotion Announcements are currently open:

No. 73-87 - Clerk-Stenographer, GS-312-5 with promotional opportunity. Office of the Director for Systems Engineering and Operations. Closes September 21.

No. 73-88 - Clerk-Stenographer, GS-312-5. Flight Instrumentation Division, Navigation and Guidance Research Branch. This position will be filled from the Secretarial Roster.

No. 73-89 - Reliability, Safety and Quality Assurance Officer, GS-801-14 or 15. Office of the Director for Systems Engineering and Operations. Closes September 21.

Even the Langley fire station will join the celebration. (National Fire Prevention Week begins just after the Open House.) Firemen will give lectures on fire prevention and demonstrate fire fighting equipment - - some of it new to the general public.

The Open House begins at 9 a.m. and ends at 4 p.m.

Personnel Profiles

By

Allan C. Hanrahan

He Flies Through The Air With The Greatest of Ease. . .

. . .But he does not do it on a flying trapeze; he does it in one of the more than one-hundred different types of aircraft with which he is familiar.

He is Robert W. Sommer, Aeronautical Research Pilot in the Operations Branch of the Research Aircraft Flight Division, and he flies airplanes and such for a living. He also does it because - as he put it - ''I just always thought I would like to fly.''

After attending college for two years he set about realizing his ambition by enlisting in the Navy and taking part in the Naval Aviation Cadet Program. Sommer spent a total of almost five years in the Navy and almost a year of that time was spent flying combat strikes over Korea from the carrier Bon Homme Richard. The war was beginning to wind down by then but even at that, two pilots were lost out of his squadron's complement of twenty-two.

Discharged from the Navy in 1953, he returned to Purdue University and two years later received a B.S. degree in Aeronautical Engineering.

Almost immediately he came to work at the Center (back in the days when we were known as NACA) and he evidently likes it because he has been here ever since.

He still maintains ties with the Navy, however, in that he is still a flying member of the Naval Reserve, with the rank of Commander.

Sommer admitted that he doesn't indulge in a great number of outside activities but camping is one pastime enjoyed by him, his wife, Barbara, and his fourteen-year-old daughter, Laurinda.

The forty-four-year old native of Roselle, New Jersey, was generally reticent about himself and his occupation. Contrastingly, he was quite positive in passing credit on to the airplane mechanics and even extended his compliments to include, in a general sense, their outside interest.

Like the other pilots, Sommer sees himself as primarily an engineer who just happens to be physically involved with the research. Since aeronautics and aircraft are here to stay, it is propitious that there are quietly confident researchers such as Robert Sommer around.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of September 17:

Monday - Cream of potato soup, stuffed cabbage, broiled or stuffed pork chops, fried scallops. Snack bar - Hot pastrami, ham and cheese, NASA submarine, turkey club.

Tuesday - Chicken rice soup, braised beef tips, chicken and dumplings, shrimp foo young. Snack bar - Hot roast beef, sausage and egg, barbequed pork, salami.

Wednesday - Vegetable beef soup, chopped steak, broiled or fried fish, veal parmesan. Snack bar - Pizza, steak, ham steak and egg, bacon, lettuce and tomato.

Thursday - Corn chowder, steamship round, sweet and sour pork, Chinese egg rolls. Snack bar - Ham and cheese, hot corned beef, NASA submarine, barbequed beef.

Friday - Tomato soup, beef spare ribs, broiled or fried chicken, fried flounder. Snack bar - Barbequed pork, mini steak, turkey club, grilled cheese.

The menu for the week of September 24 is as follows:

Monday - French onion soup, country style steak, shrimp creole, ham omelette. Snack bar - Ham steak and egg, hot roast beef, hoagie, hot pastrami.

Tuesday - Manhattan clam chowder, stuffed peppers, broiled or fried fish, hot turkey. Snack bar - Barbequed pork, turkey club, NASA submarine, bacon, lettuce and tomato.

Wednesday - Beef noodle soup, broiled rump roast, pork chop suey, spaghetti with meat balls. Snack bar - Sausage and egg, pizza, steak, ham and cheese.

Thursday - Shrimp gumbo, sukiyaki, broiled or fried chicken, fried jumbo shrimp. Snack bar - Hot corned beef, NASA submarine, chicken salad, ham steak and egg.

Friday - Puree of bean soup, meat loaf, fried oysters, sauteed chicken livers. Snack bar - Barbequed pork, hot roast beef, turkey club, mini steak.

TECHNICAL PUBLICATIONS

TN D-7189 - Chemical Nonequilibrium Effects on the Inviscid Flow in the Windward Plane of Symmetry of Two Simplified Shuttle Configurations by John A. Lordi, Robert J. Vidal, and Charles B. Johnson.

TM X-2771 - Aerodynamic Characteristics at Mach 1.50 to 2.87 of a Dogfight Missile Configuration with Cruciform Cranked Wings and Trapezoidal Tail Controls by William J. Monta.

TM X-2648 - A Summary and Index of Experimental Aerodynamic Characteristics of Several Foreign Fighter Interceptor Airplanes by Charlie M. Jackson, Milton Lamb, and Ida K. Collins.

TN D-7172 - A Flight Investigation of the Trailing Vortices Generated by a Jumbo Jet Transport by Harry A. Verstynen and R. Earl Dunham.

TN D-7108 - Heating and Flow Field Studies on a Straight Wing Hypersonic Reentry Vehicle from 20 to 80 Degrees Angle of Attack Including Simulation of Real Gas Trends by James L. Hunt and Robert A. Jones.

QUESTIONS AND ANSWERS

Q. In the announcement concerning the Voluntary Physical Examination Program, it states that ''all employees who indicate their desire to participate will be examined within the next three years,'' Since everyone should have an examination once a year, will this program be on an annual basis once it is started?

A. Not necessarily, according to T. Melvin Butler, Director for Center Development and External Affairs. This physical examination program will be on a continuous basis, but not everyone will receive an annual examination. Once an employee has the physical examination and the results are evaluated by the Center's contract physician, a determination will be made concerning reexaminations. If the employee is found to be in very good health, a reexamination might not be scheduled for two or possibly three years.

Q. Since the Activities Association has seen fit to award an exclusive contract to Coke for soft drinks, what can be done to insure a good supply? The machines in Building 1244 stay empty or out of order about 40% of the time. Complaints to the local Activities Association representative have brought no results.

A. According to Herb Boulter, President of the Activities Association, all vending machine contracts - - soft drinks, cigarettes, candy, milk, ice cream, etc. - are awarded by the NASA-Langley Exchange Council. The Activities Association's function has been to coordinate the installation of the machines in the buildings and act as liaison between employee needs and the companies dispensing goods.

In regards to Coca-Cola, the Association bookkeeper, in response to the many complaints, and several abusive calls, has made every effort to improve service. The response from the Coca-Cola Company has been that they do not have enough help and cannot get enough help. One truck services the 195 machines at LRC as well as one or two large volume stops at Langley Air Force Base.

The contract negotiated between the Exchange Council and Coca-Cola has a 30-day notice of cancellation clause which to this date has not been invoked. Efforts are being made to have the Exchange Council exert pressure on the Coca-Cola Company or consider other services. It may be noted that the situation was no better when there were two vendors. When negotiations began on a new contract, both vendors would only negotiate on an exclusive contract.

LOST: ''Nouvelles Tables D' integrals Defines'' by Bierens DeHaan. Return to Robert S. Dunning, MS 225, ex. 3036.

WORDS IN PEOPLES' MOUTHS

SKYLAB SIGHTING SCHEDULE

The Skylab will be visible from LRC and the surrounding Peninsula area during September and October, weather permitting. For further information contact Robert B. Lee, extension 3641.

Date, time, altitude (elevation above the horizon), azimuth, direction and duration of appearance for the Skylab are given below:

Sept. 14 - 7:50 p.m., 25 degrees altitude, 229 degrees azimuth, southwest, 6 minutes

Sept. 29 - 5:32 p.m., 29 degrees altitude, 145 degrees azimuth, southeast by south, 4 minutes

Oct. 11 - 5:41 p.m., 69 degrees altitude, 350 degrees azimuth, north by west, 5 minutes

Oct. 14 - 5:48 p.m., 23 degrees altitude, 18 degrees azimuth, north northeast, 5 minutes

Oct. 16 - 5:56 p.m., 61 degrees altitude, 28 degrees azimuth, northeast by north, 5 minutes

Oct. 22 - 7:45 p.m., 14 degrees altitude, 178 degrees azimuth, south, 2 minutes

Oct. 24 - 7:52 p.m., 28 degrees altitude, 227 degrees azimuth, southwest, 3 minutes

Oct. 25 - 8:43 p.m., 10 degrees altitude, 279 degrees azimuth, west by north, 2 minutes

Oct. 26 - 7:59 p.m., 22 degrees altitude, 285 degrees azimuth, west by north, 4 minutes

Oct. 28 - 8:06 p.m., 13.5 degrees altitude, 314 degrees muth, northwest, 2 minutes

Langley Researcher

VOLUME 12, NUMBER 20 LANGLEY RESEARCH CENTER SEPTEMBER 28, 1973

CFC/PUF LEADERSHIP A LANGLEY HALLMARK

Several years ago Langley employees decided to really put their shoulders behind the Combined Federal Campaign and the Peninsula United Fund. The results were dramatic. Not only did we nearly double our support, but we set new standards for others to follow. They did, and today our community is the beneficiary of a host of improved social services which make the Tidewater Area a better place to live and to raise our children.

Each year community leaders come to me to stress the importance of the enthusiasm we show in our early one-day drive to the rest of the campaign. When we go over the top, overall success seems assured! And each year I try to find some new way to express these thoughts to all of you, on whom Langley's success really depends.

Frankly, I have come to believe that the CFC/PUF no longer needs ''selling'' at Langley - - that leadership in this drive has now become a hallmark of our Center. Perhaps my most useful role is to assess the situation, set a reasonable goal, and communicate this to you.

This year I have set the same goal as last year, $125,000, in the hope and expectation that we will actually equal our 1973 gift of nearly $145,000. This is based on the fact that, due to cost of living increases, our total payroll is slightly higher than last year. Now this won't be quite as easy as it sounds. Many of our best CFC supporters have retired. Others must now step forward to fill their shoes. The best ground rule I can suggest is this. If your income has increased, increase your gift in proportion. If we all do this, we will fulfill our obligation to this most worthy cause.

VIKING LANDER DESIGN APPROVED

Langley managers report satisfaction with the Viking Lander System Critical Design Review (CDR), held Sept. 18-20 in Denver.

Approximately 200 engineers and scientists attended the three-day review meeting, including representatives from Langley, NASA Headquarters, Jet Propulsion Laboratory, Martin Marietta Aerospace, Denver Division, and several other NASA Centers and government agencies.

Langley's group was led by Director E. M. Cortright and Viking Project Manager James S. Martin.

The review was also attended by the Viking Review Advisory Panel, composed of senior personnel of Langley, JSC, JPL, and GSFC, who gave senior project people their conclusions and recommendations on the lander design.

With the Lander's design reviewed in detail, Martin Marietta, prime contractor, is proceeding with testing of the Lander Proof Test Capsule and manufacture and assembly of flight hardware.

Major component milestones completed at the time of the Lander CDR include 97 per cent of smaller design reviews, 88 per cent of the design and development test phase, and 34 per cent qualification of components.

The CDR began with an overview of the Lander system by John D. Goddlette, Martin Marietta's Viking Program Deputy Director-Technical, and Edmund A. Brummer, LRC Viking Lander System Manager. They outlined changes made to the craft since the last major review meeting.

Review attendees were taken on a tour of Viking hardware at MMA facilities outside Denver.

The first Viking spacecraft is expected to be launched August 13, 1975, from the Kennedy Space Center; it should enter Mars orbit about June 19, 1976. The second Viking will be launched about 15 days later, but won't reach Mars orbit until about 45 days after the first vehicle arrives.

CENTER'S ONE-DAY DRIVE TUESDAY

On Tuesday, October 2, a corps of over 300 workers will contact each staff member in an effort to complete the Center's Combined Federal Campaign in an intensive one-day drive.

This will be the sixth combined campaign conducted at the Center. Included in the combined drive are area United Funds, the National Health Agencies, and International Service Agencies.

A kick-off meeting for division chairmen and keymen was held yesterday. Strong support for the CFC was indicated in an address by Center Director Edgar M. Cortright.

Campaign Director Frank Moore emphasized that CFC contributions are an investment in the community and pointed out that the best way to give to this one-day drive is through payroll deduction. Last year the vast majority of the staff elected to use the payroll plan.

(Continued on page 3)

OPEN HOUSE DATE CHANGED TO OCT. 13

Nothing has been changed except the date.

Langley's Anniversary Open House is now scheduled to be held Saturday, October 13. A desire not to conflict with a religious holiday caused the change from the original October 6 date.

All other plans are proceeding as they were originally made. The Open House will celebrate NASA's fifteenth anniversary, allowing employees and the general public an opportunity to see and hear what Langley does in support of the nation's space and aeronautics programs.

Bring your friends to see your work on Saturday, October 13.

HAPPENINGS

SWIMMING CLUB. . . The NASA Swim Club has started its weekly sessions at the Chamberlain Hotel pool. Time is 7 to 8 p.m. and the cost is one dollar per person. All personnel and members of their families are invited to attend. For further information call Louise Lee, 3772, or Ted Carson, 3675.

DRAWINGS FOUND. . . Ronnie Henk, Plant Engineering, wishes to say ''thank you'' to all who aided in the search for the mylar drawings reported missing in the last issue of Langley Researcher. A special thanks to Oneda Moore and Jean Wood, Management Support Division, for having found the two parcels.

VOCAL CONCERT. . . Charlotte Williams, wife of Dr. Jerry G. Williams, Structures and Dynamics Division, will present a vocal concert at the Governor's Palace in Williamsburg on Thursday evening, October 4. Mrs. Williams is a well known singer on the Peninsula and has performed solo work with the Choral Society and taken lead rolls with the Peninsula Operatic Society.

THANKS. . . Frederick C. Bragg, Plant Engineering Division, wishes to thank his friends and co-workers for the retirement party and gifts given to him on September 13.

FREE COURSES. . . Free basic education leading to GED courses and high school certificate will be held from 7 to 9 p.m. on Tuesday and Thursday evenings. Applicants must be 17 years old or older. Persons interested may register at Lindsay Junior High School, 1636 Briarfield Road, Hampton, telephone 838-5551. Free books will also be furnished.

PILOTS AND WOULD BE PILOTS. . . The Langley Aero Club has opened its membership to a limited number of NASA staff members. Members will be trained for private, commercial, and instrument flying. For further information contact Brown, 851-8837.

BOOKS NEEDED. . . Persons having books to donate to the annual book sale of the Hampton Branch of AAUW, please call Mrs. Grace Perry, 722-5450.

TECHNOLOGY AWARDS: Dr. John E. Duberg (second from left), Deputy Director, presents cash awards for Tech Briefs to (from left) Lloyd S. Keafer Jr., Thomas T. Bales, Winfrey E. Arnold and Ashby G. Lawson. Nationwide distribution is made of Tech Briefs published by the NASA Technology Utilization Program.

NAGS CONVENTION: Twelve Center employees, who are members of the National Association of Government Secretaries (NAGS), attended the annual convention of NAGS held at the Marriott in Washington, D.C., on September 21-23. In addition to the business sessions, the group toured the White House and Kennedy Center. NAGS members are front row (from left) Gloria Alto, ANRD, national vice president; Bernice Barrack, RAFD, president of local branch; Jean Wood, MSD; Janis Firth, Office of Director for Space; and Ann Johnson, SSD. Back row - Jane Druen, ANRD; Shirley Davis, Travel Office; Lahoma Hart, Training Office; Mary Lou Bates, ESSD; and Eloise McGehee, Training Office. Absent when the picture was taken were Edith Horrocks, Scout Office, and Mary Lemke, Training Office.

SOCIETY TO MEET. . . The LRC Historical and Archeological Society will meet at the Activities Building on Tuesday, October 16 at 7:30 p.m. Edward Chappell, Archeologist with the Virginia Landmarks Commission, will speak on ''Techniques for Identification of Historic Sites.''

NOTE OF THANKS. . . Mary J. Mesic, General Giles, wishes to thank her friends for the flowers and cards sent during the recent illness of her mother, Mrs. Sarah Mesic. She would also like to thank those who donated blood to replace blood given to Mrs. Mesic at the time of surgery.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

LFCU 7.25% CERTIFICATES

Effective October 1, 1973, the Langley Federal Credit Union will offer its members - for the first time - an opportunity to buy LFCU Note Certificates paying an annual interest rate of 7.25%. These certificates evidence a loan made by the member to the Credit Union and as such are not insured by the National Credit Union Administration nor is there any associated share-life insurance.

To be eligible, a member must have $2000 in shares at time of purchase. This insures that the maximum amount of share-life insurance remains in effect and is not inadvertently reduced with, conceivably, no chance of its being reinstated because of age. The certificates will be issued in increments of $1000 with a $1000 minimum. Term will be the remainder of the quarter in which purchased plus 12 months. Renewal for periods of 12 months will be automatic unless (1) the member surrenders the certificate within 10 days after maturity, or (2) LFCU notifies the member 5 days before maturity that the certificate will not be renewed.

Interest at the annual rate of 7.25% for the full period will be credited to the member's share account on each maturity date. If redeemed earlier, the member will receive interest at an annual rate of 5.25% from date of purchase or renewal to date of surrender.

So empty your piggy banks and clean-out those outside savings accounts which fail to measure up. LFCU Note Certificates, taking both time and rate into consideration, are the best place yet for such "fresh" money. However, LFCU shares held on October 1 for as much as one month should not be disturbed at this time. A 6% dividend will return more than the certificate would.

A STEP FORWARD

The LFCU Board has voted to change the dividend period effective January 1. After that date, payments will be made quarterly instead of semi-annually.

Employees Receive 30-Year Pins

In special ceremonies held Wednesday, 57 staff members received emerald studded service pins and certificates in recognition of 30 years of Federal service. The presentations were made by Dr. Edgar M. Cortright, Center Director.

Recipients of the 30-year service pins and certificates were George F. Black, James N. Chacamaty, Leo C. Forrest, Benjamin F. Holloway, Evelyn B. Huffman, William A. Thompson, Jack E. Ashe, Walter W. Friend, James W. Haas, John M. Moore, Joseph E. Purgold, William R. Borchers, John R. Bowles, Daniel W. Bridges, Arthur Combs, John R. Denton, Estel W. Hughes, Harry P. Lishman.

Also George B. McGehee, W. Leon McIntosh, Vincent E. Miller, William O. Moore, Marvin V. Owens, James Paul, Robert W. Boswinkle, Gerald V. Foster, Katheryn Peddrew, Harleth Wiley, Robert Schade, David Sutherland, Stanley Scher, Charles C. Smith, Patrick Croall, Eloise McGehee, Edward A. Howe, William W. Metz, O. Earl Shortt.

Also Harold R. Snyder, Edwin Williams, Duane Zellers, Dora Perry, Emeline Redden, Doris Topping, Wayne Williams, Ruth Verell, John Samos, Clyde Clark, William C. Edwards, Elmer Smith, Ira Huffman, James E. Stitt, Beverly Henry, Robert Osborne, Edith Whitley, George L. Meidinger, George Smith, and Frances Arnn.

COMBINED FEDERAL CAMPAIGN: Congressman Thomas N. Downing (center) and Major General Jack C. Fuson, Ft. Eustis, honorary co-chairmen of the 1974 CFC, discuss campaign plans with Frank Moore, LRC Chairman.
—Photo by C. E. Williams, TASO Photo Sec., Ft. Eustis

CENTER'S ONE-DAY DRIVE TUESDAY

(Continued from page 1)

The presidents of the unions represented at the Center have also enthusiastically endorsed the Center's annual CFC drive.

Division and project office chairmen are requested to turn in their reports to Mary Jackson or Gwen Leach as soon as possible after the one-day drive. The supporting campaign staff includes Willis Cross, Helen Hudgins, Ernestine Martin, Janet McKenzie, and Jim Ojiba. The campaign staff is located in Trailer 1213, adjacent to Scout-Viking Buildings. Telephone extensions are 2944 and 2945.

Organizational leaders are as follows:

Viking, James S. Martin; TCVP, John P. Reeder; ACD, Paul Fuhrmeister; IRD, Howard B. Edwards; FDCD, W. H. Phillips; FID, James E. Stitt; Materials, William A. Brooks; ANRD, Gloria Alto; Structures, Roger Anderson; Aeronautical Systems, Betty Pate; RAFD, Robert Schade; HSAD, Doris Vandeveer; Hypersonic Vehicles, Jim Penland; LSAD, John Campbell; Financial Management, Edward A. Howe; Management Support, Jess Ross; Personnel, Charles Barnett; BDSD, Edna Davidson; Procurement, Sherwood L. Butler; PRD, Robert H. Kirby; Fabrication, D. R. Hayes.

Also Systems Eng., Hubert K. Clark; RFED, Dr. Ross L. Gobble; Operations Support, Carl G. Baab; Plant Engineering, Baxter Carr; ESSD, Dr. William H. Michael; SSD, Paul Holloway; Scout, Abe Leiss; SATD, Brian Pritchard; OSTIP, Henry Fedziuk; Office of Director and Directorate Offices, Edward T. Maher; Audit, S. S. Smith; Coops and Graduate Students, John Witherspoon; AAMRDL, Thomas Coleman; and Retirees and Research Associates, William L. Williams.

RETIREES CAN CONTRIBUTE TO CFC

In response to inquiries from retired Langley employees last year, arrangements have been made this year to accommodate the generosity and community concern of those retired Center employees who wish to contribute to the CFC. William L. Williams, Assistant Chief of Personnel Division, has been designated as the coordinator for this effort.

Former employees who desire to contribute to this year's Combined Federal Campaign may do so by forwarding their contribution to Bill Williams, Mail Stop 308. Since retired staff members cannot use the payroll deduction plan, checks should be made payable to CFC.

SKYLAB SIGHTING SCHEDULE

The Skylab satellite will be visible from LRC and the surrounding Peninsula area through October, weather permitting. For further information contact Robert B. Lee III, ESSD, extension 3641. The position of the Skylab is given for a specific time in the table below. The direction of the Skylab's path across the sky is essentially from west to east.

Sept. 29 - 5:32 a.m., 29 degrees altitude, 145 degrees azimuth, southeast by south, 4 minutes duration

Oct. 1 - 5:41 a.m., 69 degrees altitude, 350 degrees azimuth, north by west, 5 minutes duration

Oct. 3 - 5:50 a.m., 24 degrees altitude, 347 degrees azimuth, north by west, 4 minutes duration

Oct. 14 - 5:48 a.m., 23 degrees altitude, 18 degrees azimuth, north-northeast, 5 minutes duration

Oct. 16 - 5:56 a.m., 61 degrees altitude, 28 degrees azimuth, northeast by north, 5 minutes duration

Oct. 22 - 7:45 p.m., 14 degrees altitude, 178 degrees azimuth, south, 2 minutes duration

Oct. 24 - 7:52 p.m., 28 degrees altitude, 227 degrees azimuth, southwest, 3 minutes duration

Oct. 25 - 8:43 p.m., 10 degrees altitude, 279 degrees zaimuth, west by north, 2 minutes duration

Oct. 26 - 7:59 p.m., 22 degrees altitude, 285 degrees azimuth, west by north, 4 minutes duration

Oct. 28 - 8:06 p.m., 13.5 degrees altitude, 314 degrees azimuth, northwest, 2 minutes duration

TWO FALL DANCES PLANNED

The Activities Association has scheduled two dances for this fall. These two dances will determine the future of Association sponsored dances at the Activities Building.

Dance attendance this year has been poor with only 49 paid couples at the last affair. If attendance continues to be poor this fall, the Activities Association will cease to sponsor dances.

The Leaves of Grass will play on Saturday, October 13 from 9 to 12:30 a.m. at the Activities Building.

100 Pruf, the band that played at the Friday night carval dance, will furnish music for a dance on Saturday, November 17 from 9 to 12:30 a.m. at the Activities Building.

Admission will be $3 per couple for each dance.

EXPLORER SCOUTS NEED HELP

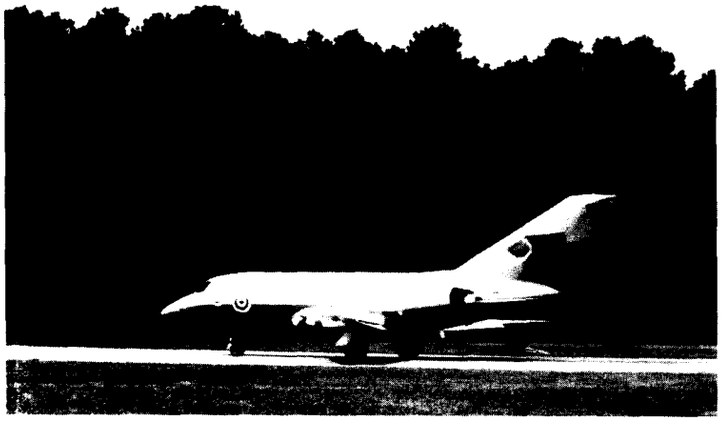
In a laboratory at Langley, a teenage boy puts the finishing touches on an electronic intercom. A few buildings away a young girl listens to an aeronautical engineer explain the physical principles of flight.

Although they have never met and attend different high schools, there is a common concern - to explore a career and be a part of NASA Langley's Explorer Scouts program.

These and similar situations have occurred over the past several years because Langley has been involved in offering career experiences in aeronautics, computers, life sciences, photography, electricity, electronics, and model construction.

Approximately 200 students a year are involved in these programs.

Center officials feel this is an important service to the youth of our surrounding communities, but help is needed.



TWIN-JET FALCON: This twin-jet Falcon aircraft, which is being used in a joint project by NASA and the Canadian Government's Centre for Remote Sensing, was at the Center last week. Langley is participating in an international environmental quality experiment, using remote sensing equipment to measure carbon monoxide and methane in the atmosphere.

Environmental Quality Experiment

Langley is participating in an international environmental quality experiment, using remote sensing equipment to measure carbon monoxide and methane in the atmosphere.

Working with the Canadian Government's Centre for Remote Sensing, the NASA experimental project is using a correlation interferometer mounted inside a twin-jet Falcon aircraft. The experimental sensor instrument was developed for NASA by General Electric and Barringer Research Ltd. of Canada.

The aircraft flies over selected urban and rural areas in Canada and the United States. The experimental interferometer measures specific air pollutants down to ground level. It is being developed for future environmental quality satellites within the LRC Advanced Applications Flight Experiments Program Office. The instrument will also be developed to measure other atmospheric pollutants such as ammonia, oxides of nitrogen, and sulfur dioxide.

The Canadian Falcon was at Langley last week for inspection of the equipment by LRC engineers and to perform some experiments in this area.

One flight was made over the Dismal Swamp below Norfolk, an area abundant with methane because of large amounts of decaying vegetation.

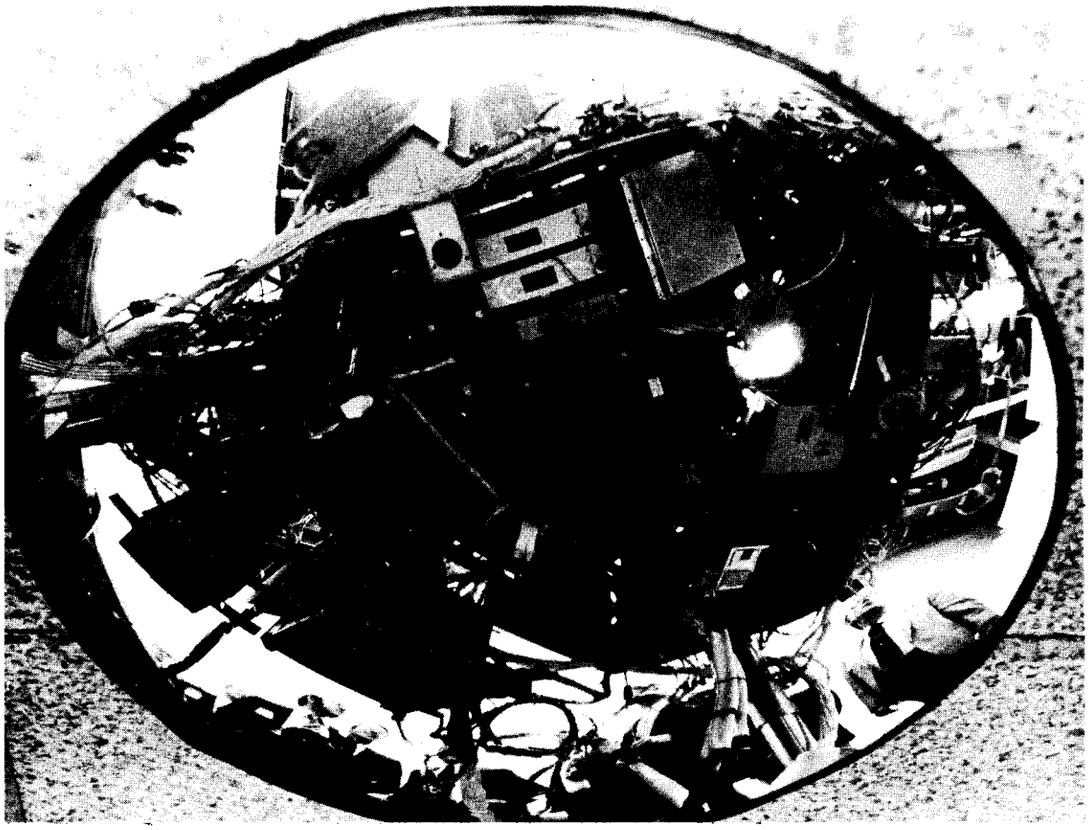
A second flight line followed a natural gas pipeline between Virginia and West Virginia to remotely detect leaks of natural gas (also methane) from the pipeline system. The Columbia Gas Transmission Co. cooperated in the experiment, simulating leaks at known and unknown (to the experimenters) locations.

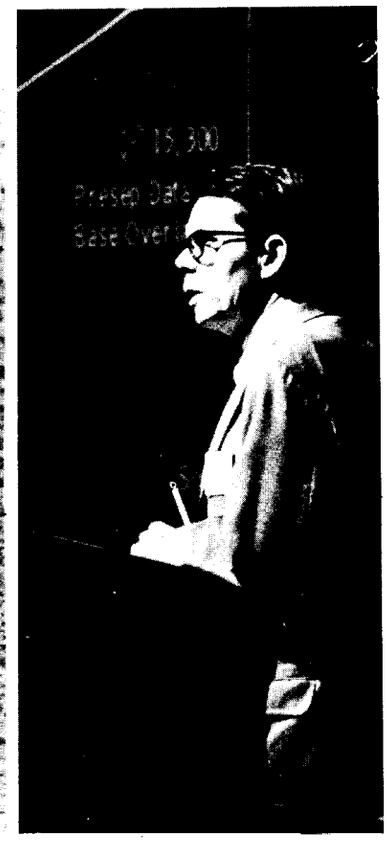
Working with the aircraft flights in Canada is an instrumented mobile van, moved to several locations along the flight lines. The ground measurements corroborate measurements made by the experimental instrument.

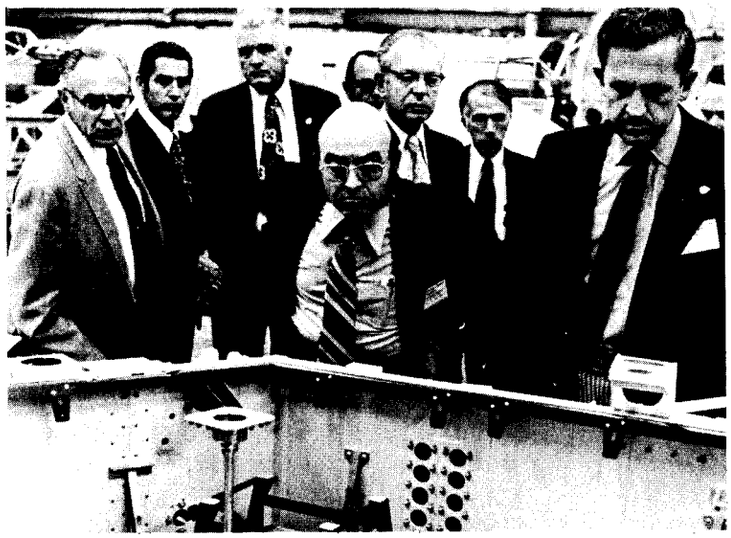
Robert N. Parker is head of FID's Advanced Applications Flight Experiments Program Office, and Peter J. LeBel is project engineer for Langley and NASA.

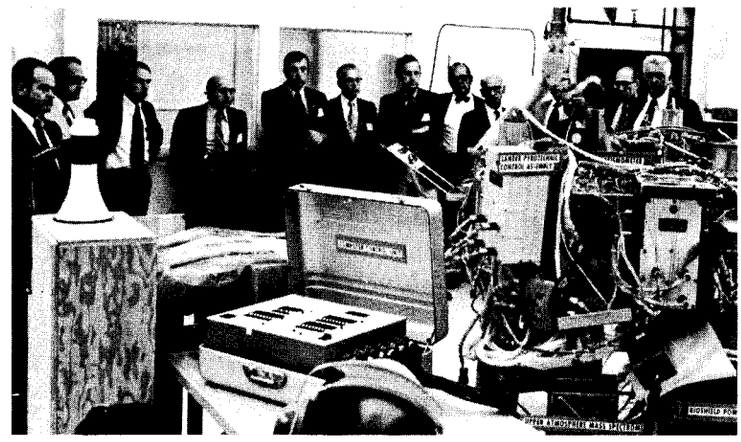
■■■■■

If you would like to serve as an instructor, a career counselor, or if you just like young people, call Hal Mehrens, Public Affairs Office, extension 3966.









VIKING LANDER: During the Viking Lander CDR, the Lander's underbelly was photographed through a reflecting disk (top left). John Goodlette, MMA's Viking Program Deputy Director-Technical, speaks at the review's opening session (top right). Middle photos, taken during a tour of MMA-built test hardware, show (from left) Herman Pusin, MMA Vice President, Engineering & Research; Robert Kraemer, NASA Hq. Director for Planetary Programs; James Martin, LRC Viking Project Manager; Dr. John Naugle, NASA Associate Administrator for Space Science; Walter Lowrie (behind Naugle), MMA Viking Program Manager; Edmund Brummer, LRC Viking Lander Manager; Dr. E. M. Cortright, LRC Director; and Walter Jakobowski, NASA Hq. Viking Program Manager. In right photo are Vincent Johnson, Deputy to Dr. Naugle; Kraemer; and Dr. Naugle. At bottom right, part of the tour group examines a Viking Lander test model inside an MMA laboratory building.

COLLEGE RELATIONS SEMINAR

Langley Research Center and Hampton Institute will co-host a College Relations and Recruitment Seminar on Tuesday, October 9, beginning at 9 a.m. in the Visitor Center.

Purposes of this seminar are to improve the growing relationships between colleges with large minority/female populations and LRC; to discuss ideas and problems of mutual concern and benefit, while attempting to implement the principles of equal access to opportunities; and to introduce information-resources, employment goals, career opportunities, curricular trends, and various other topics of interest.

Dr. Edgar M. Cortright, Center Director, and Dr. Roy D. Hudson, President of Hampton Institute, will give the welcome remarks.

Representatives from 15 colleges in Virginia, North Carolina, Georgia, Florida, Tennessee and Washington are expected to attend.

The highlight of the seminar is expected to be a panel discussion on ''Minority College and Governmental Interface in Program Development.'' Other participants will Dr. John E. Duberg, Deputy Director, John J. Cox, William L. Williams, Malcolm P. Clark, Dennis J. Martin, James A. Bell, Raymond G. Romatowski, Alvin F. Anderson and several observers from NASA Headquarters.

FTS OFF-NET TO ON-NET CALLS

The General Services Administration, which operates the Federal Telecommunications System (FTS), has brought to the Center's attention that a few people have been argumentative with the FTS operators about the use of off-net to on-net and off-net to off-net calls.

This is a reminder to NASA personnel, as well as the contractor personnel, that when placing a call from a commercial telephone, you must not try to place the call through the FTS operators. This is not an authorized use of FTS, and NASA prohibits the use of FTS off-net to on-net calls. Official calls from commercial telephones must be made commercially.

The traveler may use a credit card or pay for the call and claim reimbursement on his travel voucher.

RECORDS ROUNDUP IS COMING

It's that time of the year again - to corral old inactive records. A records cleanup campaign will be conducted at the Center from October 15 through October 26.

During the campaign each office is requested to review its files and to keep on hand only those records necessary for current operation.

Inactive records of value should be transferred to either the Langley Records Staging Area or the Washington National Records Center. Inactive reference material that is of no value should be destroyed.

NHB 1441.1A ''NASA Records Disposition Handbook'' sets forth the guidelines for the proper disposition of records.

Questions regarding disposition of records should be directed to the Records Management Office, 3511.

A man's mind is like his car. If it gets to knocking too much, he'd better have it overhauled or change it.

ACHIEVEMENT AWARDS: Louise Griggs (top photo) receives a Special Achievement Award from Daniel R. Hayes, Chief of Fabrication Division, and Mary M. Jenkins (bottom photo) is congratulated by Jess G. Ross, Chief of Management Support Division. Louise was cited for ''maintaining a superior level of competence in the performance of her assigned and self-initiated duties; additionally, she willingly cooperated and performed tasks in behalf of the Center's Safety Officer, Directorate for Center Development and External Affairs.'' Mary was honored for ''sustained superior performance of her duties in the control and statistical functions related to the LRC micro-program and her contributions leading to units reputation for service excellence.''

COUNSELORS NEEDED

The Office of Equal Opportunity Programs announces openings for several new OEOP Counselors. The job of the OEOP Counselor is to establish and maintain an open and sympathetic channel through which employees and applicants may raise questions, discuss grievances, get answers, and on an informal basis get resolutions of problems dealing with equal employment opportunity.

This is an important program for Langley Research Center. If you are interested, please contact Alice Craddock, Office of Equal Opportunity Programs, Room 106, extension 3087.

Personnel Profiles

By

Allan C. Hanrahan

Their Theme: ''Nursing. . .Together We Care.''

Just as the name Florence Nightingale immediately brings to mind the profession of nursing so do the words ''dispensary'' and ''NASA nurse'' immediately bring to mind an image of professionalism incorporating expert care, concern, and conscientiousness on the part of the Occupational Health Nurses who practice their profession here at the Center.

Betty H. Downing, R.N., C.O.H.N, (on the left of the picture) and Julia K. Stainback, R.N., C.O.H.N, are two of those nurses and they are singled out and featured this issue for a number of reasons.

The main one is that they are two of the Founders - - i.e. charter members - qualified for certification under the Founders provision of the program started last year by the American Board for Certification of Occupational Health Nurses. This autonomous Board, founded and incorporated in May 1971, with a grant from the American Association of Industrial Nurses, conducts the program of certification for qualified occupational health nurses.

To qualify, and be entitled to place the initials ''C.O.H.N.'' after their name, Mrs. Stainback and Mrs. Downing had to meet certain criteria which included at least fifteen years of work as an occupational nurse, a review of their job descriptions, letters of reference, and evidence of continuing occupation - health education. In addition, the program requires recertification yearly through continuous participation in updating education.

Mrs. Downing and Mrs. Stainback were justifiably excited and proud at receiving the honor, especially when it is realized that there are only 700 Founders in the entire United States and of the seven selected in Tidewater two were from the Center.

Naturally, we should all share their feelings because it is our health - even our very lives - they are helping safeguard.

Both young ladies (they both look ten years younger than they say they are) work in the Occupational Health Service Section of the Office of Director for Center Development and External Affairs, but their lives away from work vary somewhat though they both enjoy a number of interests.

Meeting them individually (and alphabetically), we first meet Betty Downing who is a native of Rocky Mount, N.C. Reared in Rocky Mount and Pinetops, N.C., where she graduated from high school, Betty came to Newport News and as a member of the U.S. Cadet Nurses Corps attended the Elizabeth Buxton Hospital School of Nursing (known simply as Buxton Hospital it is now the Mary Immaculate Hospital). For the last three months of her training she was affiliated with the Universityof Virginia in training in psychiatric nursing. For most of the next four years she worked at Buxton as a nursing supervisor as well as a Nursing Arts Instructor. For a time she also worked as a nurse for a local physician. Then in 1951 she came to the Center and has been here ever since.

As well as the organization listed earlier, Betty is a member of the American Nurses Association, the Virginia Nurses Association, the American Association of Industrial Nursing and the Elizabeth Buxton Hospital Alumnae.

Betty is married - her husband, William, is a native of the Eastern Shore and is employed in the Timekeeping Department of the Shipyard. She enjoys a number of interests: cooking, gardening - particularly vegetable gardening - and handcrafts. Presently she is hooking a rug, and she also enjoys crewel work. She likes to play the piano and likes to read, especially romantic novels. Now, there is something the world needs more of - - romance!

Julia Stainback's background and interests differ from Betty's but they are equally impressive.

Julia was born and reared in Youngstown, Ohio, finished high school there, and took nurses training at the Youngstown Hospital Association. Also in the U.S. Cadet Nurses Corps, she spent the last six months of her training at a V.A. hospital in Cleveland - Cryle General Hospital. That led to her coming to the Kecoughtan V.A. Hospital, which led to her marrying her husband, Jerry, who happens to be an Engineering Technician in the Facilities Electronics Section of the Fabrication Division.

''In between babies,'' she said, she did private-duty nursing and when the children became older she began a seven-year stint at the LAFB Hospital, coming over to the Center in 1957.

Like Betty, Julia belongs to the professional organizations, ANA, VNA, and AAIN.

Julia and Jerry have a twenty-three year old son, John Franklin, at home, and two grandchildren by their late son, J.D. (Jerry D., Jr.).

Julia enjoys such activities as sailing on the Chickahominy River, where they have a cottage, and she is an avid swimmer. She also enjoys such pastimes as ceramics, decoupage, crocheting, knitting, and making Christmas tree ornaments. As if they weren't enough, she is also active in the Church Women's Guild of Mount Carmel Catholic Church. To top it off she is a member of the League of Women Voters and has previously held office in that organization.

So, there they are: Betty and Julia, two fine ladies and some of the reasons why we wanted you to meet them - but there is one more reason. Governor Holton has proclaimed this week, September 23 to 29 as ''Salute to Nursing Week'' in Virginia. So, Julia and Betty, and the other Center nurses as well, we salute you!

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

FREE

Kittens - orange and white, black, gray, and calico. Campbell, 868-9852.

FOUND

Will exchange raincoat picked up by mistake in Building 1219 for my raincoat. Schult, 3741.

LOST

Pair of prescription sunglasses with wire frames. Peterson, 3711.

WANTED

Passengers from Norfolk to W.A. on 8 shift. Johnston, 3877.

Ride from E. Pembroke Ave. and Woodland Rd. area to E.A. on 8 shift. Also ride to Washington, D.C. every Friday after working hours. Hart, 2266 or 723-4127 after 6.

Driving combination from Runnymede to W.A. on 8 shift. Poultney, 2576.

Ride from Langley Circle to W.A. on 7:30 shift. Simmonds, 2779.

Alternate drivers from Menchville Rd. to W.A. on 8 shift. Lawing, 3294.

FOR SALE

MacDinghy pleasure and competition sailboat. Shaw, 877-6664.

19-inch Zenith TV and GE portable dishwasher. Williams, 826-4793.

Girl's 24-inch Spider bicycle - $25. Donavant, 898-5564.

AKC registered Springer Spaniel, female - $150. Shultz, 596-9474.

1966 Dodge Polara, 4-door - best offer. Carter, 877-9025.

New J-78-14 glass belt tire - $22. Childs, 598-6719.

Magnus electric cord organ - $25. Covington, 722-6040.

Bedroom set including double bed with bookcase headboard, double dresser and chest - $170; also Sansui bookcase speakers - $60 pair. Seipp, 838-8104 after 5 p.m.

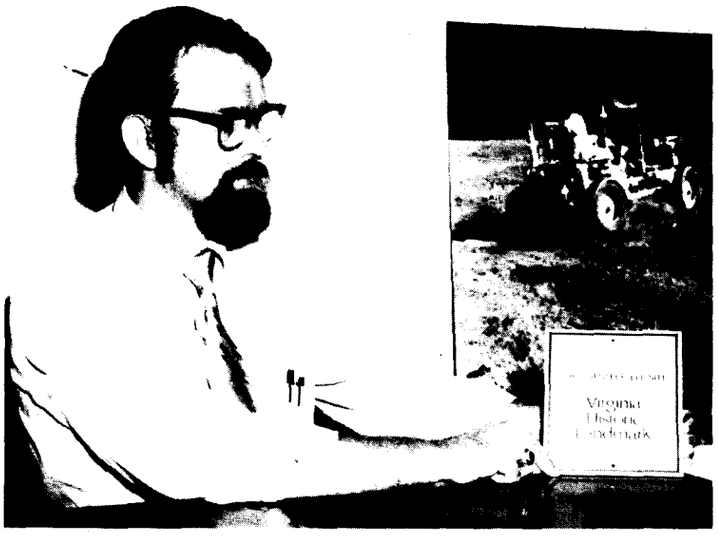
Bundy clarinet - $80. Childs, 898-6719.

1970 Nomad trailer, 17 feet, self-contained, sleeps 4, air conditioned. Eutsler, 851-3718.

Selmer Signet oboe - $150. Mayo, 596-8054.

110 volt air conditioner, 11,000 btu - $20. Ficklen, 245-0459 after 4:30 p.m.

Boat loader - $10; homemade canvas canoe with paddles and cushions - $15. Burner, 877-3430 after 4:30 p.m.



PLAQUE RECEIVED: Frank Farmer, President of the LRC Historical and Archeological Society, holds the anodized aluminum plaque which designates the Chesterville Site as a registered Virginia Historic Landmark. The plaque will be permanently mounted at either the Langley Visitor Center or at the Wythe House site, adjacent to the Landing Loads Facility.

Chesterville Placed On Register

The LRC Historical and Archeological Society has been notified that Chesterville Plantation, home of the Wythe family, was placed on the National Register of Historic Places on August 14.

The National Register is ''the official schedule of the nation's cultural property that is worth saving'' and acts as a protective inventory of irreplacable historic, architectural, archeological and cultural districts, sites, buildings, structures and objects.

The addition of Chesterville Plantation to the Register makes the LRC Historical and Archeological Society eligible for Federal grants-in-aid for the purpose of archeological, preservational, and restorational activities involving this site.

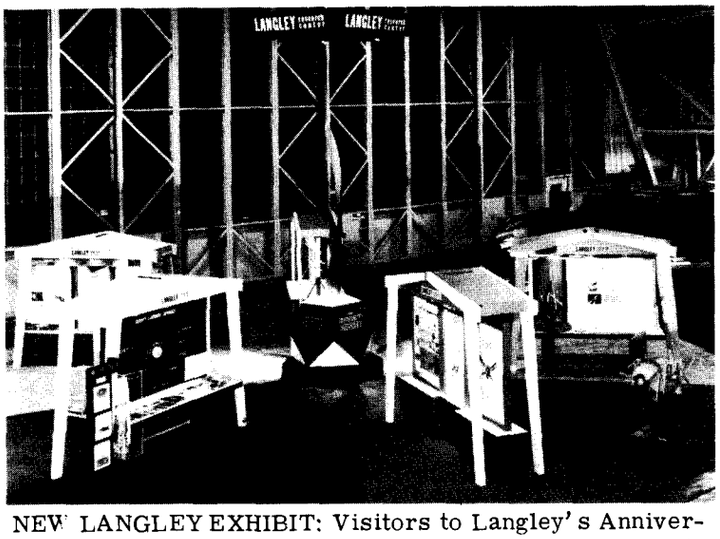
■■■■■

Albacore 15-foot fiberglas sailboat with trailer - $1330. Pleasants, 595-3049, weekdays after 6 p.m.

4-foot refrigerator - $75; also 2 wind-driven roof or barn ventilators - $35. Pierpont, 877-2141.

Langley Researcher

VOLUME 12, NUMBER 21 LANGLEY RESEARCH CENTER OCTOBER 12, 1973



NEW LANGLEY EXHIBIT: Visitors to Langley's Anniversary Open House will see a new display depicting the Center's work in aeronautics, space technology, structures, environmental applications, and the Viking Project. The exhibit was used at the recent Lewis Research Center Inspection. It will be in the main hangar during Open House.

Open House Features New Exhibit

A brand-new feature of the Langley Open House is an exhibit that was built to represent LRC at the recent Lewis Inspection.

Set up on a varied-colored circle of carpeting, the display illustrates LRC work in aeronautics, space, structures, applications, and Viking. Each area uses models, photographs, and text to show present work in the five fields of research.

The aeronautics display highlights terminal area studies, research on several kinds of aircraft, from helicopters through commercial transports to advanced supersonic transports and hypersonic aircraft. Flight efficiency and safety are also illustrated.

Space displays reflect work being done on Space Shuttle

(Continued on page 3)

How To See It All During Langley's Open House

Visitors to the LRC Open House should enter the Center through the main NASA gate off Armistead Avenue, and park in specially marked lots near the main hangar building.

Programs will be available at the hangar listing tour stops and what can be seen at each stop. A map shows the route of a fleet of shuttle buses, each of which will make a complete circuit of the Center every five to ten minutes. Visitors can get on and off a bus at each of the main stops.

Food and drink will be available at the Activities Building during the day-long celebration.

The Open house begins at 9 a.m. and ends at 4 p.m.

OPEN HOUSE PLANNED TOMORROW

Final touches are being put on facilities and equipment in preparation for Langley's Open House tomorrow. Langley employees, their families and friends are cordially invited to help celebrate NASA's 15th anniversary by learning more about the premier NASA center.

Besides aircraft flight demonstrations and a comprehensive new display exhibit on Langley programs (see separate stories on this page), many other facilities will be open for guided tours.

The 16-Foot Transonic Tunnel will be available for walk-through tours. Guides will explain how the tunnel, and others similar to it, are used to test concepts, designs, and experimental models of many kinds of research aircraft.

The Differential Maneuvering Simulator and the Visual Motion Simulator, both located at Data Reduction and Flight Control, will be explained by films and guides. These computer-operated simulators are used to provide realistic flight environments that help pilots and research engineers prove new concepts in aircraft maneuvering, air terminal approaches and takeoffs, and other flight problems.

Projects being conducted to apply space research to environmental problems will be on display at the Environmental and Space Sciences Lab. The Advanced Technology Lab will be open, and another project on display is a water waste management system, where ways of recycling water are being studied for possible use in institutional buildings.

(Continued on page 3)

FLIGHT DEMONSTRATIONS SCHEDULED

Flight demonstrations by several research aircraft will highlight the Langley Open House tomorrow, and most of the LRC air fleet will be on display inside the main hangar.

Two flight demonstrations, beginning at 11 a.m. and at 2 p.m., will feature two T-38 Talon jet aircraft in fly-over maneuvers. Several research helicopters will also perform precision and high-speed flight maneuvers.

A CHS-4 Skycrane helicopter will demonstrate its heavy-load lift and transport capability, using a large wheeled vehicle as its cargo.

An OH-58 helicopter will demonstrate precision flight, and an AH-1G Huey Cobra will show its high-speed maneuverability.

Each of the flight demonstrations will be narrated, giving a full explanation of the mission of each aircraft. The planes and helicopters will be flown by five of Langley's research pilots.

Inside the main hangar will be an array of almost all the LRC research aircraft. Planes include a DeHavilland Twin Ottern, an Aero Commander, a Cessna 172, a PA-28 Cherokee, a T-28, and an American Yankee.

Helicopters on display will be a UH-1H, a 204V, an SH3, and a CH46. Most of the aircraft are experimentally configured for research studies.

HAPPENINGS

TURKEY SHOOT. . .The Activities Association's annual Turkey Shoot will be held Saturday, November 10, at the Activities Building. Matches will begin at 9 a.m. and continue until dusk. Cost is 50 cents a shot. Ammunition will be provided for 12, 16, and 20 gauge guns. Bring your own firearms and ammunition if different from that mentioned. Come out and spend the day. Tickets of chance for the special turkey drawing are available from your representative at 25 cents each. One turkey will be given away for every 40 tickets sold. Anyone wishing to help run the shoot is asked to contact Dave Throckmorton, 3984.

CAMERA CLUB. . .The Langley Camera Club will meet on October 15 at 7:30 p.m. in the Activities Building. The theme for the color slide contest will be ''Potluck.'' Winners of last month's contest were: first, ''Luzern at Dusk'' by Boyd Perry; second, ''Butterfly'' by Robert L. Wright; and ''Fishing Boat'' by Perry.

CALCULATORS AVAILABLE. . .Purchase of Hewlett Packard calculators is possible at a discount price through the Activities Association. Calculators available are the HP35 at $295; and the HP45 and HP80 at $395. Discounts are based on the number of calculators bought - 5 to 9 calculators - 3% discount; 10 to 24 - 6%; 25 to 49 - 8%; and 50 to 74 - 10%. This will be a one time order. Employees are urged to place their orders early. Closing date for ordering will be Friday, Nov. 2. Full price must be paid when placing order. Refunds will be made pending final discount.

SEMINAR. . .Old Dominion will sponsor a seminar at 1 p.m. on Oct. 17 in Conference Room 53, VARC. Frank Hohl, ESSD, will speak on ''Large Scale N - Body Galaxy Simulation.'' Interested staff members are invited to attend.

TENPIN LEAGUE. . .Clean-ups lead in the NASA Tenpin League with 17 wins and 3 losses. KNACKERS and ACD are tied for second with 14 wins and 6 losses each. Top scores for the week were rolled by J. Mulqueen with a 263 game and 692 set and Meg Lynch with a 234 game and 606 set. KNACKERS rolled high team game with 1066 and Clean-ups took high team set with 3006.

ARCHEOLOGICAL SOCIETY. . .The LRC Historical and Archeological Society will have an instructional archeological excavation at the Moore site, near the Activities Building, during October and November. Purposes of this activity will be to educate members of the society unfamiliar with archeological techniques and equipment and to provide practical experience in historical archeology for all members. Participation in the project is limited to society members, but all NASA personnel, including retirees, and their families are invited to join the society and participate in this and other projects. Members planning to take part in this activity should contact Ken Quinn, 3824; John Patterson, 3535; or Frank Farmer, 3066. Anyone interested in joining the society should contact Skip Watson, treasurer, extension 3346.

PROFESSOR TO VISIT. . .Dr. Fred R. deJarnette, Mechanical and Aerospace Engineering Department, North Carolina State University, will visit the Center on October 23 to discuss graduate programs with current and prospective students. For an appointment, call the Training Office, extension 2517.

RETIREE. . .Emmer Smith, who retired recently from Center, receives a photo album from William F. Lawson, Management Support Division. Emmer was honored at a luncheon on the occasion of her retirement.

BOOK SALE. . .The Hampton Branch of AAUW will hold its annual used book sale at St. Martin Center, 525-E Queen St., Hampton, on Friday, Oct. 19; Saturday, Oct. 20; and Monday, Oct. 22. Hours will be 9 a.m. to 5 p.m. on Friday and Saturday, and 9 a.m. to noon on Monday.

CHESS TEAM. . .Anyone interested in playing on a NASA chess team to be entered in the Peninsula Chess League, is requested to contact Larry Hoffman, 2537. You don't have to be a Bobby Fischer to play - just know the moves.

EAT EARLY. . .The Eighth Aerospace Mechanism Symposium will be held at the Center October 18 and 19. About 200 guests are expected to attend and they will have lunch in the West Cafeteria at 12 noon. Staff members are requested to eat earlier if possible

THANKS. . .Gloria Mette and Everett (Jack) Davis wish to thank their friends and coworkers for the dinner, gifts, and well wishes on the occasion of their retirements.

RIDING SAFETY. . .Both adult and juvenile bicycle riders are cautioned by the Bicycle Institute of America that, for their own safety and because it is the law, they must abide by all the rules of the road for the motorist. These include: Ride on right side of road with traffic, ride single file, obey traffic signals, cross center of intersection before turning left, yield to pedestrians, signal before stopping or turning.

KEY ORGANIZATIONAL POSITIONS

The following have been selected for the key organizational positions indicated:

Maurice H. Parker - Head, Office of Public Affairs and Educational Programs

Bruce Fowler - Head, Analysis and Programming Branch, Business Data Systems Division

NEW EXHIBIT FEATURED TOMORROW

(Continued from page 1)

technology, structural design and aerothermal dynamics studies, and the international uses of the Scout launch vehicle.

The applications display illustrates advanced aeronautical concepts such as powered lift, the supercritical wing, and vector control. Space applications include pollution monitoring work, Earth resources monitoring, a laser demonstration, and cooperative arrangements with other environmental groups.

Structures exhibits include illustrations of facilities at LRC, models of some materials developed and tested here, design and dynamics work, and materials technology.

The Viking display, featuring a model of the lander and orbiter, illustrates a complete sequence of the 1975-76 mission, from launch through landing on Mars. It also shows the scientific experiments that are the heart of Viking, and how the experiments will expand our knowledge of Mars.

This large exhibit will be at the center of the main hangar building and should, by itself, make a visit to Open House worthwhile.

PENINSULA SPACE DAY: Hampton's Mayor David N. Montague (seated) signs a proclamation declaring October 13 as Space Day on the Peninsula. The proclamation, honoring NASA on its 15th anniversary, was also signed by the Mayors of Newport News, Williamsburg, and Poquoson, and Chairmen of the Boards of Supervisors for York and James City Counties. With Mayor Montague are (from left) Hampton City Manager C. E. Johnson; T. Melvin Butler, Langley CD&EA Director; and Edward T. Maher, Executive Assistant to Butler.

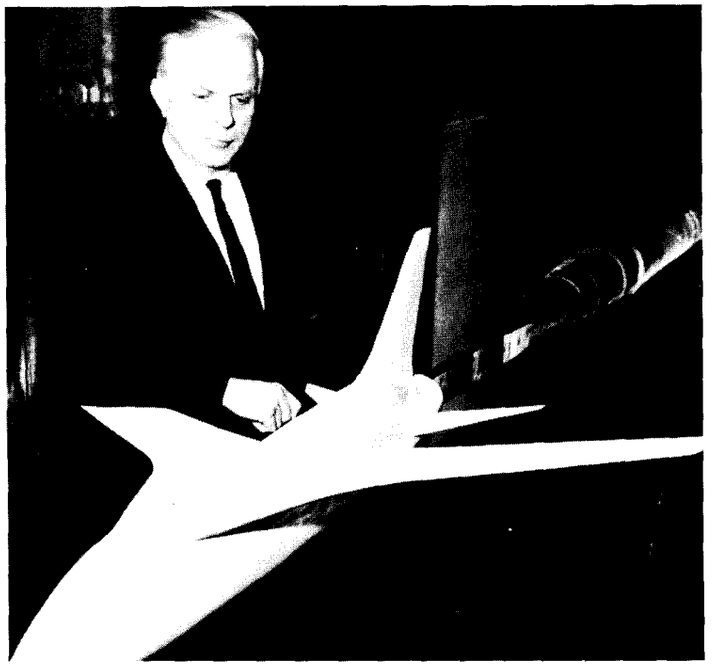
NASA ANNIVERSARY OPEN HOUSE

(Continued from page 1)

The Mechanical Development Section, with its Model Shop, will give visitors an idea of how Langley's wind tunnel models are manufactured to the exacting specifications required for aeronautical and space research.

Films and narration will explain the work now in progress in the Fatigue Research Lab and the Structures Research Lab.

A large model of NASA's Space Shuttle will be on display at the Structural Dynamics Research Lab, where vibration tests are conducted.



WHITCOMB RECEIVES AWARD: Dr. Richard Travis Whitcomb, Head of the 8-Foot Tunnels Branch, has been named a recipient of the National Medal of Science. The medal, which is the government's highest award for distinguished achievement in science, mathematics and engineering, was presented to Dr. Whitcomb at the White House on Wednesday. Whitcomb was cited "for his discoveries and inventions in aerodynamics which have provided, and will continue to provide, substantial improvements in the speed, range and payload of a major portion of high-performance aircraft produced throughout the country."

STAFF DONATES $137,881 TO CFC

Frank V. Moore, Director of the Center's Combined Federal Campaign, announced that to date staff members have donated a total of $137,881. Moore pointed out that this represents 110% of LRC's goal of $125,000 and that more contributions are expected.

Personnel who have not been contacted and who would like to contribute are asked to contact their division chairman or Mary Jackson, CFC Financial Chairman. Mary can be reached at extension 2944 or she can be contacted personally at the CFC Headquarters, Trailer 1213T.

Moore expressed his thanks to staff members for their generosity, and to all division workers for returning their reports promptly.

Further information on the results of the campaign will be published in a later issue of the Researcher

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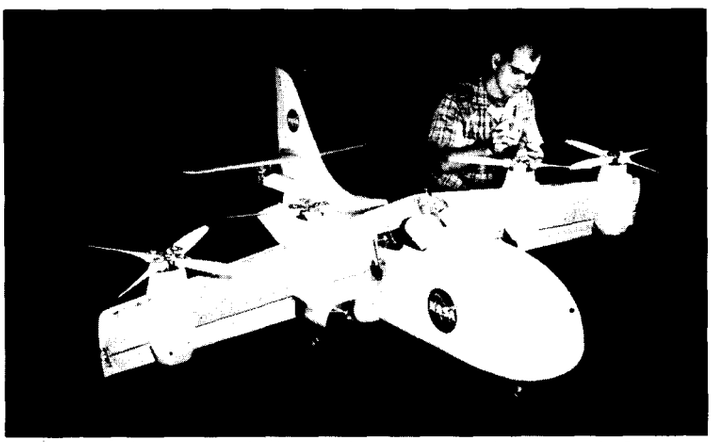
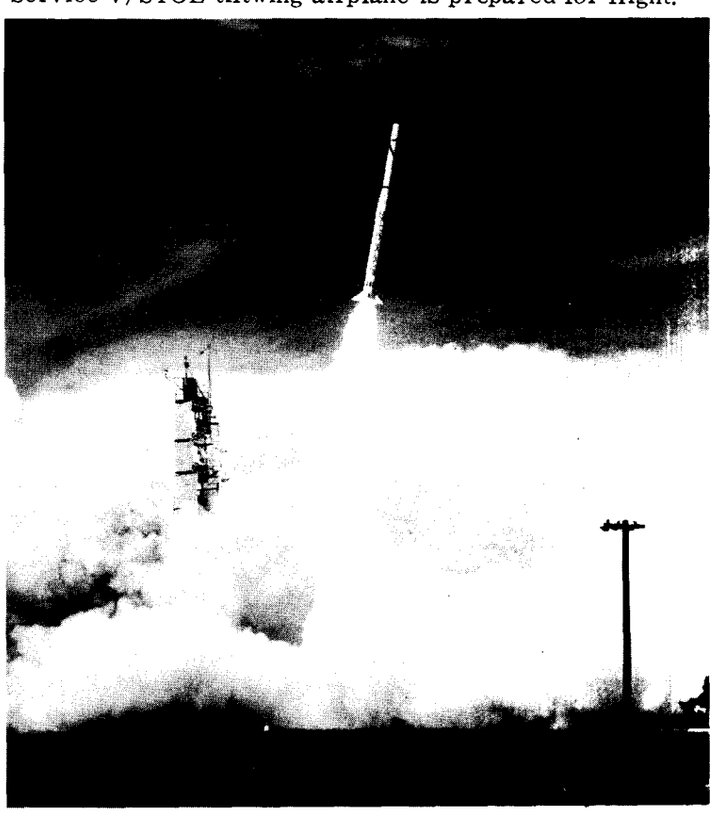
The Langley fire station will demonstrate several methods of fire fighting and rescue work. Two junk automobiles will be cut apart with a huge scissors machine to show how auto accident victims can be pried from wreckage quickly and efficiently. Other demonstrations will feature new kinds of fire extinguishers, including foams that can smother fires without harming people or their possessions.

The LRC Visitor Center has some recently updated displays, in addition to a new wing that houses the Apollo 12 command module. The Apollo 11 lunar sample, a renovated Viking lander, and improved aeronautical displays will also be on view.

Director E. M. Cortright on Lunar Walker



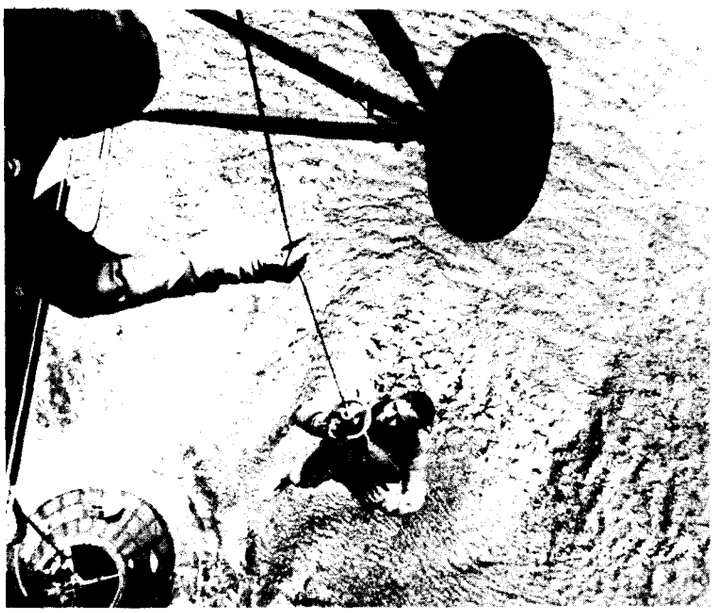
A free-flying one-ninth scale model of the XC-142 Tri-Service V/STOL tiltwing airplane is prepared for flight.



Scout was the first all-solid fueled launch vehicle to place a satellite in orbit.

LANGLEY PIONEERS NASA PROGRAMS

When the National Aeronautics and Space Administration officially came into being 15 years ago on October 1, 1958, the Langley Research Center, which had often been called ''the cradle of aviation in America'' became known as the ''birthplace of the space program.'' Project Mercury, the first United States manned space flight project, had its beginning at Langley. The Center provided a nucleus for the Space Task Group which operated at Langley from 1958 until 1962. During this time the first three successful space flights of Alan Shepard, Virgil Grissom and John Glenn were made.

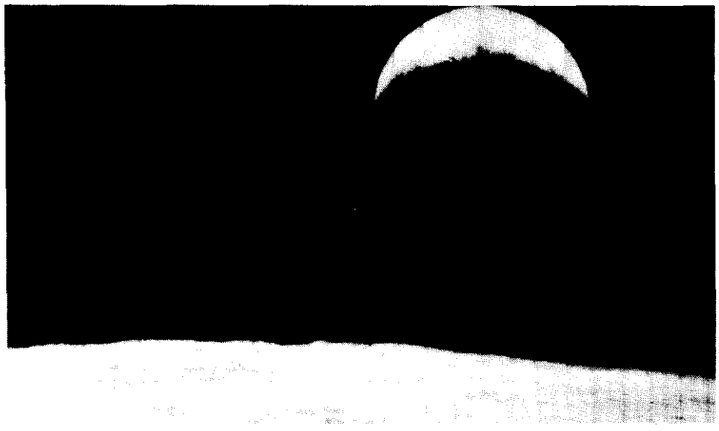


Astronaut Alan B. Shepard was picked up by a U.S. Marine helicopter recovery team following his successful sub-orbital flight on May 5, 1961.

Other milestones in space in which Langley participated included research in support of the successful Gemini and Apollo programs; the development of inflatable spacecraft which made possible the successful Echo-type passive communications satellites, and the smaller air-density - drag-measurement Explorer satellites; the development of the versatile and relatively inexpensive Scout, first all-solid fueled launch vehicle to place a satellite in orbit; and the management of major space flight projects such as the highly successful Lunar Orbiter, which provided virtually total photographic reconnaissance of the moon at resolutions down to 3 feet in selected locations, and thus led to the identification of the landing sites for Apollo.

The Center supported Apollo extensively through the use of unique simulators and specialized laboratories. These facilities made it possible for Langley scientists and research pilots to duplicate some of the conditions of space and to develop techniques for such events as lunar landing, walking on the moon, other extravehicular activity, rendezvous and docking in lunar orbit, reentry, and earth landing. Astronauts who landed on the moon trained for their missions on Langley's Lunar Landing Research Facility.

Research by Langley scientists in the early 60's is credited with proving the feasibility of the lunar orbit rendezvous mode in accomplishing the manned moon landings.



Lunar Orbiter photographs the Moon and Earth

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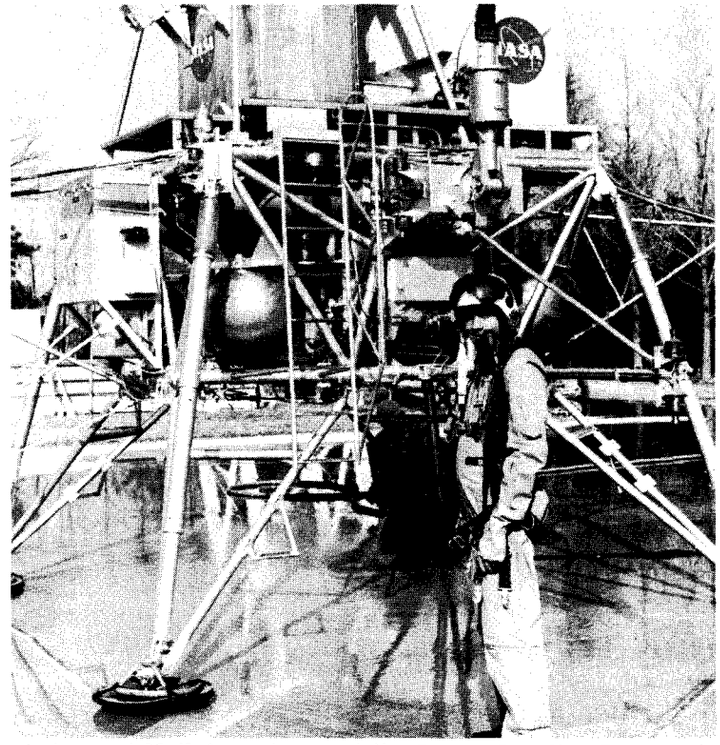
Other space research conducted by Langley include: extensive studies of manned orbiting research laboratories; the development of various reentry vehicle concepts which some day may be adaptable to space shuttle service between an orbiting laboratory and a landing area on earth; investigations of the problems of reentry heating in the earth's atmosphere upon return of a vehicle from a planetary mission; meteoroid measurements leading to the development of protective techniques; vacuum effects in space; development of radiation resistant plastics and other materials; investigation of decelerator devices which may be used in planetary explorations of the future; the development of instrumentation techniques which are required by operations in the space environment; experiments in electric propulsion and solar physics; studies of the dynamics of large launch vehicles; and radio attenuation measurements to improve space communications.

One of the major programs planned for this decade is Project Viking, which is designed to send dual scientific payloads both to orbit and to land on the planet Mars in 1976. Langley has been assigned overall project management and has direct responsibility for developing the lander portion of the system.

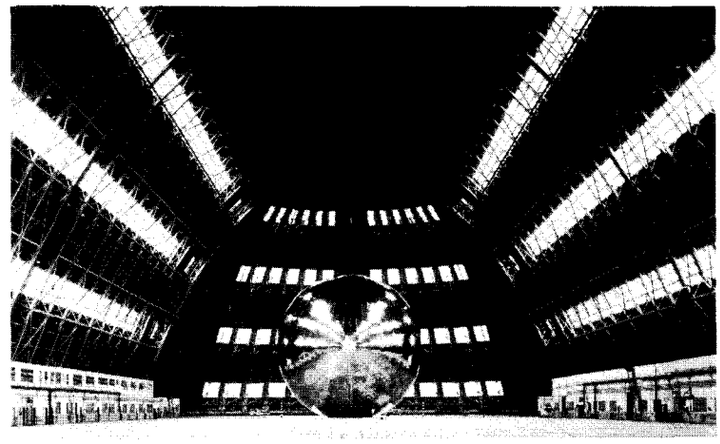
In addition to conducting extensive space related research, Langley continues to add to its long and successful record in preserving the role of the United States as a leader in civil and military aeronautical technology.

Current aeronautical research includes investigations of advanced concepts throughout the entire speed range: helicopters; vertical and short takeoff (VTOL/STOL) aircraft; supersonic; and hypersonic research vehicles and their propulsion systems. V/STOL aircraft have been a subject of experimentation at Langley since the late 40's. This research has provided a technological foundation for the development of vehicles combining vertical or short takeoff and landing capability with the good performance and handling qualities of conventional airplane in cruising flight.

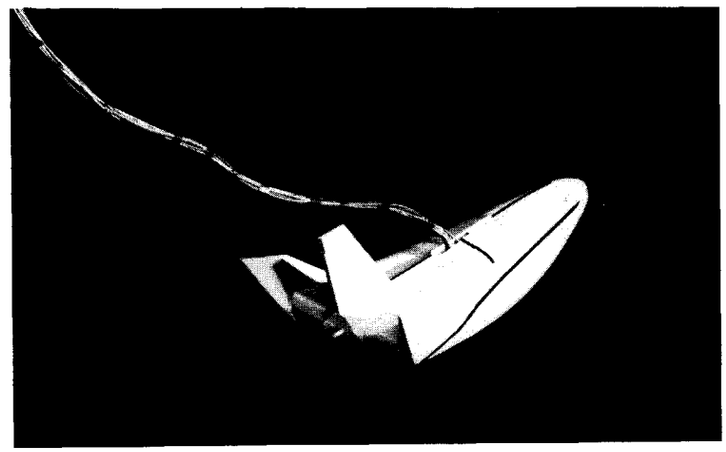
Considerable effort continues to be applied to subsonic aircraft with particular reference to the operating problems of transports, and the development and practical application of unique aircraft concepts such as the supercritical wing, an airfoil design which offers promise of substantially improving the performance of future commercial and military aircraft. Langley also gives considerable attention to the study of the characteristics of the sonic boom and to research concerned with the allevation of aircraft noise.



Astronaut Neil Armstrong at the Lunar Landing Research Facility.



Echo, which was probably seen by more people around the world than any other man-made satellite, is shown here during ground inflation tests.



A model of the HL-10 lifting-body type reentry vehicle is shown being studies in free flight in the Full Scale Tunnel.

SUGGESTION AWARDS: Frank R. Niessen (top photo - right) receives a check for $250 from Robert J. Tapscott, Head of Flight Research Branch, Low-Speed Aircraft, for his suggestion relative to the implementation of a simplified terminal area navigation system for the CH-46 research program. Looking on is John P. Campbell (left), Chief of LSAD. In the bottom photo Marvin W. Saunders (right) receives a $200 check from Henry A. Fedziuk, Head of Office Scientific and Technical Information Programs. Saunders suggested an improved procedure for handling LRC Motion Picture Film Lending Library.

The Ten Commandments Of Firearm And Hunting Safety

I. Treat EVERY gun with the respect due a loaded gun. This is the first rule of gun safety.

II. When carried into camp, home, or automobile, and when not in use, guns must always be unloaded and taken down or actions kept open. Guns should always be carried in cases to the shooting area.

III. Always be sure barrel and action are clear of obstructions and that you have ammunition of the proper size for the gun you are carrying. Remove oil and grease from the chamber before firing.

IV. Always carry your gun so you can control the direction of the muzzle, even if you stumble. Keep the safety on until you are ready to shoot.

V. Be sure of your target before you pull the trigger. Know the identifying features of the game you intend to hunt.

VI. Never point a gun at anything you do not want to shoot. Avoid horeseplay when handling a gun.

VII. Unattended guns should be unloaded. Guns and ammunition should be stored separately beyond the reach of children and thoughtless adults.

VIII. Never shoot a bullet at a flat, hard surface or the surface of the water when at target practice. Be sure backstops are adequate.

IX. Avoid alcoholic drinks before or during shooting, and leave ''quick draw'' gunplay to the experts.

X. Never climb a tree or a fence with a loaded gun.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

WANTED

Piano teacher and contemporary guitar teacher in Riverdale area. Kallick, 838-3235.

FOR SALE

Pieces of discontinued Rose Solitaire silver pattern by Towle. Johnson, 868-9241.

Mistronic jet-type humidifier with wall or duct-mount humidistat, connector tubing and fittings - $60. Hanks, 595-6349.

Browning 12-gauge automatic shotgun, 30-inch barrel, full choke, raised rib unventilated. Davidson, 596-7935.

Five 5-piece place settings of Adrienne china by Lenox. Hasel, 596-2155 after Oct. 15.

1970 VW camper, fully equipped with sink, refrigerator and accessories. Fixx, 595-6535.

Motorized outdoor broiler, enclosed cooking area, on wheels - $15; antique Voithlander folding camera - $35; new ironing board, adjustable height - $5; container to air freight pets - $12. Boyle, 723-3400.

New J-78-14 glass-belted tire - $22. Childs, 898-6719.

Windshield assembly, complete with wipers, motors and all hardware for M-38 jeep. Breen, 851-9446.

3-bedroom brick rancher on 5/8 acre lot in Edge Hill, 1950 sq. ft. living area, 2-car garage. Hedgepeth, 898-7751.

Wilson staff X-31 golf clubs - 1, 3, 4 woods; 2-9 irons and wedge - $125. Turner, 826-2670.

1963 Ford, new paint job - $400. Bennett, 595-7456.

Gold floral drapes with lining, 84 inches long x 148 inches wide, valance and hooks includes - $25. Wells, 596-3707.

20-gauge Western Field pump action shotgun with variable choke and ventilated rib - $85. Ellison, 877-5512.

MINORITY COLLEGE SEMINAR: Langley Research Center and Hampton Institute jointly sponsored a seminar at the Center this week on minority college relations and recruitment. Approximately 40 representatives from 14 minority colleges from 6 states and the District of Columbia attended the seminar. Shown during a tour of the Visitor Center are Dr. Roy D. Hudson (left), President of Hampton Institute, and Dr. John E. Duberg, Langley's Associate Director.

Personnel Profiles

By

Allan C. Hanrahan

JUST A NICE PERSON

Way back in his misty memory the scrivener of these words seems to recall that once upon a time there was a comic book published and entitled ''Wonder Woman.'' (How about that Friedan, Steinem, Billie King, et al?)

Now, the Langley Researcher does not feature comics, unless you consider in that category ''Words in Peoples' Mouths'' or the photo at the top of this column (meaning this writer). However, there is featured in this issue of the Researcher a ''Wunder Woman,'' namely Miss Janice R. Wunder, Management Assistant in the Manpower Analysis Branch of the Personnel Division.

This congenial lady is practically a Peninsula native, although not technically; she was born in Washington, D.C., but her parents moved to the area when she was only about a year old. She was reared on the Peninsula, along with a brother and two sisters, and graduated from Hampton High School in 1957. Then it was out into the workaday world; first, there were the four years spent at Fort Monroe and then the year or so spent with the Space Task Group (then domiciled in the East Area before its migration to Texas) and finally, to LRC in 1962.

Alliteratively speaking, a part of the preceding paragraph provides a professional profile of this person, while religiously, she is a member of St. Stephen's Episcopal Church in Newport News and socially she is a member of the international sorority, Alpha Omicron.

Janice wouldn't confess to any exotic interests like scuba diving or skydiving but did admit that she pursues more genteel interests such as knitting and reading, particularly mysteries and books about specific periods of history.

She enjoys an occasional play or a sports contest, but as a spectator, not a participant, she assures us. She has become especially interested in ice hockey and specifically the local team, the Virginia Red Wings. But you know, we'll never be able to picture this refined lady yelling something like, ''Rack him up with the hockey puck.''

Like the rest of us Janice also enjoys a vacation, particularly one like she look last year - to Hawaii. She went with a group of other NASA employees and here is now she partly described it: ''We had a fabulous time; everyone was so congenial. I certainly recommend the trip.''

When it was first suggested to Janice that she appear in this space she characteristically exclaimed, ''Oh, but there is nothing to write about me!''

The preceding paragraphs belie that premise, don't you agree? Anyhow, Janice is a very nice person and it is difficult to think of a better reason than that for writing about someone.

CREDIT UNION HOSTS OPEN HOUSE

The enthusiastic acceptance of LFCU's Open House, held annually in honor of International Credit Union Day, has made it a highlight of the Credit Union year. So great has become the response of members that a change in format is required. It is no longer possible to accommodate simultaneously those who come to transact business and those who come to enjoy the occasion and share in the good fellowship that abounds.

So this year, the day has been divided: business as usual until 12:45 p.m. and then, from 1 to 4 p.m., our Open House. All are heartily invited to attend - both members and potential ones. As usual, there will be ample and varied refreshments; gifts and favors galore; and prizes, prizes, prizes. Be sure to register for the drawings.

Come on over, meet your friends and share with them some enjoyable moments. The date is Thursday, October 18. Mark it down with a note that festivities begin at 1 p.m. and the fact underscored that no business will be conducted after 12:45 p.m.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of October 15:

Monday - Cream of asparagus soup, chopped steak, barbequed pork sandwich, shrimp creole. Snack bar - Ham and cheese, hot pastrami, steak, bacon, lettuce and tomato.

Tuesday - Turkey rice soup, beef stroganoff, broiled or fried fish, baked lasagne. Snack bar - Barbequed pork, turkey club, NASA submarine, hot corned beef.

Wednesday - Oyster stew, country steak, broiled or stuffed pork chops, turkey a la king. Snack bar - Pizza, sausage and egg, hot roast beef, NASA submarine.

Thursday - Vegetable soup, broiled steamship round, veal parmesan, chicken chow mein. Snack bar - Ham steak and egg, turkey club, hot corned beef, chicken salad.

Friday - Cream of potato soup, pot roast of beef, spaghetti with meat balls, shrimp foo young. Snack bar - Barbequed pork, pizza, ham and cheese, NASA submarine.

The menu for the week of October 22 is as follows:

Monday - H O L I D A Y

Tuesday - French onion soup, meat loaf, broiled red snapper, ham omelette. Snack bar - Salami, ham steak and egg, steak, bacon, lettuce and tomato.

Wednesday - Beef noodle soup, hot roast beef sandwich, broiled or fried chicken, roast pork. Snack bar - Barbequed pork, turkey club, NASA submarine, hot roast beef.

Thursday - Chicken gumbo soup, Hungarian beef goulash, broiled flounder, chuckwagon steak. Snack bar - Pizza, hot pastrami, sausage and egg, chicken salad.

Friday - Bean with bacon soup, braised beef tips, fried chicken, veal. Snack bar - Ham and cheese club, NASA submarine, hot corned beef, grilled cheese.

QUESTIONS AND ANSWERS

Q. How can NASA Langley justify a free physical examination for each and every employee desiring one? In these so called days of ''tight money'' where will the necessary funding come from? How much will the physical, transportation, and time lost from the job cost the tax payers?

A. According to E. T. Maher, Executive Assistant to the Director for CD&EA, the recently announced physical examination program will be beneficial to those employees who accept it and to the Center as well. If the program will help to detect abnormalties before they become serious, the employee will benefit, and the Center will benefit by less sick leave being taken because of a serious illness. Good health is essential to good work, and the overall objective of the program is to keep employees in as good a state of health as possible. Many industrial firms and other Government agencies have very similar programs.

The physical examination will cost $80 per person, and each participant will be away from work for about 4 hours.

FALL DANCE TOMORROW NIGHT

The first of two fall dances sponsored by the Activities Association will be held tomorrow night from 9 p.m. until 12:30 p.m. in the Activities Building. Music will be furnished by the Leaves of Grass and admission will be $3 per couple.

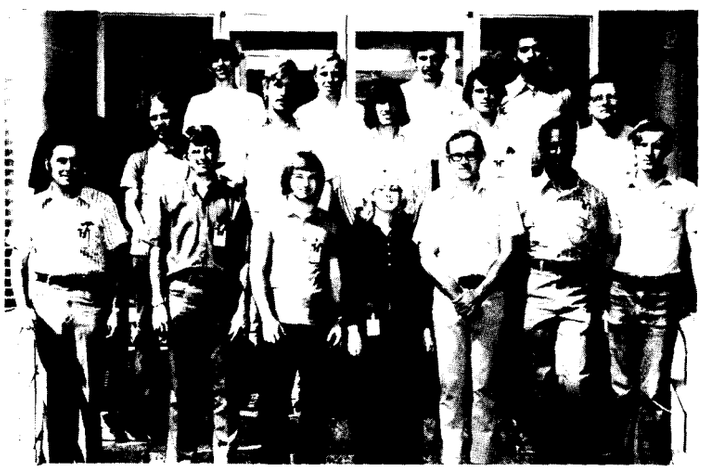
The second dance will be held on Saturday, November 17 from 9 p.m. until 12:30 a.m. and music will be provided by 100 Pruf, the band that played at the Friday night carnival dance. Admission will be $3 per couple.

Dance attendance this year has been poor with only 49 paid couples at the last affair. If attendance continues to be poor this fall, the Activities Association will cease to sponsor dances.

FGAA TO HEAR LEVINE

Harry Levine, National President of Federal Government Accountants Association and Supervisory Auditor, DCAA, Philadelphia Region, will be guest speaker at a meeting of the FGAA Peninsula Chapter on Wednesday, October 17. He will speak on ''Organization of FGAA.''

The meeting will be held at Plantation Barbecue, 2007 North Armistead Ave., Hampton. A social period will begin at 6:30 p.m., followed by dinner and the program. For reservations call Joe Haggerty, extension 3867. Guests are invited to attend.



NEW APPRENTICES: A group of new apprentices entered on duty at the Center last week. Shown in the top photo are front row (from left): Raymond Parker, Jesse James, Thomas McLehaney, Susan Labeau, Charles Mills, Fred Thompson, and William Lovisz. Second row - Dean Sparks, Clifford Hall, James Dezerne, John Eareckson, Robert Hanson, and Alton Barnes. Back row - Dwight Elliott, Larry Teckenbrock, Michael MacDonald, and Elbert Lee. Shown in the bottom picture are front row - Charlie Haynes, Doug Auvil, Sharon Crockett, Bill Hollingsworth, and Donald Simmons. Second row - Elwood Peele, Ed Self, Lawrence Reed, Robert Barberie, and Richard Mason. Back row - Sylvester Gray, Gerald Akins, Brad Ball, and Buford Williams. Absent when the photographs were taken were John Atherton, Malcomb Carter, and Robert Copeland.

Langley Researcher

VOLUME 12, NUMBER 22 LANGLEY RESEARCH CENTER OCTOBER 26, 1973

ANNUAL AWARDS CEREMONY TODAY

The Center's Annual Awards Ceremony will be held this afternoon at 1:30 in the NASA Hangar, Building 1244. The Awards Ceremony is held annually to recognize individuals and groups at the Center for their outstanding contributions and achievements.

Roy F. Jackson, who is resigning effective today as Associate Administrator for the Office of Aeronautics and Space Technology, will be the guest speaker. Jackson is planning to return to the Northrop Corporation Aircraft Division, where he was employed prior to his NASA appointment.

The second annual H. J. E. Reid Award will be presented to Joseph R. Chambers and Ernie L. Anglin, Low-Speed Aircraft Division, honoring them as the authors of the Center's most outstanding technical paper entered in the Reid Award competition for 1973. The winning paper is entitled ''Analysis of Lateral-Directional Stability Characteristics of a Twin-Jet Fighter Airplane at High Angles of Attack.'' The award consists of a certificate and an honorarium of $1,000. The Reid Award was established in 1972 to honor the memory of the late Dr. Henry J. E. Reid, Director of LRC from 1926 to 1960.

Thirty-five-year service emblems will be presented to John P. Campbell, Chief of Low-Speed Aircraft; Paul W. Carr, Research Aircraft Flight; Francis Dvorak, Operations Support; H. Page Hoggard, Research Facilities Engineering; Ernest W. Johnson, Systems Engineering (retired); Burley E. Miller, Management Support; Arthur C. Norsworthy, Plant Support (retired); John W. Quinn, Operations Support; John P. Reeder, Chief of Terminal Configured Vehicles Program; Chester L. Robbins, Plant Engineering; Charles P. Seitz, Fabrication; William W. Stalnaker, Plant Engineering; and Lamar E. Williams, Instrument Research.

Twenty-five staff members will receive Special Achievement Awards. They are: Charles F. Barnett, Chief of Personnel; Robert W. Boswinkle, Office of Director for Aeronautics; Biscoe B. Brown, Systems Engineering; Edmund A. Brummer, Viking; Donald C. Bryan, Research Aircraft Flight; Ernest E. Burcher, Flight Instrumentation; Robert N. Desmarais, Loads; John A. Dodgen, Flight Instrumentation; Robert W. Herr, Loads; Joseph L. Johnson, Low-Speed Aircraft; William H. Kinard, Space Applications and Technology; William D. Mace, Assistant Chief of FID; Leonard R. McMaster, IRD; Hugh B. Milteer, FID; John Munick, Procurement (retired); Robert L. O'Neal, Space Applications and Technology; Edward J. Ray, High-Speed Aircraft; Dr. Kennedy F. Rubert, Hypersonic Vehicles (retired); Helen B. Talbott, Business Data Systems; Lawrence W. Taylor, Flight Dynamics and Control; John Thomson, IRD; Dr. Jerry G. Williams, Structures; George P. Wood, Environmental and Space Sciences; and Clarence P. Young, Systems Engineering.

(Continued on page 2)

RECORD TOTAL CONTRIBUTED TO CFC

With contributions to date of $148,528, staff members, in a fine display of community concern, not only have exceeded the CFC goal of $125,000 but have also topped last year's record total of $144,826.

''Since the Center's personnel complement is less than it was last year,'' CFC Director Frank Moore stated, ''staff members should be particularly proud of this achievement. The combination of a significant increase in the average contribution, the traditionally high percentage participation, and the generosity of retired employees were the main factors contributing to this record breaking campaign.''

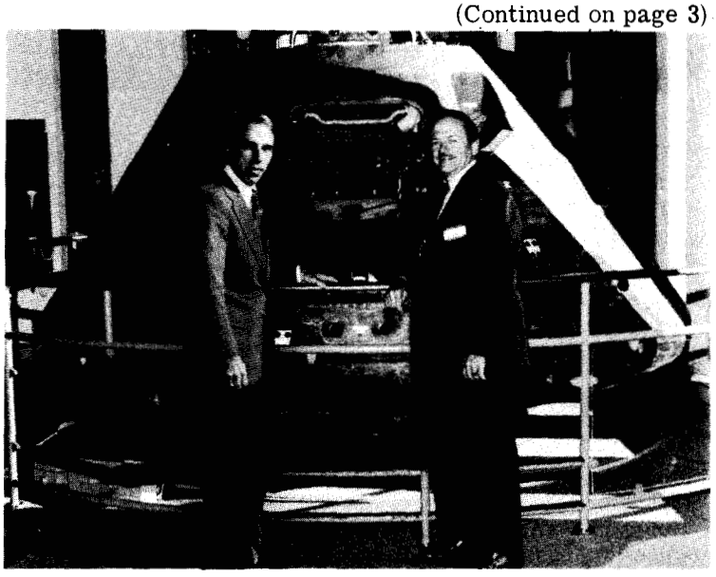
Langley's success set the pace for other Federal organizations in the area, with the Peninsula CFC total now standing at slightly over 100% of the goal of $422,121.

The special quarters used for housing the campaign staff are being closed down, but Moore is confident late returns will put the final total at $150,000. Any further returns should be directed to the Financial Chairman, Mary Jackson, Mail Stop 359, extension 2627.

A run-down of contributions received to date is given below. The final figures will be published in a later issue of the Researcher.

Office of Director - $1453.30; Office of Director for Center Development and External Affairs, Electronics, Structures, Aeronautics, Space, Systems Engineering and Op-

(Continued on page 3)



SENATOR VISITS CENTER: Senator Frank E. Moss of Utah, (right) and Director E. M. Cortright stand in front of the Apollo 12 spacecraft in the Langley Visitor Center. Moss and members of his staff visited the Center last week and were given technical briefings on Langley's major aeronautical and space programs. Moss is chairman of the Senate Committee on Aeronautical and Space Sciences.

HAPPENINGS

TIME CHANGE. . .Effective at 2 a.m. on Sunday, October 28, Daylight Saving Time will end in this area. Accordingly, at 2 a.m. on October 28, all clocks will be moved back one hour to conform to Eastern Standard Time.

TURKEY SHOOT. . .Center sharpshooters are reminded that the Activities Association's annual Turkey Shoot will be held Saturday, November 10, at the Activities Building. Matches will begin at 9 a.m. and continue until dusk. Cost is 50 cents a shot. Ammunition will be provided for 12, 16, and 20 gauge guns. Bring your own firearms and ammunition if different from that mentioned. Tickets of chance for the special turkey drawing are available from your representative at 25 cents each. Anyone wishing to help run the shoot is asked to contact Dave Throckmorton, 3984.

EAT EARLY. . .Approximately 75 guests will eat in the West Cafeteria next week. Their lunch schedule is 12 noon on Oct. 30; 12:15 on Oct. 31, and 12:30 on Nov. 1.

TENPIN LEAGUE. . .Clean-Ups and Audio Ventures are tied for first place in the NASA Tenpin League with 21 wins and 7 losses each. ACD is in third place with 20 wins and 8 losses. High individual scores were rolled by John Mulqueen with a 263 game and 692 set and Terri Rule with a 276 game and 687 set. Knackers rolled high team game with 1066 and Audio Ventures took high team set with 3037.

HELP NEEDED. . .The Activities Association is in need of part-time help. Duties will include those tasks normally associated with the social functions of the Association. At least one person with cooking experience is badly needed. NASA employees are preferred but others will be considered. Contact Herb Boulter, extension 3234.

BOOZERS WIN TITLE. . .Boozers won the NASA Touch Football Championship but were upset for the first time in two years in the final game of the season by a good FID team. Boozers finished the season with a 5-1-0 record and FID came in second with 4-1-1.

OBEDIENCE CLUB. . .NASA and contractor personnel and their families (including retirees) interested in organizing or supporting a dog obedience training club through the Activities Association are asked to contact Doris Bryan, 3921, or Bill Garrison, 3358. Plans include puppy class (2 months and over), basic obedience (5 months and over), and advanced classes (open and utility). Classes would meet once a week.

EXPLORER SCOUT REGISTRATION

Registration for prospective Explorer Scouts will be held at the Visitor Center on Tuesday, November 6 at 7 p.m.

The Langley Research Center Explorer Post is a career exploration program for children of LRC employees and for boys and girls from the local communities.

Career exploration and study areas will be in the following categories: electricity, mathematics and computer systems, aeronautics, electronic systems, photography, psychology, and possibly environmental science.

For further information, call Hal Mehrens or Tom Pinelli, extension 3966.

NEW OFFICERS: Newly elected officers of the LRC Historical and Archeological Society are front row (from left) John Patterson, archivist; Frank Farmer, president; and Kitty Joyner, vice president. Back row - Kenneth Quinn, archeologist, and Hugh Watson, executive committee, member-at-large. Absent when the photo was taken were Ida Young, secretary; Charles Watson, treasurer; and William Mace, executive committee, member-at-large.

ANNUAL AWARDS CEREMONY

(Continued from page 1)

T. Melvin Butler, Director for Center Development and External Affairs, will receive the Outstanding Volunteer Service Award "in recognition of his many years of dedicated service to the Community and to the Commonwealth of Virginia."

Other awards which will be recognized include 26 Group Achievement Awards; 47 Inventions and Contributions Awards; 4 Honorary Suggestion Awards; 35 Suggestion Cash Awards; 57 Sustained Superior Performance Awards; 269 Quality Step Increases; and 129 for 30-years service.

KEY ORGANIZATIONAL POSITIONS

The following have been selected for the key organizational positions indicated:

George J. Magnus - Head, Planning Control Office, Fabrication Division

Robert R. Moore, Jr. - Assistant Head, Research and Development Contracting Branch, Procurement Division

William R. Kivett - Head, Contract Administration Section, Procurement Division

Nolan I. Jones - Head, Viking Contracts Section, Procurement Division

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

FOUND

Lady's red belt in Bldg. 1205 during open house. Call Langley Researcher, 3116.

WANTED

Ride from Glen Gardens Apts. to W.A. on 8 shift. Louise Hollomond, 3881 or 827-6150 after 5 p.m.

Home for five-year-old male Siamese cat. Edmondson, 838-2730 after 5 p.m.

FOR SALE

Very old bed and chest-on-chest - refinished, burled and mixed wood - $175. Tynan, 898-7015.

3-bedroom, 1-1/2-bath Denbigh Townhouse with garden, washer-dryer, all appliances - 1500 square feet of living space (for sale or rent). Heyman, 877-7777 or 874-0160 after 6 p.m. on week days.

1967 Chrysler station wagon with air conditioning and power accessories - $700 or make offer. Price, 595-7501.

1966 3-bedroom, 1-1/2-bath mobile home with air conditioning and all appliances - 55 x 10 feet and located on fenced lot with storage shed. Dearing, 877-5429.

3-bedroom brick "baby-split" rancher with air conditioning in Brentwood. Assumption 5-3/4% - $25,900. Rogers, 595-0832.

Man's new 26-inch 10-speed Starjet Sport Tourist bicycle- $60. Schoonover, 596-6218.

Girl's 26-inch, 2-speed English bicycle. Shields, 595-1251 after 5:30 p.m.

1973 350 CB Honda - $500. Edmondson, 838-2730 after 5.

1969 Dodge Dart, V-8, automatic transmission - best offer. Petley, 838-3584.

Hoover Dial-a-matic vacuum cleaner with accessories, 6 years old - $35. Stephens, 838-1403.

Misuse of aerosol-spray products

While aerosol-spray products are safe when used as directed, the industry warns that their deliberate misuse can be fatal.

Death can occur instantly from inhaling concentrated aerosol products, says the Aerosol Education Bureau, an industry committee set up to discourage young people from sniffing sprays for "kicks."

The gas propellant used to produce aerosol sprays, normally safe, is believed to be the potential hazard. If inhaled in excessive amounts when the valve is pushed, it can produce euphoria - - a feeling of tranquillity similar to that caused by an anesthetic. Because of this, more and more young people reportedly are turning to aerosols to get "high." But the aerosol sprays also can stop the heart or freeze the breathing apparatus, officials say. There are no symptoms, no antidote. Death can occur any time a spray is sniffed.

Four young people in Dallas and a teen-ager in Mississippi recently died from inhaling concentrations of aerosol spray deliberately, the authorities report. No nationwide figures are available.

Most of the known deaths have occurred among teen-agers from upper middle-class homes. Many of the victims also had been using drugs and also inhaling other products, such as gasoline.

Inhaling aerosol sprays not only is dangerous, it also is no fun, says one young former user whose friend died of that cause. If you want to live, he adds, "don't sniff aerosols - - it's no thrill - - it's a dead end."

A folder cautioning parents and children of the hazards of sniffing aerosols can be obtained free by sending a business-size envelope, stamped and self-addressed, to Aerosol Education Bureau, 300 East 44th Street, New York, N.Y. 10017. The title: "Is This High Worth Dying For?"

COLLOQUIUM SPEAKER: Former Astronaut Edgar Mitchell talks with Director E. M. Cortright over coffee before Mitchell addressed the October Langley Colloquium. A capacity crowd heard the Apollo 14 lunar explorer discuss his research into parapsychology and extra-sensory perception, seeking to learn more about human awareness and the relationship between mind and body.

RECORD TOTAL CONTRIBUTED

(Continued from page 1)

erations, and Administration - $5608.40; Acoustics and Noise Research - $4019.50; ACD - $7327.10; Aeronautical Systems - $1509.50; Business Data Systems - $1179; ESSD - $4569.22; Fabrication - $7025.60; Flight Dynamics and Control - $5510.40; Flight Instrumentation - $7968.88; Financial Management - $1609.10; High-Speed Aircraft - $7184.90; Hypersonic Vehicles - $5282.18; IRD - $6986.10; Low-Speed Aircraft - $4940.84; Materials - $445.30; Management Support - $2906; Operations Support - $7875; OSTIP - $1762.80; Plant Engineering - $34.24; Personnel - $1432; Procurement - $2615.50; Programs and Resources - $862.80; RAFD - $2697.81; RFED - $4952.30; RSRAPO - $333; Space Applications and Technology - $5354.30; SDD - $9818.54; Systems Engineering - $8875.16; Scout - $2252; Space Systems - $5375.45; TCVP - $1196.50; Viking - $6944.50; USAAMRDL - $1609.50; Management Audit Office - $272; and Retirees - $1350.

5,000 Enjoy Annive

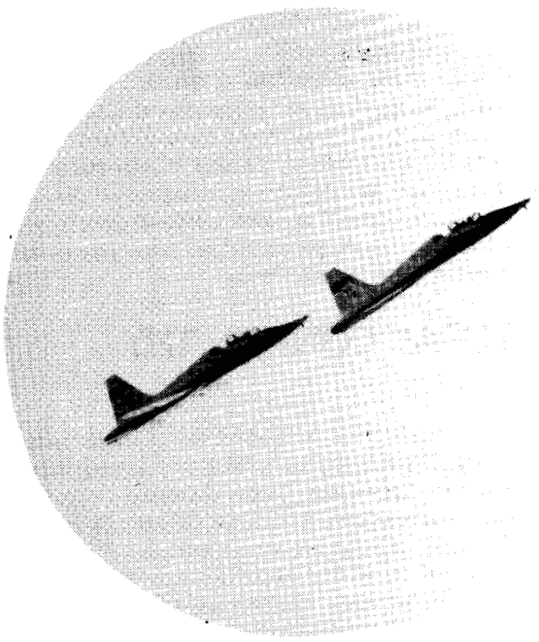
Approximately 5,000 neighbors fror visited the Center during the Open h anniversary.

All of them saw a splendid series made available for tours. The highli demonstration, performed twice durin research pilots.

Jim Patton and Lee Person piloted over maneuvers, Ken Yenni showed t of a Skycrane helicopter, Bob Champ an OH-58 helicopter, and Perry Deal several high-speed maneuvers.

Visiting children took great delight i testing its noise potential, and every stration seemed favorably impressed. cially popular.

Director E. M. Cortright expressed his a whose work, before and during the Op of Langley and its work.



rsary Open House

. the communities around Langley
ɔuse that celebrated NASA's 15th

of displays at the several facilities
ht of the celebration was the flight
ɡ the day, that featured five Langley

two T-38 jet aircraft in several fly-
he speed and heavy-lifting abilities
ine demonstrated precision flight in
put an AH-1G Huey Cobra through

in racing through the 16-Foot Tunnel,
one who saw the fire fighting demon-
The ''car cutter'' device was espe-

ɹppreciation to all Langley employees
ɜn House, made it such a fine display

15th Anniversary

NASA

1958-1973

QUESTIONS AND ANSWERS

Q. Who has the right-of-way at Gate 5 and Wythe Creek Road intersection? Is it the vehicle traveling east from Magruder Blvd. on Semple Farm Road and making left turn on Wythe Creek Road or the vehicle traveling west from Gate 5 toward Magruder Blvd. via Semple Farm Road? There are Virginia State yield signs posted for both drivers. The controversy seems to primarily evolve from two questions. Is Gate 5 road considered in a similar manner as a private drive or road? Are the privileges allowed, and the restrictions bestowed, the same for both yield signs? Generally, the driving courtesy shown is good at this point, but when the inevitable happens and two left fenders meet in the middle of this intersection, who's going to pay the bill?

A. A Management Support Division official stated that the burden to yield is on the driver leaving the Center since, by Virginia State Law, the Gate 5 entrance drive is considered a private drive/road, and traffic traveling on a public road has right-of-way over traffic entering a public road from a private drive or road.

Q. What would be the objection to making the road out to Gate No. 5 (Stratton Road, extended) a two-lane road? Then, in the afternoon, the outgoing Poquoson traffic could use the right lane and the outgoing Magruder Blvd. and Semple Farm Road traffic could use the left lane. In the morning the Poquoson traffic would use the same lane but, of course, then it would be the left lane, incoming. It follows, naturally, that the other traffic would use the right lane, incoming. This change could be made with some pavement markings and about three or four signs. It certainly seems that this change would expedite traffic flow somewhat, particularly in the afternoon.

A. According to an official of Management Support, the system proposed was studied over a year ago and because of the ''offset'' in Semple Farm Road and Gate 5 exit and because of such erratic flow of traffic at this gate, the markings as suggested were not made. The plan was discussed with City of Hampton traffic engineers and they concurred with not making such a change. Future master plan changes at LRC will improve traffic flow in and out of Gate 5.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

No. 73-98 - AST, Experimental Facility Techniques, GS-801-12 or 13. Structures and Dynamics Division, High-Temperature Structures Branch. Closes Oct. 26.

No. 73-99 - Employee Development Specialist, GS-235-7 or 9, with promotional opportunity. Personnel Division, Training and Educational Services Branch. Closes Oct. 26.

No. 73-100 - Secretary (Stenography), GS-318-6, with promotional opportunity. Analysis and Computation Division, Office of the Chief. Closes Oct. 31.

No. 73 - 101 - AST, Fluid and Flow Systems, GS-830-12 or 13, with promotional opportunity. Research Facilities Engineering Division, Systems Design Branch, Fracture Mechanics Engineering Section. Closes Nov. 2.

NOTICE: The Calvary Bible Church in Smithfield is trying to get visual aid equipment by saving Campbell soup labels. If you have any labels your would like to contribute, send them to Margaret Barricklow, MS 301.

30-YEAR PIN CEREMONY: In special ceremonies held last month, 57 staff members received 30-year service pins from Director E. M. Cortright. In the top photo Joseph E. Purgold (center), Fabrication Division, chats with T. Melvin Butler (left), Director for Center Development and External Affairs, and Dr. Cortright. Enjoying refreshments (center photo) are George F. Black and James N. Chacamaty, Systems Engineering, and Ira S. Hoffman, Instrument Research. In the bottom photo Frances Arnn, Office of Deputy Director, poses with Deputy Director Oran W. Nicks.

Credit Union Day Big Success

''Hail to the Redskins!'' Washington Redskins that is - as taken from their fight song - and cheers, too, for the other 25 members of the National Football League. All unbeknowingly, they contributed materially to a most successful Open House held October 18 by the Langley Federal Credit Union in honor of International Credit Union Day.

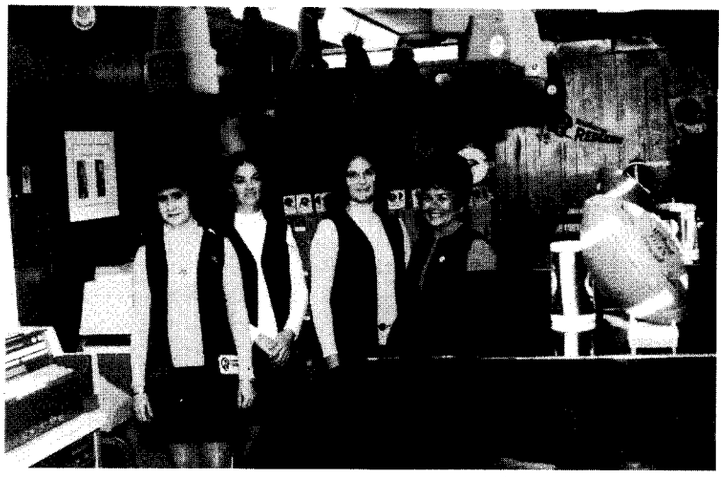
The opportunity to kill at least three birds with one stone was too good to miss. Concentrating on professional football gave the promotion a central theme; intrigued and delighted members because of the universal interest in the sport; and last, but not least, allowed CUNA's national TV campaign starring Chad Everett to be publicized.

Everything fitted. The distaff side of the office, including part-time employees, numbered 25. This allowed each team in the league to have its own supporter. Assigned by lot, trading was permitted so that as many employees as possible could represent personal favorites. Enthusiasm ran high as staff members assembled and made their ''uniforms'' for the day: turtle neck sweaters, vests and skirts following meticulously the colors of their team. Further identification was supplied by ornamental helmet pins and official patches. The final result is shown in the above photograph. Unfortunately, Miss Miami Dolphins was sidelined by the flu.

Inside the building, various decorations and exhibits also carried out the football motif. Posters and pennants abounded. Actual footballs - later to be among the prizes - rested astride the teller cubicles and toboggan caps, complete with insignia, added to the colorful display.

Unfortunately, the proof of the pudding is in other photographs. Like the ''Day'' itself, it was impossible to combine everything in one format or picture. So enthusiastically has the membership reacted to this annual fete that, this year, a split was necessary: business as usual until 12:45 p.m. and then Open House from 1 to 4 o'clock. In those three short hours over 1,000 members - actual and potential - filed through the lobby; greeted old friends, received a variety of gifts and favors; partook of coffee or Coca-Cola, doughnuts, sandwiches or cake; and deposited their tickets for prizes to be drawn later.

Among the items distributed to all, the one apparently appreciated the most and which aroused the greatest interest was CUNA's ''1973 Football Guide.'' With Chad Everett's picture on the cover, a list of broadcast dates on the back, and much varied and valuable data in between, the booklet is sure to serve as both a reminder and a source reference throughout the season.



CREDIT UNION OPEN HOUSE: The thoroughness with which the football motif was carried out by the Langley Federal Credit Union at its Open House on Credit Union Day, is explicit in this photograph. Jean Yokum (left), LFCU's Assistant Manager, upholds the Redskins while staff members Nancy McMillan, Susan Henley, and Dot Shelton support the Bears, Packers, and Falcons.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of October 29:

Monday - Tomato soup, broiled beef, broiled or stuffed pork chops, sauteed chicken livers. Snack bar - Ham and cheese, hot pastrami, steak, bacon, lettuce and tomato.

Tuesday - Turkey noodle soup, beef liver, stuffed peppers, fried clams. Snack bar - Barbequed pork, turkey, NASA submarine, hot corned beef.

Wednesday - New England clam chowder, beef teriyaki, baked ham, cheese omelette. Snack bar - Pizza, sausage and egg, hot roast beef, NASA submarine.

Thursday - Corn chowder, Swedish meat balls, pork chop suey, broiled or fried fish. Snack bar - Steak, turkey, hot corned beef, ham steak and egg.

Friday - Chicken rice soup, rump roast of beef, Chinese egg rolls, veal cordon bleu. Snack bar - Barbequed pork, ham and cheese, NASA submarine, bacon, lettuce and tomato.

The menu for the week of November 5 is as follows:

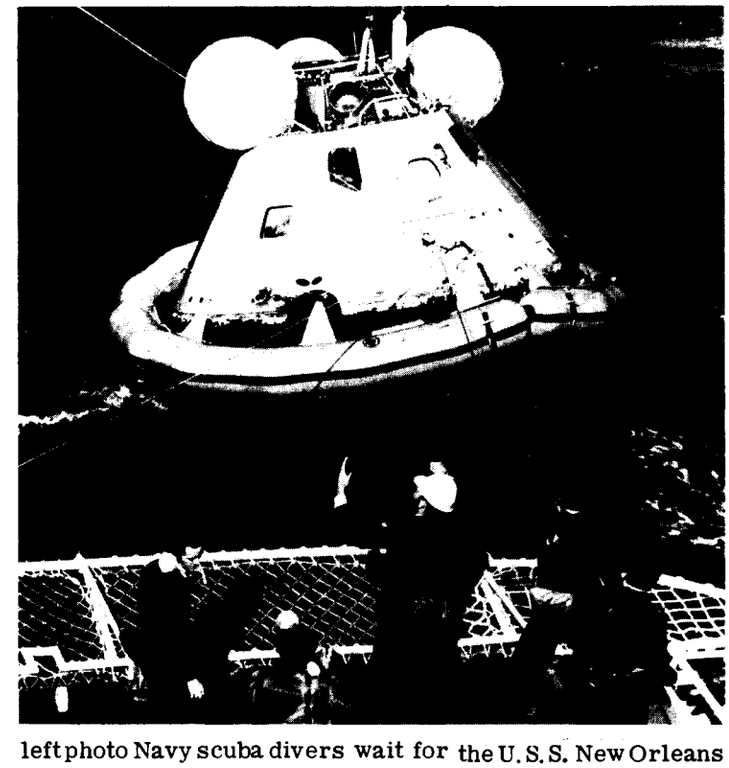
Monday - Cream of mushroom soup, Salisbury steak, southern fried chicken, veal and spaghetti. Snack bar - Hot roast beef, ham salad, salami, turkey club.

Tuesday - Fisherman's chowder, corned beef and cabbage, chopped steak, barbequed pork chunks. Snack bar - NASA submarine, steak, hot pastrami, ham and cheese.

Wednesday - Beef noodle soup, steamship round, broiled red snapper, ham omelette. Snack bar - Pizza, barbequed pork, NASA submarine, hot corned beef.

Thursday - Cream of chicken soup, meat loaf, barbequed or broiled chicken, fried shrimp. Snack bar - Hot roast beef, turkey, grilled cheese, bacon, lettuce and tomato.

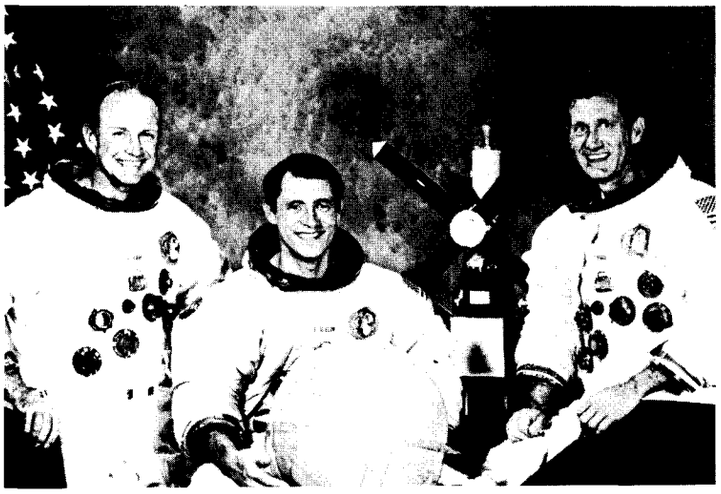
Friday - Shrimp gumbo, beef pot pie, veal parmesan, broiled or fried fish. Snack bar - Ham steak and egg, ham and cheese, chicken salad, barbequed pork.



SKYLAB RECOVERY: Skylab III Astronauts Jack R. Lousma, Owen K. Garriott and Alan L. Bean (upper left) are shown on board the recovery ship U.S.S. New Orleans following their splashdown in the Pacific on September 25. Navy scuba divers (upper right) leap from a helicopter to place a floatation collar around the Skylab III spacecraft. In the lower left photo Navy scuba divers wait for the U.S.S. New Orleans to arrive on the scene and bring the spacecraft aboard the ship. Skylab III with the astronauts aboard (lower right) is hoisted aboard the recovery ship. The second Skylab mission of 59 days was man's longest mission to date. The third crew is expected to be launched in November.

Langley Researcher

VOLUME 12, NUMBER 23 | LANGLEY RESEARCH CENTER | NOVEMBER 9, 1973



SKYLAB: The third manned Skylab mission is scheduled for launch no earlier than 9:37 a.m., EST, on Nov. 15. Crew for Skylab 4 are (from left) Gerald P. Carr, commander; Edward G. Gibson, science pilot; and William R. Pogue, pilot. The mission for the all rookie crew will be planned as a 60-day open-ended mission with consumables aboard for as many as 85 days.

SATELLITE PROJECT REVIEWED

A critical design review at the Center has approved engineering concepts for the Dual Air Density (DAD) Explorer satellite, scheduled for launch in 1975.

The two satellites will fly at different altitudes to measure the atmosphere's vertical distribution on a global scale for the first time. Mass spectrometers inside each satellite will measure atmospheric gasses such as helium, atomic oxygen, and molecular nitrogen.

The satellite measurements will improve knowledge of the upper atmosphere's density, composition and temperature; how these factors are affected by changes in the Sun's heat input; and how rapidly the atmosphere is escaping from Earth. Measurements should also provide insight into the relationships between the upper and lower atmosphere.

The critical design review panel studied all aspects of the DAD satellites, including spacecraft design and development, design and calibration of the mass spectrometers, the Scout launch vehicle system, and other major systems.

Langley scientists formulated the design of the satellites that allows mass spectrometer and atmospheric drag measurements to be completely insensitive to satellite orientation, yet highly sensitive to the atmospheric environment. The design also allows the mass spectrometers to be recalibrated in flight.

James H. Parks, Assistant Director for Engineering and Operations, headed the design review panel. Gerald M. Keating, Head of the Aeronomy Section in ESSD, is prin-

(Continued on page 2)

Six Honored At NASA Awards Ceremony

Six employees and a project team from the Center were honored in Washington last month for their outstanding contributions to the space and aeronautics programs.

Dr. James C. Fletcher, NASA Administrator, presented the awards in a ceremony marking the 15th anniversary of the space agency.

Four staff members received NASA's second highest award, the Exceptional Service Medal. They are John V. Becker, Chief of Hypersonic Vehicles Division; Roland D. English, Head of Scout Project Office; John P. Reeder, Chief of Terminal Configured Vehicle Program Office; and Thomas A. Toll, Manager of the Aeronautical Systems Office.

Herbert F. Hardrath, Assistant Chief of Materials Division, received the Exceptional Scientific Achievement Medal.

A new honor, the Equal Employment Opportunity Award, was presented to Raymond Romatowski, Director for Administration.

The Scout Project Team received a Group Achievement Award for its work on the Scout launch vehicle, which holds the NASA record for most consecutive successful launches.

Citations for the six individual awards were as follows:

Becker - " For outstanding personal contributions in the area of high-speed aeronautics and leadership in the conception and direction of broad research programs which have had a profound influence over an extended period of time on United States leadership in high-speed flight technology."

(Continued on page 3)

Becker

English

Reeder

Toll

Hardrath

Romatowski

HAPPENINGS

CFC CORRECTION. . .Two division totals listed for the Combined Federal Campaign in the last issue of the Researcher were incorrect. They should have read as follows: Materials - $4445.30, and Plant Engineering - $3424.

TURKEY SHOOT. . .Sharpshooters are reminded that the Activities Association's Turkey Shoot will be held tomorrow at the Activities Building. Matches will begin at 9 a.m. and continue until dusk. Cost is 50 cents a shot. Ammunition will be provided for 12, 16, and 20 gauge guns.

VIRGINIA SQUIRES-NASA NIGHT. . .Discount tickets for the Virginia Squires-New York Nets basketball game on Saturday, Nov. 17 at the Hampton Roads Coliseum, are now on sale at the Activities Office, Bldg. 1222. All seats are reserved and sell for one dollar off the box office price. Get out the gang and see Doctor "J" return to Hampton. Tickets will be available through Nov. 15.

NEWLYWEDS. . .Wedding bells rang on October 19, when Velma R. Brown, Advanced Configurations Branch, took her final vows with Philip D. Robinson, Operations Support.

ENERGY REPORT. . .The final report of the 1973 ASEE Summer Design Group, "The Energy Dilemma and Its Impact on Air Transportation," has been received and distributed to selected Center staff members. Additional copies may be obtained by calling the Technical Library, 2171.

GOLF ASSOCIATION. . .The NASA Golf Association held its annual banquet recently and the following officers were installed: Vince Foretich, president; James Chacamaty, vice president; and Tommy Steele, secretary-treasurer. Clayton Rogers received a trophy as the club's new champion. He shot an 83, his best ever, with a 22 handicap to give him a net score of 61. Jim Jones shot a 76 for low gross. On Oct. 31 the NASA club defeated the Norfolk Navy Shipyard in a match held at the new Sleepy Hole Golf Course.

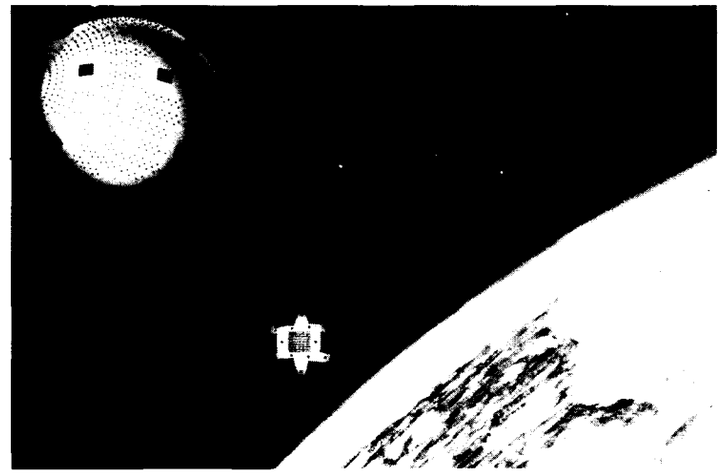
AVIATION ENTHUSIASTS. .Are the walls of your office, den or kitchen inadequately adorned? If so, have a gander at the new collection of aircraft prints for sale at the Langley Visitor Center.

INSTRUMENT POOL LOANEES. . .The Property Management Branch requests all lost items on your recent equipment listing be reported immediately by filling in "missing equipment" memo #1CG11-7-68B and mailing it to MS 233. These forms are available from the Instrument Control Group, extension 2801.

PREPARATORY COURSE. . .A course design to aid en-engineers in preparing for Part B of the Northeast Zone Uniform Professional Engineer Examination is being planned by the Continuing Education Committee of ASME. The course is tentatively scheduled to start in December at Thomas Nelson Community College. Fee will be $40 for ASME members, $55 for nonmembers, and $4 for material. For furtner information call Phyllis F. Kitchens, 878-5838.

SEMINARS. . .The ODU School of Engineering will hold the following Systems Dynamics Seminars: Nov. 12 - "Canonical Transformations in Gyrostat Satellite Dynamics" by Dr. Ralph Pringle, Dept. of Engineering Science and Mechanics, VPI&SU; Nov. 14 - "Recent Advances in Control Theory" by Dr. I. Tiroshi, Langley Research Center. All meeting are scheduled for 1 p.m., Room 53, VARC. For further information call J. M. Alvarez, 3704.

CAMERA CLUB. . .The Langley Camera Club will meet Nov. 19 at 7:30 p.m. in the Activities Building. The theme for the contest will be "Motion." The theme for the October meeting was "Pot Luck" and winners were: first place - "Minuet Manor" by Boyd Perry; second - "Gulls at Newport" by Bob Osborne, and third - "Pickin' Seashells" by Osborne.



EXPLORERS: Shown in the above drawing are two Dual Air Density Explorers. The one on the left is a 12-foot diameter sphere with a perigee of 700 kilometers and on the right is a 30-inch sphere with a perigee of 350 kilometers. The apogee for both spheres is 1500 kilometers.

SATELLITE PROJECT REVIEW

(Continued from page 1)

cipal investigator for the DAD project.

Other Langley people associated with the project are Edwin J. Prior, Aeronomy Section, Project Scientist and Co-inveatigator; John E. Canady, STAD, Project Manager; W. F. Hinson, STD, Assistant Project Manager; A. G. Beswick, FID, Contract Technical Representative for prototype and flight mass spectrometers; J. W. Cheeley, SED, Spacecraft Systems Manager; D. H. Butler, SED, Technical Project Engineer; L. H. Hunt, FID, Manager of Electronics and Instrumentation; R. D. English, Head of the Scout Project Office, Project Manager for the Scout launch vehicle; and R. E. Stell and F. A. Kern, IRD, project engineers on in flight and laboratory mass spectrometer calibration systems.

DANCE PLANNED NOVEMBER 17

The Activities Association will sponsor a fall dance on Satday, November 17 at the Activities Building. Music will be furnished by 100 Pruf, the band that played at the Friday night carnival dance. Dancing will be from 9 p.m. until 12:30 a.m. Admission will be $3 per couple.

Dance attandance this year has been poor. If attendance continues to be poor, the Activities Association will cease to sponsor dances.

ANNUAL AWARDS CEREMONY

(Continued from page 1)

English - " For a decade of exceptional service in leading the Scout Launch vehicle Program to a record of consecutive successful launches, and for establishing the Scout as a proven, dependable vehicle for the scientific exploration of space, for placing Department of Defense satellites in orbit, and leading to improved international relationship through joint United States/International space ventures."

Reeder - " For his outstanding contributions, as an engineer and experimental test pilot, in the formulation, direction, and execution of flight research programs which have resulted in improved definition of safe flying and handling characteristics of all classes of aircraft with particular emphasis on high performance fixed-wing, rotary wing, VTOL, and V/STOL aircraft."

Toll - " For outstanding achievements in the conception, planning, and implementation of investigations leading to innovative new aircraft configuration concepts and to improved understanding of the effects of configuration variables on aircraft performance, stability and control, and for leadership in the initiation of broad-based studies of the influence of advanced technology on future transport aircraft."

Hardrath - " For outstanding research contributions and national leadership that have significantly expanded the knowledge of fatigue and fracture of aircraft structures resulting in increased structural efficiency and useful life of commercial and military aircraft."

Romatowski - " In recognition of his energetic, creative, and continuous support of the Equal Opportunity Program at the Langley Research Center. His personal dedication to the welfare and achievement of Center personnel has affectively marshaled Langley resources in the cause of equal opportunity for all."

ENERGY SUBJECT OF COLLOQUIUM

A " Dialog on Energy Supply and Demand" will be the subject of the November Langley Colloquium. The Colloquium will be held on November 15 at 2 p.m. in the Activities Building. Speakers will be Drs. Aden B. and Marjorie P. Meinel and Roger S. Carlsmith, three internationally recognized experts in the field of energy.

The Meinels, of the Optical Science Center, University of Arizona, are the originators of the concept of a solar energy farm using the solar energy incident on a portion of the Earth' s surface to supply on the order of 10^{12} watts of power. Their concept, to a lesser scale, is presently being employed to supply hot water and heating to individual homes. A similar concept is being developed for a Langley building in a joint study by Langley and Lewis Research Centers.

Carlsmith is the Associate Director of the ORNL-NSF Environmental Program at the Oak Ridge National Laboratory. One of his concerns, among many associated with energy, are the methods in which we might conserve energy and the ways in which the energy consumption might be controlled to avert an energy catastrophy, in spite of new energy sources.

The Colloquium program is designed to first establish the perspective and magnitude of the present energy supply and demand, with an overview of the various methods being researched for future energy production. With these views in mind an expanded presentation will be made on one of the more " exotic" methods, namely solar energy. Following this a presentation will be made on some of the methods for the control of energy, as an additional means to averting an impending energy crisis.

EEO HIGHLIGHTS

Alice A. Craddock is the newly appointed Equal Opportunity Specialist in Langley' s Office of Equal Opportunity Programs. She is working as administrative assistant to Alvin F. Anderson, Head of OEO Programs for the Center.

Ms. Craddock is a recent graduate of the University of Virginia, where she received a Master of Education degree in counselor education in early 1973. She earned a Bachelor of Arts degree in history at Mary Baldwin College in 1971, graduating on the honors list.

During her undergraduate study years, she spent a summer at St. Anne' s College, Oxford University, in England.

Her duties in the Office of Equal Opportunity Programs include encouraging the highest standards of equal opportunity for minority and female employees or applicants in all fields of social, economic, and psychological concepts and potential problems.

She will work with training program coordination, Langley publications, and help plan and conduct Equal Employment Opportunity conferences and meetings.

Her experience includes field practicum at the Career and Personal Counseling Center in Staunton where she counseled college and high school students in their occupational interests and choices.

Active in many extra-curricular fields while in college, Ms. Craddock was chairman of the College Judiciary Board and the Board of Publications, which she founded. She has been a group leader and speaker at several career conferences in Virginia.

Ms. Craddock is a member of the American Personnel and Guidance Association, the American College Personnel Association, and the National Association of Student Personnel Administrators.

She has traveled extensively throughout the eastern United States and Canada, and in Europe. Her personal interests include history, art, music, and travel.

CREDIT UNION OFFERS MORE

Well, Credit Union Day has come and gone so it's back to work for the Credit Union and its members. High on the agenda is the matter of LFCU Note Certificates. Deservedly, popular with interest at 7-1/4% per annum for a term of 12 months (plus remainder of calendar quarter in which bought), members have already purchased some $500,000 worth.

Consisting, for practical purposes, of "fresh" money this influx - plus a healthy build up in shares - has just about eliminated the liquidity problem encountered in July and August. Then, soaring interest rates at other financial institutions attracted money already in shares as well as that which normally would have been deposited and used as operating capital. The result was a bit of head scratching as to how best to replace this needed cash without a damaging sacrifice of ample but long range investments. That this latter eventuality could be avoided is a tribute to the ingenuity and hard work of the Board. Short term borrowing - now fully repaid - provided breathing space and share promotion and the new certificates did the rest.

Now, however, these outside rates are beginning to inch up again but this time the Credit Union offers more. Its aforementioned Note Certificates are absolutely the best place for funds not now committed and possibly even if they are - it all depends on the interest paid and the length of time already on deposit. For anything even approaching 7-1/4%, from 2-1/2 to 4 years is required with early withdrawal dropping the rate to that of the regular passbook and forfeiting 3 months of interest. LFCU pays an annual rate of 7-1/4% for just under 15 months maximum and requires no forfeiture of interest for early withdrawal although the rate paid does drop to 5-1/4%, Q.E.D.

Finally, a word of warning to Credit Union members. Where it might pay in some cases to withdraw and reinvest in LFCU Note Certificates, it does not if CU shares are involved and they were on deposit on October 5. In other words, dividend credit for 3 months at, say, an annual rate of 6% is more than the certificates can earn between now and year-end even at their higher rate.

ASM GROUP TO HEAR STAVORY

Alex Stavory, Head of the Advanced Ship Division of the Navy Ship Research and Development Center, will be guest speaker at a meeting of the Hampton Roads Chapter of the American Society of Metals on Monday, November 12, at the Hampton Elks Lodge.

Stavory will speak on the requirements for high speed operations of high performance ships.

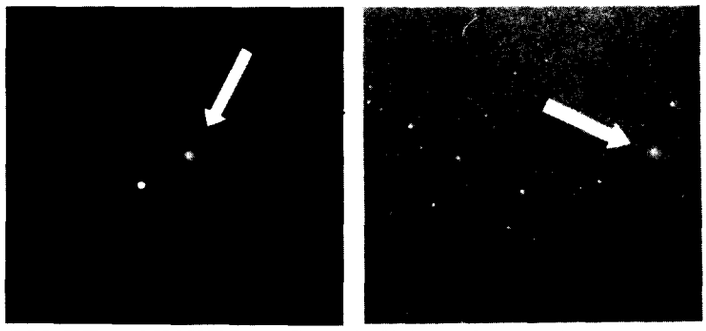
A social period will be held at 5:15 p.m. followed by dinner at 6 and the meeting at 7 o'clock. Reservations may be made by calling Barry Lisagor, extension 3386.

MERIT PROMOTION NOTICE

The following Merit Promotion announcements are currently open:

No. 73-102 - Payroll Clerk, GS-544-5. Financial Management Division, Voucher Processing Branch, Payroll Section. Closes November 14.

No. 73-103 - Project Assistant, GS-301-6. Office of the Director for Space, Environmental Quality Program Office. Closes November 19.



COMET KOHOUTEK: Comet Kohoutek has been photographed at the Center by members of the Skywatchers Astronomy Club. These two photographs were taken by Vernon R. Helms, III, Space Systems Division, on the morning of November 2. The close-up exposure on the left was made at 4:20 a.m. with the club's 16-inch telescope and image intensifier. It shows the bright glow around the comet's nucleus embedded in the coma from which extends a short, diffuse tail. The angular separation between the comet and star was 2.2 arc minutes. The wide field photograph on the right was taken at 4:52 a.m. with a 5-1/2-inch Schmidt camera mounted on the 16-inch telescope, and covers a 2-1/4 square degree area of the sky. The motion of the 8th magnitude comet from right to left with respect to the nearby star is easily seen by comparing the two photos.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of November 12:

Monday - Split pea soup, country style steak, barbequed pork spare ribs, shrimp foo yung. Snack bar - Ham and cheese, hot pastrami, steak, bacon, lettuce and tomato.

Tuesday - Crab bisque, beef sukiyaki, chicken pot pie, fried clams. Snack bar - Barbequed pork, turkey club, NASA submarine, hot corned beef.

Wednesday - Vegetable beef soup, fried oysters, roasted chicken, beef and pepper steak. Snack bar - Pizza, sausage and egg, hot roast beef, NASA submarine.

Thursday - Chicken noodle soup, meat loaf, broiled or fried fish, shrimp Newburg. Snack bar - Steak, turkey club, hot corned beef, ham steak and egg.

Friday - Bean and bacon soup, beef burgundy, broiled flounder, turkey a la king. Snack bar - Barbequed pork, ham and cheese club, NASA submarine, bacon, lettuce and tomato.

The menu for the week of November 19 is as follows:

Monday - Tomato soup, hot roast beef sandwich, veal and peppers, sauteed chicken livers. Snack bar - Hot roast beef, ham salad, salami, turkey club.

Tuesday - Thanksgiving Dinner, includes turkey or ham, dressing, cranberry sauce, gravy, mashed or sweet potatoes, green beans or peas, rolls and butter, mince or pumpkin pie, coffee or tea - $1.35; Bull Island clam chowder, meat loaf.

Wednesday - Cream of chicken soup, stuffed cabbage rolls, baked lasagne, ham omelette. Snack bar - Pizza, barbequed pork, NASA submarine, hot corned beef.

Thursday - H O L I D A Y

Friday - Cream of potato soup, beef chop suey, broiled or fried chicken, chili con carne. Snack bar - Ham steak and egg, chicken salad, ham and cheese club, barbequed pork.

COMET KOHOUTEK SPACE SPECTACULAR

By Gale A. Harvey

Kohoutek, the great comet of the 20th century, has reached the inner solar system and is rapidly brightening to become a space spectacular. This comet, perhaps the largest comet to traverse the inner solar system in recorded history, was discovered by Lubos Kohoutek on photographic plates exposed on March 7, 1973, at the Hamburg Observatory. The comet was just inside Jupiter's orbit and was discovered at a greater distance from the sun than any previous comet. This accounts in large measure for the high expectations for the brightness of the comet near perihelion. Kohoutek spends most of its time in the outer solar system far beyond Pluto and may never have traversed the inner solar system.

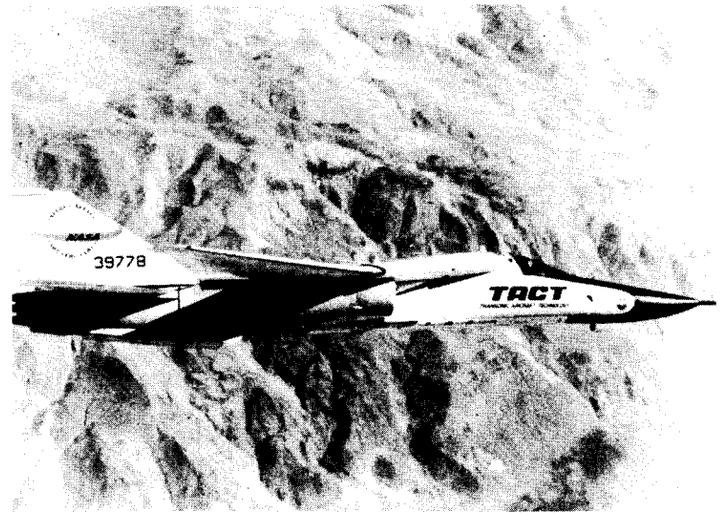
Comets are of scientific interest because they are believed to contain most elements in essentially the form into which they condensed during the formation of the solar system. Comets are also studied because they are the principle source of extraterrestrial space debris; i.e., meteoroids and meteoric dust.

During most of the summer Comet Kohoutek was nearly in line with the sun and observations were not practical. However, by the end of September, the apparent separation of the comet and sun (elongation) was again large enough for the comet to be photographed. Dr. B. G. Marsden of the Smithsonian Astrophysical Observatory has calculated the orbital elements of the comet and has computed the ephemeris given below. The date, right ascension and declination (sky coordinates), elongation (angular distance from the sun) and magnitude (brightness) are shown.

COMET KOHOUTEK EPHEMERIS

Date	Rt.A.	Dec.	Elong.	Mag.
Nov. 14	12°14'	-12°18'	43.8°	5.7
Nov. 24	12°57'	-16°28'	42.7°	4.3
Dec. 4	13°56'	-21°10'	37.9°	2.6
Dec. 14	15°22'	-25°14'	27.6°	.3
Dec. 24	17°25'	-25°09'	9.9°	-3.6
Jan. 3	19°56'	-17°26'	16.1°	-3.6
Jan. 13	21°55'	-8°46'	36.8°	- .8
Jan. 23	23°40'	+0°42'	53.5°	+ .9
Feb. 2	0°59'	+7°41'	64.1°	2.4
Feb. 12	1°54'	12°00'	68.1°	3.9

The right ascension and the declination can be used to locate the comet in the sky by using star charts which have the constellations projected on the sky coordinate system. The Rt.A. and the Dec. can also be used to point a telescope on an equatorial mounting. The magnitude (Mag.) of a comet or a star is inversely correlated with the object's brightness. The brightest star, Sirius, is -1.4 Mag., the stars of the big dipper are plus 1 Mag., while the faintest stars visible to the naked eye on a very clear night are plus 6 Mag. It can be seen from the ephemeris that comet Kohoutek is predicted to be brightest during the latter part of December.



SUPERCRITICAL WING: The supercritical wing concept will soon be evaluated in flight on board this variable-sweep wing F-111 in flights at Flight Research Center. A joint NASA/USAF research effort, the project is aimed at exploring the supercritical wing technology for highly maneuverable aircraft at transonic speeds. The supercritical wing will not permit the F-111 to fly faster but rather to cruise and maneuver at higher speeds with no increase in fuel consumption. The supercritical wing was developed in the wind tunnels at Langley under the direction of Dr. Richard T. Whitcomb, Head of the 8-foot Tunnels Branch.

SKYLAB SIGHTING SCHEDULE

Skylab should be visible seven times during the next week to viewers in the Norfolk and Peninsula areas. All but one of the sighting times are in the late afternoon hours between 5 and 7 o'clock.

The orbital space station will be visible in this area on the day the third Astronaut crew is launched to begin the final manned occupation of the workshop. That launch is scheduled for 9:37 a.m., EST., on Thursday, Nov. 15.

Viewing information for Skylab is:

Nov. 9 - 5:59 p.m., direction N-NE, 4:34 duration, elevation 16, distance 758 statute miles

Nov. 11 - 6:08 p.m., direction NW-E, 6:28 duration, elevation 34, distance 450 statute miles

Nov. 12 - 5:17 p.m., direction NW-E, 5:56 duration, elevation 25, distance 568 statute miles

Nov. 13 - 6:18 p.m., direction NW-SE, 6:54 duration, elevation 67, distance 294 statute miles

Nov. 14 - 5:17 p.m., direction NW-SE, 6:57 duration, elevation 75, distance 282 statute miles

Nov. 14 - 7:19 p.m., direction SW-SW, 1:47 duration, elevation 10, distance 924 statute miles

Nov. 15 - 6:18 p.m., direction W-S, 4:45 duration, elevation 17, distance 719 statute miles

During November and December the comet will be a morning object which rises before the sun. It can be seen as a fuzzy object low on the eastern horizon at the beginning of morning twilight. By late December, however, it will be an evening object that sets after the sun and that can be seen low on the western horizon slightly south of west at twilight. The comet is expected to diminish rapidly in brightness during January as it moves away from the sun.

Dr. John N. Shoosmith

Dr. Kenneth Sutton

Dr. Richard G. Wilmoth

William B. Compton

Tony L. Parrott

William E. Rew

Joseph R. Struhar

George C. Green

NINE RECEIVE ADVANCED DEGREES

Nine Center staff members received advanced degrees through the Center's graduate study program in August and September.

Dr. John N. Shoosmith, Head of the Computer Mathematics and Programming Branch, Analysis and Computation Division, received the Ph.D. in Applied Mathematics from the University of Virginia. Dr. Kenneth Sutton, Gas Radiation Section, Space Systems Division, received his Ph.D. in Mechanical Engineering from North Carolina State University and Dr. Richard G. Wilmoth, Atmospheric Effects Section, Space Application and Technology, received a Ph.D. in Engineering Physics from the University of Virginia.

Two received Master of Science (Mechanical Engineering) Degrees from George Washington University - William B. Compton, Propulsion Aerodynamics Branch, High-Speed Aircraft, and Tony L. Parrott, Noise Control Branch, Acoustics and Noise Reduction. Both William W. Rew, Contract Administration Section, Procurement Division, and Joseph R. Struhar, Assistant Chief of Financial Management, received Master of Business Administration Degrees from the College of William and Mary. George C. Green, Noise Control Branch, ANRD, received his Master of Engineering (Mechanical) from Old Dominion University.

JOINT MEETING PLANNED

Captain John A. Cameron, Managing Director of British Airways Helicopters, Ltd., will address a joint meeting of the Hampton Roads Sections of the American Helicopter Society and the American Institute of Aeronautics and Astronautics on November 16 at the Ramada Inn on Route 17.

Cameron will speak on current British Airways Helicopters passenger operations and how they developed over nearly 25 years and on their dynamic future plans for use of the helicopter in serving major intercity routes such as London-Paris.

Cameron, both as a pilot and as managing director, has played a leading role in developing one of the world's largest passenger-carrying helicopter operations. He has been instrumental since the late 1940's in establishing new routes for helicopter service.

A social hour will be held at 6:30 p.m. followed by dinner at 7:30 and the speaker at 8:30. Reservations may be made by calling Mrs. Turner, 827-2473.

■■■■■

Joel S. Levine (not pictured), Aeronomy Section, Environmental and Space Sciences, received his Master of Science in Aeronomy and Planetary Atmospheres from the University of Michigan.

MASS TRANSIT SHUTTLE SERVICE

The Vehicle Traffic Committee, working with the local government traffic control personnel, is making a feasibility study of an express bus transit system from selected areas of the Peninsula to Langley Research Center and return.

The objective of the system is to reduce the number of automobiles at the Center and to improve traffic safety.

The busses would be scheduled to leave a selected spot (for example, Hidenwood area) about 30 minutes prior to start of a shift and depart LRC about 10 minutes after completion of a shift. This service would be nonstop "point-to-point." Cost is estimated at $5 per week for five round trips per week.

If interested please fill out the questionnaire below and return to the Vehicle Traffic Committee at MS 123.

SUBJECT: Mass Transit Shuttle Service
TO: 123/Vehicle Traffic Committee

1. Shift I work
   - 7:00 to 3:00 _____
   - 7:30 to 4:00 _____
   - 8:00 to 4:30 _____
2. Area I would ride from
   - Newmarket/Todd's Shopping Center _____
   - Hidenwood _____
   - Hilton _____
   - Grafton/Dare/Marlbank _____
   - Wythe/Southampton _____
   - Hampton _____
   - Phoebus _____
   - Fox Hill _____
   - Poquoson _____
   - Other _____
3. I would ride
   - Both Ways _____
   - One way - to work only _____
   - Home only _____
   - Occasionally _____ (Days per week__)

ACHIEVEMENT AWARDS: William M. Moore (left), Assistant Chief of Flight Instrumentation, presents Special Achievement Awards to Carl L. Fales and William J. Debnam, both of FID. Fales received his award "for the development of improved instrumentation for determinations of magnetic remanence in prototype Viking memory planes and in geological rock specimens." Debnam was cited for "design and development of a magnetic sensor and an automatic scanning/readout mechanism to determine magnetic remanence in prototype Viking memory and in geological rock specimens."

EXECUTIVE SAFETY BOARD: Members of the Executive Safety Board led by Chairman Oran W. Nicks (left) were conducted on a walk-through safety review of the 16-foot Transonic Tunnel on Oct. 16. Escorting the group was Charlie M. Jackson (center). Planned improvements and current problems were covered during the tour. The Executive Safety Board plans on conducting similar reviews of other Langley facilities during the year. All Board members, including host Aeronautics Director Robert E. Bower (right), were wearing their green hard hats. Board activities such as this reflect continuing emphasis and interest on the part of management in safety at Langley.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion sex, or national origin.)

BORROWED

Will the person who borrowed my "Architectural Graphic Standards" please contact me - L. Vosteen, 2969.

FOR SALE

Honda Minitrail 50 - $125. Dow, 595-1029 after 5 p.m.

Bushnell binoculars, 8 x 36, custom grade, 3 years old - $70. Summerfield, 826-6275,

Large scotch pine Christmas tree - $20. McGuire, 851-4287.

Sofa and matching chair with slipcovers - $70. Wilhite, 826-8863.

German Shepherd puppies, black and tan, AKC registered championship bloodlines - $100. Diaz, 595-5984.

1964 Valiant, auto. trans. -$125. Croom, 826-1132 after 5.

Two tickets to VPI-VMI football game in Blacksburg Nov. 17. Moore, 851-2223.

1965 Mustang convertible, rebuilt V-8 engine, auto. trans., $450. Askew, 838-4227 after 5 p.m.

1969 Dodge Dart Swinger, V-8, straight shift - asking $1000. 595-9880 after 5:30 p.m.

Bumper pool table, slate bed, balls and cues; also dinette set with 6 chairs. Leffler, 826-4106.

Craftsman wood lathe with motor, stand, and accessories - $100. Brooks, 898-6517.

3-bedroom, 2-bath Colonial rancher on wooded lot in Riverdale - $48,900; also 1966 Pontiac station wagon, 63,000 miles, V-8, power steering - $250. Davis, 838-1789.

QUESTIONS AND ANSWERS

Q. How can an employee carrying NEBA insurance get a change made in the present "bonus protection" benefits? I would prefer to have a reduced premium rate instead of the 10% increase in benefits. Benefits are automatically increased as salaries rise, which in my case is a reasonable rate of increase. Do we have members of the NEBA Board of Directors at LRC? If so, should they be petitioned concerning this problem?

A. Each Chapter of NEBA is represented on the Board of Directors by either the president, vice president, or secretary-treasurer. The Langley Research Center is represented on the Board by Edward A. Howe, secretary-treasurer. The Board of Directors of NEBA is aware that some employees would prefer to have a reduced premium rate instead of a 10% bonus protection. The pros and cons of this were discussed at great length by the Board of Directors.

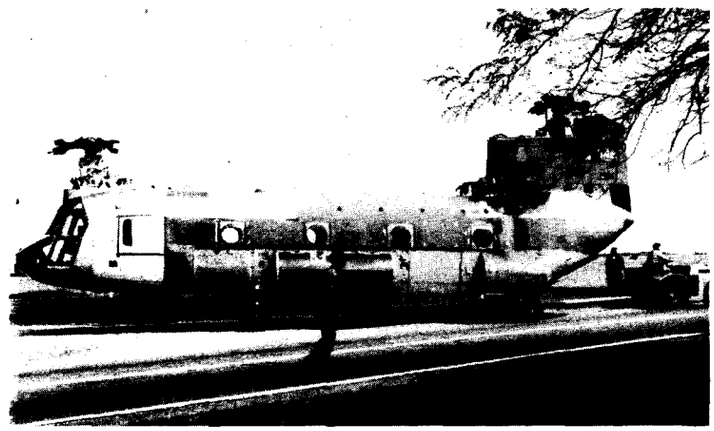
Inasmuch as there can be no assurance that the bonus or a reduced rate could be given for more than one year, the Board felt that if we reduced the premium for one year and then had to increase it the following year, this would be painful to many of the participants and could cause a loss of participation. Inasmuch as our NEBA insurance is cheaper per thousand than any other insurance obtainable, the Board also recognized that a great many employees would appreciate the bonus protection. Last year, (a three quarter year) as a result of the bonus protection, Home Life Insurance Company paid total bonus claims in the amount of $77,200, of which $12,600 represented claims to Langley beneficiaries.

Although no formal polling of participants at all the Centers was made, it was the belief of the Board of Directors that the majority of the employees either favored the bonus protection, or had no preference, and that the most prudent action was to provide the bonus protection.

Regarding a petition, of course the employees can petition their desires to the Board, but it should be recognized that there are over 2100 participants, so a petition of less than 1000 names would not represent the desires of the majority.

Q. What is being done at the Center to encourage people to use the public transit system as a means to alleviate the traffic congestion and fuel shortage problem?

A. An article on ''Mass Transit Shuttle Service'' and a questionnaire to be filled out by interested staff members is printed on Page 7 of this issue. Additional information will be published when available.



CRASH TEST HELICOPTER: The CH-47 helicopter which will be crash tested under the joint Army/NASA CH-47 crash test program is shown being delivered to the Langley Research Center. The helicopter will be tested during the spring of 1974 at the Impact Dynamics Research Facility (former Landing Research Facility).

NOTICE: FORMER CONTRACT EMPLOYEES

Certain NASA employees formerly employed by the aerospace contractors identified in the Federal Register Notice are required by law to file with NASA's Director of Personnel a report concerning such employment.

The report is required to be filed by Nov. 15. Copies of NASA Form 1480 may be obtained from Staffing and Special Programs Branch, extension 2581. Responsibility for making the report rests with the individual. Failure to file the report is punishable by imprisonment for a maximum of six months or a fine of not more than $1,000, or both.

Those who are subject to filing are former employees of any of the 28 aerospace companies listed in the Federal Register Notice, provided they also meet the following criteria:

1. Employment with the listed aerospace contractor terminated on or after July 1, 1969; and
2. Salary rate during employment with the listed aerospace contractor was $15,000 per annum or more; and
3. NASA salary rate during fiscal year 1973 was equal to or greater than the GS-13 rate.

More detailed information on filing may be found in NMI 3309.1. For further information, contact John Cox, 2583. Liability for filing a report extends for four fiscal years (the year in which employment with a listed aerospace contractor terminated and three succeeding fiscal years).

Langley Researcher

VOLUME 12, NUMBER 24 | LANGLEY RESEARCH CENTER | NOVEMBER 23, 1973

EQUAL OPPORTUNITY SYMPOSIUM

The Third Equal Opportunity Symposium will be held on December 5 at 9 a.m. in the Activities Building. The theme of this year's program is "Identification and Development of Qualified Minorities and Females for Federal Employment."

Dr. Elizabeth D. Koontz

Dr. Elizabeth D. Koontz, Assistant Secretary, North Carolina Department of Human Resources, will be the keynote speaker. She was the first black director of the U.S. Department of Labor's Women's Bureau appointed by President Nixon in January, 1969. She was also U.S. delegate to the United Nations Commission on the Status of Women, counselor to the Secretary of Labor Women's Programs and Deputy Assistant of Labor for Employment Standards.

Other participants will include Dr. Edgar M. Cortright, Center Director; Dudley G. McConnell, NASA Assistant Administrator for Equal Opportunity Programs; Father

(Continued on page 3)

CFC EXCEEDS $150,000 MARK

The 1973-74 Combined Federal Campaign at the Center has been completed with pledges from 3308 individuals totaling $150,314. This amount represents 120.3% of the $125,000 goal and, in addition to contributions from the regular Center staff, includes donations from USAAMRDL employees, Distinguished Research Associates, NASA Management Audit Office personnel, and a number of retired Langley employees.

Total gifts this year were nearly $5,500 more than last year's record high of $144,826, despite the fact that there were 102 fewer contributors. A 7% increase in the average contribution, which was $45.43 as compared to last year's average of $42.47, was the primary reason for the success of the campaign.

With Langley being the single largest contributor, the Peninsula-wide CFC totaled over $534,000 or 126% of its $422,000 goal. Both the Peninsula CFC Director and PUF Campaign Chairman expressed appreciation for the Center's strong support. They also noted that the early achievement of our goal provided the strong impetus needed to get such a large campaign into high gear.

Langley Campaign Director Frank Moore stated that the entire campaign staff was overwhelmed by the Center's response and highly appreciative of the fine cooperation received from the division chairmen and keymen. He also

(Continued on page 5)

STAFF HONORED: At the Marshall Space Flight Center's annual awards ceremony a Group Achievement Award was presented to Langley Research Center's Skylab Emergency Thermal Shield Development Team "for outstanding achievements in the design, development, fabrication, test, and evaluation of thermal shielding devices to protect the Skylab Orbital Workshop from overheating and permit flight crew habitation. Demonstrating exceptional inventiveness and technical expertise, the team solved the unforseen problem in an incredibly short time by developing the Skylab parasol system that successfully shielded the orbital workshop and permitted completion of mission objectives." The award was accepted on behalf of the Center by Joseph A. Boyle, Head of Aerospace Model Development Branch, Fabrication. Admiring the award are representatives of the groups that worked on the project. They are (from left): Otis Parker, Mechanical Systems, SED; George Adamowski, Composite Model Development Section, Fab.; William M. Haraway, Material Technology Branch, Fab.; James N. Chacamaty, Mechanical Unit, SED; E. Barton Geer, Director for Systems Engineering and Operations; Boyle; Harold W. Ayres, Mechanical Technology Branch, Fab.; Ira E. Tilley, Technical Support, Operations Support; Robert T. Sherrill, Mechanical Systems, SED; Robert C. Wells, Systems Development Branch, SED; and Hubert K. Clark, Chief of Systems Engineering Division.

HAPPENINGS

TURKEY WINNERS. . .The Activities Association's Annual Turkey Shoot held last Saturday produced 113 winners of plump Thanksgiving turkeys. Among the sharpshooters who turned out for the event, the following persons walked off with the birds: K. Kurtz, J. Kirby, T. Robeson, J. Bonnett, C. Baker (two turkeys); M. Eby, E. Caldwell, H. Hughes, J. Norris, C. Livesay (2); C. Walker, B. Owens, C. Stump, E. Beasley, R. W. Lee, L. Proctor, L. Wilkinson, B. Moore, C. Lipp, D. J. Stump (2); J. Faye, D. Davis, D. Fiedorowicz (2), and J. Kirby. An additional 84 turkeys were awarded to winners of the special turkey raffle. Dave Davis was the winner of turkey number 113 by way of drawing among volunteer workers.

ATTIC SALE. . .The Hampton Lions Club will hold their annual attic sale on Saturday, November 24 from 9 a.m. to 4:30p.m. at the Hampton Armory, 504 N. King Street. Persons having items to donate to the sale are requested to contact a member of the Lions Club or call 851-7764.

NOTES OF THANKS. . .Jane Swartzwelder, Personnel, George C. Ashby Jr., Space Systems Division, and Sharyn Hilstrom, Office of Director for Administration, wish to thank their many friends and co-workers for their expressions of sympathy at the time of the death of their mother and grandmother, Mrs. Irene Ashby. . .Tut Huffman, Management Support Division, and her son, Mike, wish to thank their many friends who expressed their sympathy at the time of the death of their husband and father, Walter Huffman.

SKYWATCHERS. . .The Skywatchers Astronomy Club will meet on November 27 at 7:30 p.m. in the Activities Building. The subject of the meeting will be Comet Kohoutek.

NASA NIGHT. . .Discount tickets for the Red Wings vs. Providence Reds hockey game on Friday, Devember 7, are now on sale at the Activities Office, Building 1222. These are absolutely the best seats ever offered for a Coliseum event. All seats are reserved and carry a $1 discount off the box office price. Tickets will remain on sale through December 6.

THANKS. . .Emmer Smith wishes to thank her friends and co-workers for their thoughtfulness, well wishes, gift and retirement album on the occasion of her retirement.

BOWLING NEWS. . .Knackers lead in the NASA Bowling League with 34 wins and 10 losses. Clean-ups trail in second with 31 wins and 13 losses and Flyers are in third place with 28 wins and 16 losses. Top scores were rolled by John Mulqueen with a 263 game and 652 set and Terry Rule with a 276 game and 687 set. Audio Ventures took high team set with 3037 and Knackers rolled high team game with 1066.

APPRECIATION NIGHT. . .The Activities Association's worker's appreciation night will be held Saturday, Dec. 1. Workers not contacted should call David Throckmorton, 3984.

THANKS FRIENDS. . .Carole Batterson, Hypersonic Propulsion Branch, wishes to thank her friends for the many gifts, flowers, cards, letters, and calls while she was recuperating from a heart attack in Georgia. Carole is back in Virginia now and working part time.

FID ELECTION: Flight Instrument had a spirited campaign for the election of their delegate to the Activities Association. This year's election was marked by several firsts - spot radio announcements, voting machine, and computer predicted election results. The voting took place in three precincts and Charlie Stump, defying computer predictions, won the election. Other candidates were Wayne Bryant and Barry Meredith. Phyllis Jones is shown by the computer predicting machine and Harold Poole drops his vote in the slot which has a direct route to the trash can. In a fruitless effort to rig the election, the three slots on the ballot box had the candidates names on individual slots with ballots dropped into the two outside slots going into the trash can.

NEW POSITION. . .Arthur Henderson, Associate Chief of Space Systems Division, has accepted a new position at NASA Headquarters. Art will become a member of the new Applications and Space Science Technology Program Office which will be headed by Fred J. DeMeritte.

KILGORE PROMOTED. . .Edwin C. Kilgore, formerly of the Langley staff, has been named Acting Associate Administrator of the Office of Aeronautics and Space Technology, NASA Headquarters. OAST is one of five major NASA offices that direct research and technology programs to meet the nation's future requirements in aeronautics and space exploration.

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Editor.....Ruth Angel Verell
Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

RSRA CONTRACT SIGNED: In a ceremonial signing, the joint Army/NASA Rotor Systems Research Aircraft (RSRA) development was recently initiated. Signing the development contract are (from left) Langley Contracting Officer Sherwood Butler and Sikorsky Vice President Philip Locke. Witnessing the signing are Carl Knollmann, NASA/Army RSRA Contract Negotiator; Robert J. Huston, NASA/Army Project Manager; M. W. Hellyar, Sikorsky Project Manager; and Charles Martin, Sikorsky Contract Negotiator. Two RSRA vehicles will be built by the Sikorsky Division of the United Aircraft Corporation. First flight is scheduled for late 1975 with delivery scheduled for 1976. The RSRA is an advanced research helicopter capable of testing present rotor systems to the extremes of their flight envelope and of testing future rotor systems within a performance envelope that includes a 300-knot maximum speed capability. The RSRA concept was jointly conceived and developed through a unique interagency relationship between the Langley Directorate of the U.S. Army Air Mobility R&D Laboratory (USAAMRDL) and LRC.

REID AWARD: Dr. E. M. Cortright (right), Director, presents the H. J. E. Reid Award to Ernie L. Anglin and Joseph R. Chambers, Low-Speed Aircraft Division, for the outstanding paper for 1973 entitled ''Analysis of Lateral-Directional Stability Characteristics of a Twin-Jet Fighter Airplane at High Angles of Attack.'' The award consists of a certificate and an honorarium of $1,000.

EQUAL OPPORTUNITY SYMPOSIUM

(Continued from page 1)

Camillo Avitible, Director of Social Action Center, Newport News; and Raymond G. Romatowski, Director for Administration.

Dr. Koontz was educated in the public schools of Salisbury, N.C., where she also received her undergraduate training in English and elementary education at Livingstone College. She was awarded her M.A. degree in Elementary Education from Atlanta University and did further graduate work at Columbia University, Indiana University and North Carolina College where she specialized in Special Education for slow learners.

Her participation in civic, religious and educational interests has been long and rewarding. She has held membership on such diverse bodies as the Family Service Council of N.C., the N.C. Council on Human Relations and the Education Committee of the National Urban League.

She has traveled extensively. Her travels have taken her to Berlin; Dublin, Ireland, Seoul, Korea; Vancouver; and Japan in the interest of education. Her federal position led her to represent the U.S. at Switzerland, Panama, Brazil, Canada, Egypt, Soviet Union, Israel, Puerto Rico, and Romania.

Dr. Koontz has been the recipient of numerous awards, citations for service and honorary degrees which number more than a dozen. They include Doctor of Humane Letters Degree and Distinguished Alumni Medallion for Achievement from her alma mater, Livingstone College, the Distinguished Teacher Award from the Civitan Club of Salisbury, and Doctor of Letters from Atlanta University. Citations of merit were awarded by the National Eudcation Association and Cheyney State College of Pennsylvania.

Among the colleges and universities from which she received honorary degrees are Duke University, University of North Carolina, North Carolina Central University, Howward University, American University, Coppin State College, Eastern Michigan University, Women's Medical College, Hobart and William Smith College, Pacific University Keuka College, Bryant College, Ball State University, Hofstra University, Northeast University, Cedar Crest, Wyndham College, Ohio State University, Stonehill College, and Nazareth College.

Dog Training Club Meets Nov. 26

Charter membership night for the NASA Dog Training Club is scheduled for Monday, November 26, at 7:30 p.m. in the Activities Building. Elnora Tinetti, a member of the National Association of Dog Obedience Instructors, will speak on ''Teaching Obedience from the Dog's Viewpoint''

Registration will be held for class for a well behaved dog - kindergarten puppy training (2-4 months old) and basic obedience (5 months and older), and classes for earning titles in obedience trials - advanced basic (companion dog title), open (companion dog excellence title), and utility (utility dog title). There will be puppy and advanced basic demonstrations and a question and answer period. Do not bring your dog to this meeting.

Membership is open to all NASA employees, including retirees and their families, Government and contractor personnel, as well as non-government persons.

Persons planning to attend this meeting are requested to notify Doris Bryan, extension 3921.

PIONEER NEARS JUPITER

Man's first spacecraft to Jupiter will reach the giant planet on December 3, after a billion-kilometer (620-million-mile) journey that began nearly two years ago.

Pioneer 10 will glide by at a distance of 131,400 km. (81,000 miles), taking pictures of the brightly-colored planet and making measurements that should provide new clues to old Jovian mysteries.

Pioneer will return color pictures of Jupiter and its inner moons, and provide information on its turbulent atmosphere and cloud currents, its bizzare Red Spot, its murky interior, and the surrounding magnetic, electrical, and radiation environment.

After Jupiter, the spacecraft will continue into deep space, eventually becoming the first manmade object to leave the solar system.

A few hours before closest approach, Pioneer 10 will begin to test the second major hazard of its flight, Jupiter's intense radiation belts.

These are believed by some to be a million times stronger than Earth's belts and to grow 100 times more intense for each Jupiter radius a spacecraft moves closer to the planet. The radiation belts may cripple or destroy Pioneer, and their intensity and extent must be known for future missions to Jupiter.

Most immediately, information on the belts will be used to shape the voyage of Pioneer 10's sister spacecraft, Pioneer 11. It will determine whether Pioneer 11 can safely approach Jupiter even more closely than Pioneer 10 -- to within 32,000 kilometers (20,000 miles) -- close enough to use Jupiter's gravity to make the first trip to the next planet, Saturn.

Pioneer 10 overcame the first major hurdle of its 21-month mission last summer when it successfully navigated the asteroid belt, the mass of rock and space debris that lies between the orbits of Mars and Jupiter. The spacecraft established that the high-velocity asteroidal particles in the Belt are infrequent and pose little hazard to outer planet missions.

Pioneer 11, scheduled to encounter Jupiter a year from now, entered the asteroid belt last August. It will exit in March.

The Pioneer 10 mission marks the beginning of the exploration of the outer planets -- Jupiter, Saturn, Uranus, Neptune, and Pluto.

TECHNOLOGY AWARDS: Dr. John E. Duberg (left), Associate Director, presents cash awards for Tech Briefs to (from left) Harold R. Long, Joseph Getsug, Andrew Dibble, J. Robert Padelt, William S. Saunders, and David F. Thomas. Absent was Frederick W. Gibson, retired.

INVENTION AWARDS: In the top photograph William D. Mace (left), Assistant Chief of Flight Instrumentation, presents a $50 invention award to Wayne H. Bryant for his invention entitled ''Digital Controller for a Baum Folding Machine.'' In the center photo Herbert D. Hendricks (left) receives congratulations and a check for $50 from Howard B. Edwards, Chief of Instrument Research. Hendricks' invention was entitled ''Method of Detecting Oxygen in a Gas.'' In the bottom photo Laurence J. Bement (left), receives a check for $50 from Hubert K. Clark, Chief of Systems Engineering, for his invention entitled ''Explosively Welded Scarf Joint.''

ASME TO HEAR ELLIS

Macon C. Ellis

Macon C. Ellis, who retired recently as Associate Chief of the Hypersonic Vehicles Division, will be guest speaker at a meeting of the Eastern Virginia Section of the American Society of Mechanical Engineers on Wednesday, November 28 at the Activities Building.

Ellis will speak on "A New Approach to the Energy Crisis." He will describe how hypersonic vehicles will be fueled with hydrogen, whereas the total transportation fuel situation now is 96 percent oil-based. He will also discuss other new approaches to the total national energy situation and the energy crisis. Ellis' efforts over the last two years have been directly concerned with this total picture.

While at the Langley Center, Ellis and his associates designed and developed the first U.S. supersonic wind tunnel for aerodynamic research. Later he headed the Gas Dynamics and Magnetoplasmadynamics Branches, which studied reentry problems and plasma applications to space travel, space physics, and astronomy.

The meeting will be preceded by a social hour at 6:15 p.m., followed by a prime roll roast dinner at 7:15. Reservations should be made by the close of business today with Randy Rooker, 3806 or 898-7574.

NOTE SALE TO STOP

So successful has been the sale of the 7-1/4% Note Certificates offered by the Langley Federal Credit Union that its coffers are overflowing. Instituted as one of several steps to alleviate the shortage of ready cash earlier this year, the acceptance of the Certificates has far exceeded expectations. It is with gratefulness, therefore, that the LFCU Board announces ''Mission Accomplished'' and suspends the issuance of the Certificates at the $1,000,000 level or close of business December 3 - whichever comes first.

This should be good news to all members since implicit therein is the fact that Langley has come through the ''credit crunch'' with flying colors. The Certificates contributed greatly to this end but their continuance cannot be justified, representing as they do borrowed money even if borrowed from LFCU members. A word, too, must be said for the ''savers'' who in October alone were responsible for a net increase in share holdings of over $400,000. Their reward will come this year-end and next year when an expected new level of dividends, quarterly compounded, brings joy to their ranks.

Combined Campaign Sets New Record

(Continued from page 1)

noted that Charles Barnett, Sherwood Butler, Bob Kirby, Mark Nichols, Jess Ross, and Searcy Smith were instrumental in providing the personnel and assistance necessary to successfully conduct the campaign.

NEW SECRETARY: The Activities Association introduces the new bookkeeper, Susan Condra. Susan is replacing Kathi Warfel who recently resigned to accept a job in Richmond. Susan comes to Virginia from Oxnard, California. Her husband is presently stationed at Ft. Eustis and they have a nine-month-old son. After graduating from high school, Susan attended Pacific Lutheran University in Tacoma, Washington, where she majored in Sociology.

TWO DEMONSTRATIONS PLANNED

Wang Laboratories, Inc., will show their latest model programmable calculators on Thursday, November 29 in Building 1230, Room 225. Also being shown, and of special interest to secretaries and other clerical personnel, is the company's latest Dual-Cassette Automatic Typewriter.

All interested personnel are invited to attend between 8:30 a.m. and 3:30 p.m.

On Thursday, December 6, a showing of Textronix Calculators Systems will be presented from 8:30 a.m. to 3:30 p.m. in Room 270, Building 1230.

Equipment being shown includes the TEK 31, the TEK 21 programmable scientific calculators, the TEK 31/10 graphic calculator (a combination of the TEK 31 and 4010 display terminal which composes a unique soft-plot system), the TEK 4610 hard-copy unit for permament copies of TEK 31-10 system plots and the Digital Processing oscilloscope which utilizes a TEK 31 as a processing unit.

All interested personnel are invited to attend this showing.

FABRICATION DIVISION PARTY

Hey folks, it's that time again; time for the Fabrication Division's second annual dinner-dance to be held Friday, December 7, in Building 1213 (cafeteria) for Fabrication Division personnel and their guests.

Happy Time will begin at 6:45 p.m. and the dinner, featuring ham and turkey, will begin at 7:30.

Music for the dance, which begins at 9 o'clock, will be provided by The Sportsmen. Free setups will also be furnished.

The total cost for the affair will be $9 per couple so all of you bon vivants and epicures (these are fancy words for 'lovers of a good time and good food') hurry and see one of the following for your ticket: Ron Amole, Jack Clark, Bob Faison, Larry Harvey, Lewis Horsoey, Harold Stalnaker, or Al Vanasse.

DETERGENT GASES DANGEROUS

Recently a peculair type of accident struck two housewives undertaking a household chore in separate locations but under similar circumstances. Both were using an ordinary toilet-bowl cleaner. Dissatisfied with the way stains were being removed, each decided to add a household bleach and stirred the mixture with a brush. As a result, one died quickly - the other spent a long, long time in a hospital.

What occurred in each of these cases was the generation of a poisonous gas when the users decided to combine two or more cleaning agents commonly found in almost every household. The addition of the old familiar chlorine bleach (a sodium hypochlorite solution) to an acid or acid-producing substance, such as a toilet bowl cleanser or just plain vinegar, will suddenly release a quantity of toxic chlorine gas. Similarly, when it is mixed with other alkaline matter - ammonia or lye - the chemical action liberates a highly irritating gas. If inhaled, these fumes can cause serious injury and possibly death.

Don' t make the mistake of thinking because certain household products are good and useful, a combination will do a job better. On the contrary, this may be not only a waste of time and effort by producing poorer results through neutralizing or diluting one another, but may prove disastrous. Stick to the safe rule: read the label carefully and follow the manufacturer' s directions exactly. Keep in mind that modern scouring powders often contain chlorine bleach.

Economically, it' s unsound to use hypochlorite (chlorine) bleach in toilet bowls, sinks and bathtubs or on electrical appliances. This will, in time, dull and roughen the fine smooth porcelain surface which is attractive as well as utilitarian.

DON' T MIX bleaching agents with toilet bowl cleansers, ammonia, lye, rust remover, vinegar, or oven cleaner.
IN SHORT - NEVER MIX BLEACHING AGENTS WITH ANY OTHER CLEANING COMPONENTS!!

GROUP AWARD: William L. Williams, Assistant Chief of Personnel Division, presents a Group Achievement Award certificate to Margaret Simonton, Head of Personnel Records Section. Members of the group are (from left) Virginia Lumpkin, Phyllis Burrage, Margaret Barricklow, Ethel Beamon, Grace Gardner, Sara Watkins, and John J. Cox, Head of Staffing and Special Programs Branch. Absent was Linda Hensley. The group was cited ''for outstanding group achievement in processing numerous personnel transactions during Fiscal Year 1972 and for the timely, efficient and effective manner displayed in the successful completion of special projects related to the upgrading of the NASA Personnel Management Information System.''

ACHIEVEMENT AWARDS: In the top photo Clarence C. Poe received an Achievement Award from William A. Brooks, Chief of Materials Division, while Dr. John R. Davidson (right), Head of Structural Integrity Branch, looks on. Poe was cited for his performance "during temporary assignment to the Aeronautical Systems Office.'' In the center photo Cletus J. Vincke (right), Assistant Chief of Operations Support Division, congratulates Lewis G. Burney while Robert H. Turner, Head of Facilities Branch looks on. Burney received his award for "superior technical assistance, craftsmanship, and leadership during the development and testing of a new airborne multiwavelength laser radar instrument used for the detection of chlorophyll in natural waters.'' In the bottom photo Walter L. Jernigan (left) receives his award from Daniel R. Hayes, Chief of Fabrication Division, for "superior performance and excellence in his support of research functions and operations at LRC."

Personnel Profiles

By

Allan C. Hanrahan

Flying: His Vocation and Avocation

Our guest this issue, Robert A. Champine, is certainly no stranger to these pages, just as he is no stranger to many of you readers - having toiled here at the Center for nigh-on twenty-six years.

Champine, an Aeronautical Research Pilot in the Operations Branch of the Research Aircraft Flight Division, could be called the dean of the Center test pilot corps by virtue of being oldest in age (52) as well as oldest in length of service.

This Minneapolis, Minn., native is engrossed in flight, both on and off the job, and has been ever since he began building model airplanes back in Minneapolis, where he was also reared and attended high school. So, in the natural progression of his interest, he entered the University of Minnesota and during his second year he learned to fly - flying being offered as part of the college curriculum. He graduated in 1943 with a B.S. degree in Aeronautical Engineering and then entered the Navy in 1944 as an officer. After a year he resigned his commission to become a naval aviation cadet, earned his wings in 1946, and served as a fighter pilot until his release from active duty in 1947.

1948 found him at the Center ''somewhat green,'' as he put it, about research flying, but in a job that he still finds ''interesting from many standpoints.''

''There are many types of aeronautical research going on,'' he stated, and he added that he was interested in all flight, including space flight.

Champine's first research project was flying a P-51 in ''wing flow dive tests'' in which a model, mounted on the plane's wing, reached supersonic speeds. That made the P-51 somewhat of a ''flying wind tunnel.''

Bob went on to become one of the first test pilots to fly faster than the speed of sound and has been an eye witness to, as well as a participant in, the advancement in aircraft. This is not surprising when you realize he has accumulated more than 9000 flying hours in over 150 aircraft over 30 years of flying.

Away from the job Bob Champine the test pilot is Bob Champine the...pilot. He is part owner of a Cessna 190 that he enjoys flying for pleasure as well as transportation; for instance, to Mexico, and on his last vacation, to Oshkosh, Wisconsin, for an Experimental Aircraft Association fly-in. (Bob is a member of the E.A.A. as well as a member of the Icarian Flyers Club). In addition, not too long ago he flew to Chicago for the Indoor Model Aircraft Competition.

Bob is still an avid builder of model aircraft - of all kinds - and in addition to local competition he has competed in national events and was once a member of the U.S. team in international competition. He has also served as contest director for local events.

Bob entertains an interest in photography when he is not engaged in aircraft - related pursuits but unless we are greatly mistaken we can almost guarantee you what is his favorite subject.

SWAP AND SHOP

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

WANTED

Driving combination from Williamsburg to W.A. on 7:30 shift. Fripp, 3535 or Williamsburg 229-7452.

Driving combination from Wythe to W.A. on 8 shift. Nowak, 2435 or 247-3750.

Driving combination from Tanglewood to W.A. on 8 shift. Stephens, 2369.

FOR SALE

Around-tree wooden bench - fits up to 20-inch tree - $30. Wagner, 851-1328.

Girl's Schwinn Fair Lady 20-inch Sting Ray bicycle - $45. Berryman, 596-3988.

Baby stroller, walker, high chair, swing, and play pen. Burton, 838-2878.

Electric chord organ. Covington, 722-6040.

1967 Pontiac LeMans, 2-door, 326 engine, power accessories - $575. Stacey, 826-3926 after 6 p.m.

1966 Ford Country Squire. Biermann, Williamsburg 229-0936.

1972 Pontiac Catalina sedan, power accessories, new tires- $2700. Davis, 838-1789.

1972 Buick Skylark custom, power accessories, new tires, will sell under Blue Book value. Evans, 851-9194.

1971 Honda Trail 70 - $195. Reaves, 596-4532.

Westinghouse 23,000 btu air conditioner - $150; also Air Cooler - $15. Walker, 851-5664.

Black vinyl sleep sofa and chair in very good condition - $77. Slemp, 596-5518.

CAN YOU SOLVE THIS PROBLEM?

Studded tires and snow chains gouge thousands of miles of highway payment each year. Less abrasive studded tires or a paving material that can withstand them is needed. Refer to problem No. 73-11-001. Contact the Technology Utilization Office, extension 3281, for the complete problem statement or if you have a potential solution.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of November 26:

Monday - Cream of mushroom soup, beef liver and onions, spaghetti with meat balls, Chinese egg rolls. Snack bar - Turkey club, hot pastrami, steak, bacon, lettuce and tomato.

Tuesday - Turkey noodle soup, sweet and sour pork, broiled red snapper, roast chicken. Snack bar - NASA submarine, ham and cheese, hot roast beef, barbequed pork.

Wednesday - Bean with bacon soup, beef teriyank, veal cordon bleu, ham omelette. Snack bar - Hot corned beef, sausage and egg, pizza, NASA submarine.

Thursday - Chicken and rice soup, meat loaf, stuffed flounder, mostaccioli with meat sauce. Snack bar - Hot pastrami, turkey club, ham and cheese, barbequed pork.

Friday - Cream of celery soup, country steak, barbequed chicken, fried clams. Snack bar - Steak, ham salad, chili, grilled cheese.

The menu for December 3 is as follows:

Monday - Tomato soup, pot roast, broiled or fried fish, glazed ham. Snack bar - Hot pastrami, ham and cheese, hot roast beef, bacon, lettuce and tomato.

Tuesday - Cream of chicken soup, steamship round, broiled or stuffed pork chops, chicken chow mein. Snack bar - Barbequed pork, turkey, NASA submarine, hot corned beef.

Wednesday - Beef noodle soup, beef stroganoff, shrimp creole, veal parmesan. Snack bar - Steak, pizza, sausage and egg, ham and cheese.

Thursday - Vegetable soup, chopped steak, barbequed pork chunks, southern fried or broiled chicksn. Snack bar - Turkey club, NASA submarine, hot pastrami, bacon, lettuce and tomato.

Friday - Minestrone soup, stuffed pepper, corned beef and cabbage, broiled or fried fish. Snack bar - Barbequed pork, ham and cheese, chicken salad, NASA submarine.

AIAA MEETS NOVEMBER 30

Robin K. Ransone, Visiting Associate Professor, University of Virginia, will be guest speaker at a meeting of the Hampton Roads Section of the American Institute of Aeronautics and Astronautics on Friday, November 30 at the Hampton Holiday Inn (Williamsburg Room).

He will speak on ''Short Haul Air Transportation.'' He will discuss future short haul air transportation with primary emphasis on STOL and V/STOL aircraft. His presentation will be highlighted by a 13-minute film showing ten different STOL and V/STOL experimental aircraft.

CHRISTMAS PARTY: Sandy the Clown will be the special attraction at the Activities Association's Annual Christmas Party which will be held on Sunday, December 9 at the Activities Building. Two shows have been scheduled - 1 and 3 p.m. Tickets are on sale at the Activities Building for 50 cents each. During the party Santa Claus will visit the youngsters and take their Christmas orders.

MERIT PROMOTION NOTICE

The following Merit Promotion Announcements are currently open:

No. 73-104 - Supervisory Computer Systems Analyst, GS-334-12 with promotional opportunity. Business Data Systems Division, Analysis and Programming Branch. Closes today.

No. 73-105 - Production Controller (two positions) GS-1151-9 with promotional opportunity. Fabrication Division, Planning Control Office. Closes November 28.

No. 73-106 - Personnel Officer, GS-201-15. Personnel Division, Office of the Chief. Closes December 7.

No. 73 - 107 - Procurement Analyst, GS-1102-7 with promotional opportunity. Procurement Division, Procurement Operations Office. Closes December 4.

Ransone was a flight test engineer with the U.S. Air Force Flight Test Center for 10 years, where his test programs included high performance and supersonic fighter and bomber aircraft, helicopter, short takeoff and landing and vertical takeoff and landing aircraft.

After a brief time as Director, Aeronautical Operating Systems Office at NASA Headquarters, Ransone joined the University of Virginia staff.

The meeting will be preceded by a social hour at 6:30 p.m., followed by dinner at 7:30.

Langley Researcher

VOLUME 12, NUMBER 25 · LANGLEY RESEARCH CENTER DECEMBER 7, 1973

SMEAT AWARD: Sigurd A. Sjoberg (left), Deputy Director of Johnson Space Center, presents a photograph of the Skylab Medical Experiments Altitude Test (SMEAT) crew and patch to Charles P. Llewellyn, Shuttle Experiments Office, Space Systems Division, for his and Langley's efforts in support of SMEAT during 1972. These tests contributed significantly to the successes with the medical experiments during the Skylab flights. Members of the crew are Astronauts Robert L. Crippen, commander; William E. Thorton, science pilot; and Karol J. Bobko, pilot. During LRC's awards ceremony a Group Achievement Award from Johnson Spacecraft Center was presented to Marie S. Noland, Karen D. Bender, and Llewellyn, members of the Skylab Medical Experiments Altitude Test Team, in recognition of their outstanding contributions to the success of the 56 day Skylab Medical Experiments Altitude Test.

ANNUAL DIVIDEND INCREASED

History is being made again at LFCU. The Board of Directors has voted to raise the annual dividend rate on shares to a record high of 6-1/4%. The new rate is effective for the period July 1 through December 31, 1973. The dividend will be credited to members accounts January 1, 1974.

Effective 1974 dividends will be paid quarterly - another plus! The Directors are extremely pleased to announce these changes and noted they are made possible by the financial strength of the Credit Union and the support of its members. Your continued support is needed to maintain or increase this dividend.

Be sure you contact the Credit Union first for all your loans. Speaking of loans - Christmas is almost here - if you need extra money for Christmas don't forget LFCU has lots of money to loan. We make all kinds of loans - cars, boats, home improvements, personal and more. If you already have a loan or two with us and need to finance another purchase, come see us. You're better off when you keep all your credit at your own credit union. Do you know a loan today costs the same as (or less than) it cost in 1936 when LFCU was organized? Still proves LFCU is the best place to save and to borrow. ''It's Where You Belong.''

EQUAL OPPORTUNITY SYMPOSIUM

Managers must also be humanitarians, concerned with ''people problems'' as well as technical programs, according to Dr. Elizabeth D. Koontz, former head of the U.S. Department of Labor Women's Bureau.

About 400 Langley managers and supervisors were enlightened and entertained by Dr. Koontz, featured speaker at the Center's third annual Equal Opportunity Symposium on Wednesday morning.

Dr. Koontz is now a member of the North Carolina Department of Human Resources. She has held several federal and state offices during the past decade.

''No matter what kind of orders come down (from the top), nothing happens until first-line managers get the message,'' she said of equal opportunity programs.

''Langley can't afford to have been a pioneer in the aerospace field and then let those who are indifferent to people problems be in control.''

Ranging across a wide area of employment activities during her 90-minute talk, Dr. Koontz' theme concerned how to identify and develop qualified minorities and females for federal employment.

She said that some day a woman will replace a man as Langley's director.

''And if she's black, Jewish, and speaks Spanish, then we will have arrived.''

Dr. Koontz said that many NASA managers excuse themselves for not hiring more minorities and women by saying that quality (of work) cannot be sacrificed for any kind of affirmative action programs.

''What you're really saying is that programs are more important then people. But this is the age of people problems,'' she added, which must be solved.

A video tape of Dr. Koontz' talk will be shown to interested employees Tuesday, Dec. 18, at 9 a.m. in the Activities Building.

GUEST SPEAKER: Director E. M. Cortright greets Dr. Elizabeth D. Koontz as she arrived at the Center to be the keynote speaker at the Center's third annual Equal Opportunity Symposium.

HAPPENINGS

SMALL ISSUE. . .Due to unusual circumstances, this issue has been reduced to four pages and many of your favorite features have been omitted. However, we will be back at full size on December 21.

CALENDAR NOTICE. . .Stock Issue officials announced that requests for 1974 desk and wall calendars should be submitted to Stock Issue, MS 140, by Friday, December 21. In order to cut down on the supply of wall calendars, employees using wall boards are requested to use one calendar for this purpose instead of ordering three. General Services Administration has standardized all calendars, and only the items listed are available. When sending in orders, staff members are requested to use the following stock numbers: Calendar Pads - folding pad, size 3 x 3-5/8 inches, No. 7510-689-3078; Executive Folding Pad, size 3-3/4 x 5-7/8 inches, No. 7510-405-9303; Wall Calendar, No. 7510-102-6383; Wall Calendar Board, No. 7510-789-2455; and Executive Calendar Stand, size 6-1/8 x 7-5/8 inches, No. 7520-162-6156.

NOTE OF THANKS. . .Helen Banks, West Cafeteria, wishes to thank her many friends for the gifts, cards, flowers, and calls during her recent illness.

CAMERA CLUB. . .The Langley Camera Club will meet on December 17 at 7:30 p.m. in the Activities Building. The theme of the color slide contest will be 'Age.''

CHILD CARE CENTER. . .The Christopher Newport College Child Care Center is extending its services to the public. The Center, a non-profit organization sponsored by the Student Government Association, is staffed by professional early childhood development personnel assisted by Christopher Newport College students. Children from ages two to six are included in the program. The Center is located at the corner of J. Clyde Morris Boulevard and Jefferson Avenue in the United Church of Christ building. Hours of operation are 7:30 a.m. to 5:30 p.m. Monday through Friday. Fees of 75 cents per hour or $5 per day are in effect. For additional information call 596-7611, extension 297, or visit the Center during operating hours.

CHORAL SOCIETY. . .The Peninsula Choral Society will present ''Christmas Oratorio'' by Johann Sebastian Bach on December 10 at 8:15 p.m. in the Jefferson Davis Junior High School. Charlotte Williams, wife of Dr. Jerry Williams of the Structures and Dynamics Division, will be one of the soloists.

RETIREMENT PARTY. . .Clyde D. Hall, Head of Composite Model Development Section, will be honored at a retirement party on January 11 from 6 to 9 p.m. in the Activities Building. Cost will be $5 per person. Cost of gift only will be one dollar. Names and contributions should be sent by January 4 to Steve Horvath, MS 194.

CHRISTMAS PARTY: Sandy the Clown will be the special attraction at the Activities Association's Annual Christmas Party which will be held on Sunday, December 9 at the Activities Building. Two shows have been scheduled - 1 and 3 p.m. Tickets are on sale at the Activities Building.

MERIT PROMOTION NOTICE

The following Merit Promotion Announcements are currently open:

No. 73-108 - AST, Science Missions, GS-1301-14 or 15. Space Applications and Technology Division, Advanced Missions Branch. Closes December 7.

No. 73-109 - AST, Space and Earth Sciences, GS-1301-14 or 15. Space Applications and Technology Division, Analytical Studies Branch. Closes December 7.

No. 73-110 - AST, Earth Sciences Utilization, GS-1301-14 or 15. Space Applications and Technology Division, Atmospheric Environments Branch. Closes December 7.

No. 73-111 - Accounts Maintenance Clerk, GS-520-3, with promotional opportunity. Financial Management Division, Accounting Branch, Cost Accounting Section. Closes Dec. 7.

No. 73112 Clerk-Typist, GS-322-4, with promotional opportunity. Space Applications and Technology Division, Analytical Studies Branch. This position will be filled from the Secretarial Roster.

No. 73-113 - Labor-Management Relations Specialist, GS-230-12, with promotional opportunity. Personnel Division, Office of the Chief. Closes December 14.

No. 73-114 - Supervisory Management Analyst, GS-343-11, with promotional opportunity. Management Support Division, Management Support Branch, Space Analysis and Utilization Section. Closes December 14.

No. 73-115 - Secretary (Stenography), GS-318-5 or 6, with promotional opportunity. Analysis and Computation Division, Office of the Chief. Closes Dec. 14.

EQUIPMENT VISIBILITY SYSTEM

Langley Management Instruction 4200.1 and NASA Handbook 4200.1, Section V, recently distributed to all Management Manual holders, describes the Equipment Visibility System (EVS) in detail. The EVS, a NASA-wide user-oriented system to provide visibility into controlled equipment resources valued at $1,000 and over, including both contractor-held and in-house equipment, became operational during September.

The purpose of the user-oriented Equipment Visibility System is mainly threefold: to place strong emphasis on good equipment management, especially good utilization of equipment in an idle status; the use of a uniform system of identification and communication; and to strengthen NASA policies relating to equipment management.

Charles O. Yokum, Head of Equipment Management Section, Property Management Branch, is the Langley EVS Coordinator, and an EVS Data Center is operational in Building 1194 (Technical Library), Room 106. Additional information can be obtained by calling Yokum, extension 3937, or the Data Center, extension 3479.

All staff members are urged to contact the EVS Data Center before initiating a P.R. for individual items costing $1,000 or more.

NEW YEAR'S DANCE

The Activities Association's annual New Year's eve dance will be held in the Activities Building, December 31 from 9:00 p.m. to 1:00 a.m. with the "Sound Set" providing the music. Tickets may be purchased at the Activities Building as long as 150 last. Cost is $12 per couple and includes favors, set-ups, and coffee and danish afterwards. Reservations are required.

NEW VIEW OF MAN AND THE UNIVERSE

Is yesterday's heresy some of today's science? For one man, this certainly seems so. In 1950 Dr. Immanuel Velikovsky published his first book ''Worlds in Collision.'' This work was greeted skeptically by the scientific community, but warmly by the public (it was a No. 1 bestseller). This book was the result of years of research, which correlated ancient records of different societies and which arrived at an astounding conclusion: a catastrophy affecting the entire solar system occurred at the time of the biblical Exodus from Egypt.

It was ancient astronomical records that led Velikovsky to formulate his theory of catastrophic solar system evolution occurring within the last 4000 years. From these records Velikovsky theorized that Jupiter was an unstable planet, that Venus was ejected from Jupiter into a cometary orbit around the sun, and that Earth had two close encounters with Venus before Venus ended in its present stable orbit. In 1950 these ideas were heresy, and Dr. Velikovsky was rudely put down by the scientific community.

The scientific predictions generated by his model were given an even less friendly welcome, and Velikovsky was branded a fraud. After all, here was a non-astronomer predicting such outlandish (Circa 1950) ideas as: (1) Jupiter is an active planet; (2) the atmosphere of Venus is composed of CO_2, carbohydrates, and hydrocarbons; (3) Venus is hot and is radiating heat; (4) petroleum hydrocarbons will be found on the Moon; and (5) electromagnetic forces play a fundamental role in celestial mechanics in the Universe.

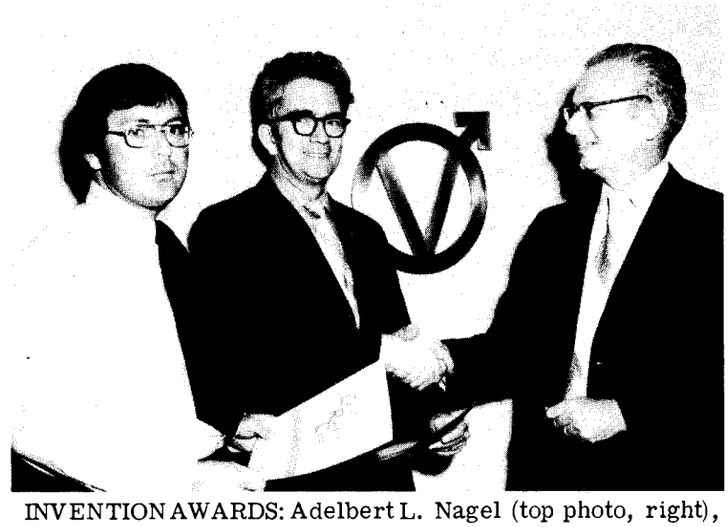
Almost 25 years have passed since the publication of Velikovsky's first book; and even though his model is not generally accepted by astronomers, many of the predictions resulting from his work have been vindicated. For example, recent scientific findings indicate: (1) Jupiter is an active planet; (2) the atmosphere of Venus contains hydrocarbons; (3) Venus is extremely hot; (4) petroleum hydrocarbons have been found on the Moon; and (5) electromagnetic forces play a fundamental role in the solar wind, which in turn influences cosmic bodies (i.e., cometary tails).

These are but a few of the many ''successes'' for Velikovsky, as reported in the journal Pensee. Thus far, five volumes of this journal have been dedicated to ''Immanuel Velikovsky Reconsidered.'' And apparently, Velikovsky is being seriously reconsidered. A recent poll by Industrial Research of scientists and engineers indicated that a majority of its respondents agreed wholly, or in part, with Velikovsky's unorthodox contentions. One might well conclude that some of today's science was yesterday's heresy.

The Langley Colloquia Committee is happy to bring Dr. Velikovsky to the Langley Research Center to speak on topics that we might all reconsider. This colloquium will be held at 2:30 p.m. on December 10 in the Activities Building. To accommodate any overflow from December 10, a video tape of Dr. Velikovsky's presentation will be shown at 3 p.m. on December 12 in the Activities Building.

If anyone wishes to invite non-NASA guests to the live colloquium on December 10, please contact either Joe Heyman, 3418, or Ed Long, 3127, first.

FOR RENT: 5-room, 1 story house on seven acres of farm land in Hampton - refrigerator and stove, air conditioning - $175 per month. Vaughn, 596-4131.



INVENTION AWARDS: Adelbert L. Nagel (top photo, right), Head of Hypersonic Aircraft Systems Research Branch, Hypersonic Vehicles Division, presents a check for $50 to L. Robert Jackson for his invention entitled ''Structural Panel.'' J. E. Stitt (center photo, left), Chief of Flight Instrumentation Division, congratulates James H. Schrader and Richard H. Couch for their joint invention entitled ''Apparatus for Aiding a Pilot in Avoiding a Midair Collision Between Aircraft.'' Each received $50. In the bottom photo Edmund Brummer (right), Viking Lander Manager, presents checks for $50 each to Gary Price and Arthur Newcomb for their invention entitled ''Attitude Sensor.''

SWAP AND SHOP

WANTED

Driving combination from Windsor Great Park to W.A. on 8 shift. Wells, 3617 or 874-4377.

Driving combination from Shore Park to W.A. on 8 shift. Crommie, 3741 or 874-2595.

Car pool from Norfolk to W.A. on 8 shift. Kennedy, 2796 or 587-6355.

Driving combination from Denbigh-Stoneybrook area to E.A. on 8 shift. Averill, 2695 or 877-1938.

Driving combination from Bennett' s Creek area of Nansemond to W.A. on 8 shift. Cannady, 2948 or 484-0736.

Driving combination from Todd' s Lane-Northampton area to W.A. on 8 shift. Schy, 2972 or 826-0288.

Additional drivers from Southampton area to W.A. on 7 shift. Roy Page or Bob Davis, 2028 or 3358.

Driving combination from Williamsburg to E.A. on 8 shift. Hudson, 3191 or 229-2356.

Ride or driving combination from Dare Rd. and Lakeside Dr. in York County to W.A. on 8 shift. Henry, 2143.

ODU GRADUATE COURSES OFFERED

Several Old Dominion University graduate courses in Chemistry and Physics to be offered during the spring semester may be of interest to Center staff members. These courses will be held at the Norfolk campus during late afternoon or evening class periods.

Courses offered include: Physics 564 - Dynamic Meterology; Chemistry 471 - Atmospheric Chemistry and Air Pollution; Chemistry 542 - Molecular Spectra and Structures; Chemistry 580 - Selected Topics in Organic Chemistry: Heterocyclic; and Chemistry 581 - Selected Topics: Gas Chromatography-Mass Spectromtery.

For course descriptions, class times, or additional information, call the Training and Educational Services Branch, extension 2517.

PAYNE TO ADDRESS ASM

Lee Payne, a design specialist in structures at the Lockheed-California Company, will be the guest speaker at a meeting of the local chapter of the American Society of Medals on December 10. This has also been designated as ladies' night.

The meeting will be held at the Elks Lodge in Hampton starting with a social at 6:15, dinner at 7 and the meeting at 8. Dinner reservations may be made by calling Barry Lisagor, 3386.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of December 10:

Monday - Turkey rice soup, char-br. steak sandwich on jumbo roll, smoked pigs in a pone, turkey a la king. Snack bar - Ham and cheese, hot pastrami, steak, bacon, lettuce and tomato.

Tuesday - Puree of bean soup, roast pork, fried oysters chicken livers. Snack bar - Turkey, NASA submarine, hot roast beef, barbequed pork.

Wednesday - Crab bisque soup, steamship round, chicken and dumplings, broiled red snapper. Snack bar - Hot corned beef, ham and cheese, chilli, and sausage and egg.

Thursday - Vegetable beef soup, meat loaf, veal and spaghetti, pork chop suey. Snack bar - Submarine, ham salad turkey, pizza.

Friday - Shrimp gumbo soup, pepper steak, fried chicken, broiled or fried fish. Snack bar - Steak, bacon, lettuce and tomato, grilled cheese, ham and cheese.

The menu for December 17 is as follows:

Monday - Tomato soup, beef pot pie, veal parmesan, fried clams. Snack Bar - Hot pastrami, barbequed pork, submarine, turkey.

Tuesday - Cream of chicken soup, beef liver and onions, roast chicken, lasagne. Snack bar - Steak, pizza, ham and cheese, bacon lettuce and tomato.

Wednesday - New England clam chowder, Christmas Dinner, includes turkey or ham, dressing, cranberry sauce, mashed or sweet potatoes, green beans or peas, rolls and butter, pumpkin or apple pie, tea or coffee - $1.40.

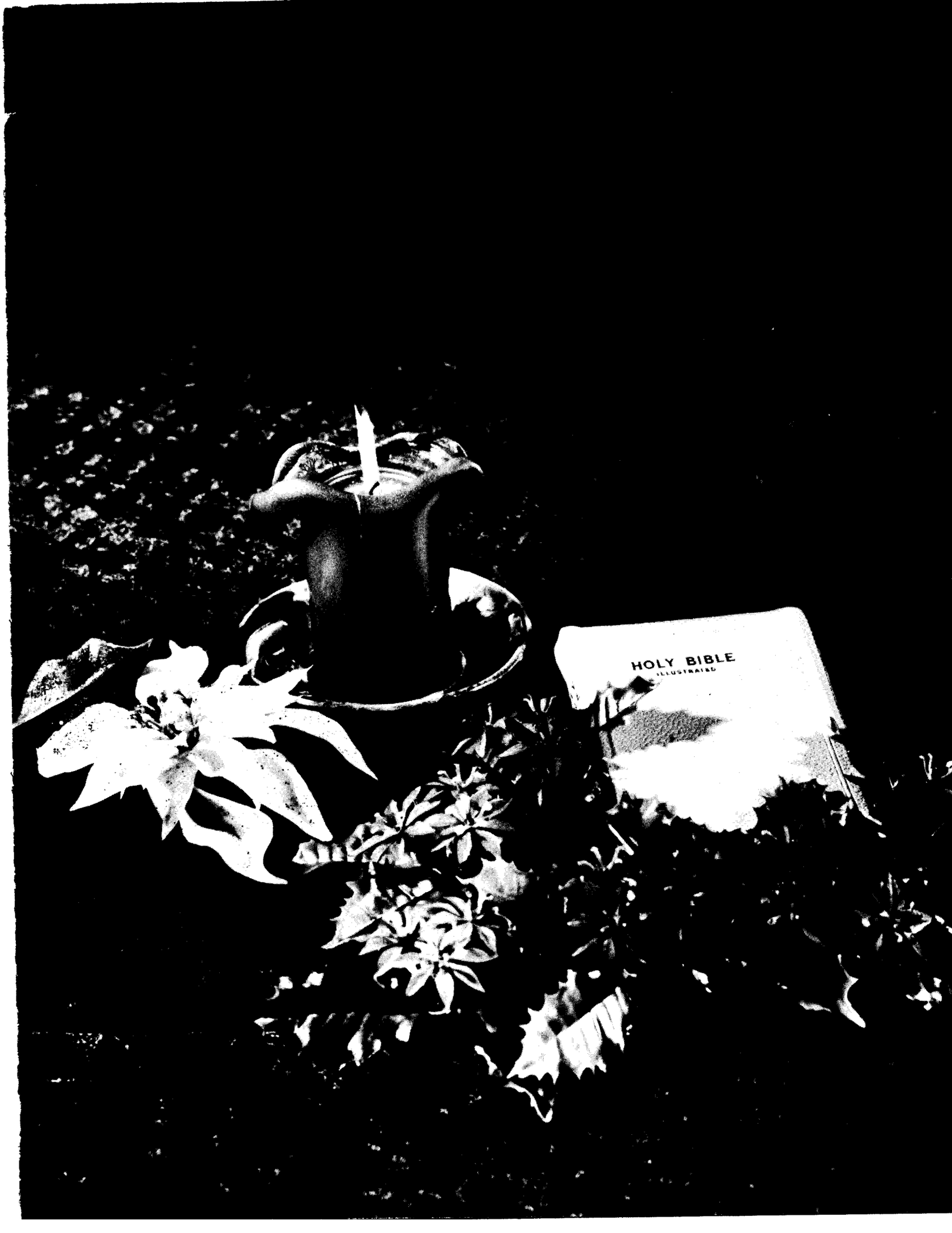
Thursday - Chicken noodle soup, stuffed peppers, fried crab balls, cheese omelette. Snack bar - Hot corned beef NASA submarine, barbequed pork, sausage and egg.

Friday - French onion soup, meat loaf, chicken teriyaki broiled or fried fish. Snack bar - Hot roast beef, ham salad, chili, turkey.

FIVE NEW OFFICERS ELECTED

The LMAA Executive Board has five offices which expire at the end of this year. An election was held by the General Assembly to fill the upcoming vacancies; new officers and retiring board members are:

President: Herb Boulter (re-elected); Treasurer: Robert Huffman; retiring, Ron Krodel; Activities Chairman: Ernest Greene; retiring, David Throckmorton; Building & Grounds Chairman: Dick Layman; retiring, Robert Huffman; Children' s Chairman: Dana Morris; retiring, Bill Henley.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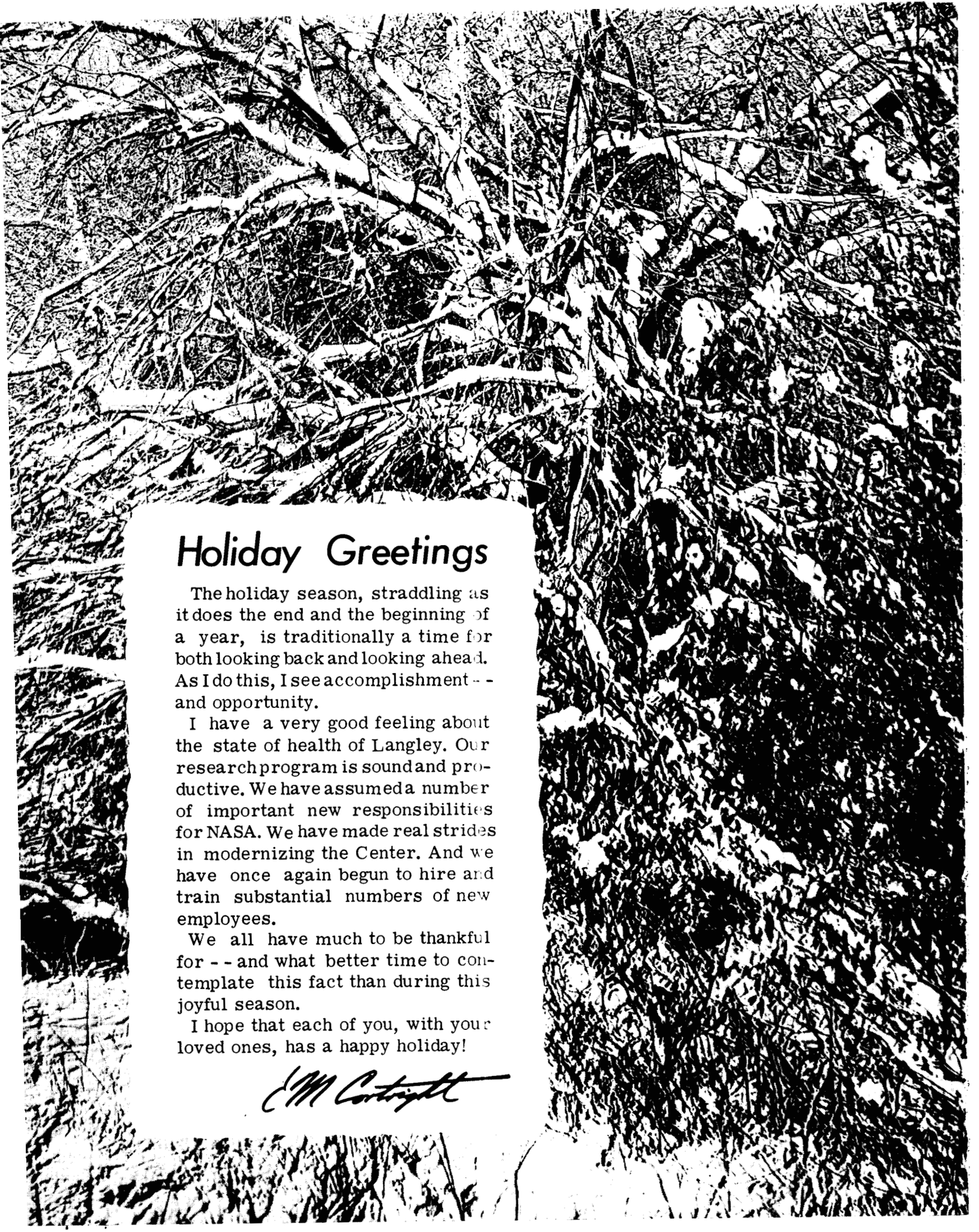

Holiday Greetings

The holiday season, straddling as it does the end and the beginning of a year, is traditionally a time for both looking back and looking ahead. As I do this, I see accomplishment -- and opportunity.

I have a very good feeling about the state of health of Langley. Our research program is sound and productive. We have assumed a number of important new responsibilities for NASA. We have made real strides in modernizing the Center. And we have once again begun to hire and train substantial numbers of new employees.

We all have much to be thankful for -- and what better time to contemplate this fact than during this joyful season.

I hope that each of you, with your loved ones, has a happy holiday!

E M Cortright

cafeteria menu

The following menu will be served in the cafeterias during the week of December 24:

Monday - H O L I D A Y

Tuesday - H O L I D A Y

Wednesday - Potato and onion soup, spaghetti luncheon, New England dinner. Snack bar - Hot corned beef, NASA submarine, barbequed pork, sausage and egg.

Thursday - Vegetable beef soup, steak luncheon, Chinese egg rolls, ham omelette. Snack bar - Steak, ham and cheese club, chili, bacon, lettuce and tomato.

Friday - Split pea soup, chicken special, broiled or fried fish. Snack bar - Turkey club, pastrami, ham and egg, hot roast beef.

The menu for the week of December 31 is as follows:

Monday - H O L I D A Y

Tuesday - H O L I D A Y

Wednesday - Bean with bacon soup, pork special, fried shrimp. Snack bar - Fish, pizza, NASA submarine, barbequed pork, ham and cheese club.

Thursday - Turkey noodle soup, country style steak, knockwurst and sauerkraut, sauteed scallops. Snack bar - Deli sandwich, ham and egg, turkey club, grilled cheese.

Friday - Chicken gumbo soup, meat loaf, barbequed pork chunks over rice, Shepherd's beef pie. Snack bar - Hot roast beef, ham and cheese club, NASA submarine, chili.

MERIT PROMOTION NOTICE

The following Merit Promotion Announcement is currently open:

No. 73-116 - Supervisory Engineering Technician, GS-802-12, with promotional opportunity. Fabrication Division, Aerospace Model Development Branch, Composite Model Development Section. Closes December 31.

WOMEN'S PROGRAM: The results of the Federal Women's Program Questionnaire were reported to Langley women and their supervisors Monday. Jane S. Hess (center) presented a summary of the responses, conclusions, and recommended action items. The data from the questionnaire is on file in the Library. Members of the committee who conducted the survey and prepared the report are Carmen E. Batten, Sallie M. Harvey, Patricia D. Hurt, Eloise McGehee, Lorraine F. Satchell, Jeanette George, and Jane Hess. Shown with Jane are Eloise McGehee, Alice Craddock, Federal Women's Program Coordinator, Sallie M. Harvey, and Jeanette George.

EEO HIGHLIGHTS

Christine M. Darden

Christine M. Darden was an official NASA representative to the Virgin Islands on November 27-31. She is an Aerospace Engineer in the Hypersonic Vehicles Division.

Seven black NASA professionals participated in this Youth Motivation Program as guests of the local government.

The purpose of the visit was to encourage high school and college students, especially those interested in math and science, to acquire the requisite education and work toward careers as scientists. The group also met with business, professional, government, and community leaders.

The program format consisted of talks by each team member telling of NASA's projects, professional duties at NASA, educational background, personal motivation, and personal difficulties encountered in their job experiences.

The team coordinator, Roscoe Monroe, Assistant Director, Equal Opportunity Programs for Research and Minority Community Relations, NASA Headquarters, stated that "Christine made one of the most important contributions to the program of the entire team." She was the only woman and related well with the young people. She was also the only representative from aeronautics and she gave a speech on NASA aeronautical research.

Christine stated that "the reception at all points was very warm and many of the students seemed geniunely interested in pursuing careers in science, engineering, and mathematics. They seemed glad to find out that there were indeed blacks and women involved in NASA programs. We received inquiries about the best schools to attend to prepare for certain types of engineering careers; NASA research activity on small aircraft; future plans to send man into space; the respect of women scientists in NASA; and how the present energy crisis would affect NASA programs.

"In many cases, because of the tight schedule, we had to cut the question period. In our talks, we tried to stress the benefits that everyone, especially residents of the Virgin Islands, had received from NASA research in the forms of communications, weather predictions, medical technology and other areas of technology."

Several members of the team, including its only female, were interviewed on local television and by local newspapers.

DANCE ENDS SOCIAL SEASON

The Activities Association will close its 1973 social season with the annual New Year's Eve Dance on Monday, December 31 at the Activities Building.

Music for the outstanding social event of the season will be furnished by the Sound Set from 9 p.m. until 1 a.m.

Tickets are $12 per couple and includes free set-ups, favors, and coffee and Danish rolls after the dance.

Only a limited number of tickets will be sold and they may be purchased at the Activities Building.

Happenings

THE COVER. . .Our thanks to Bob Nye, staff photographer, for designing and photographing the beautiful cover for this Christmas issue and also for his snow scene used as a background for the Director's message.

DIAPER LINE. . .Janet Edmondson, Manuscript Preparation, Management Support Division, and Russell Edmondson, Riggins and Williamson Company, are the proud parents of a daughter, Reva Lynn. She weighed in at nine pounds on November 29.

AFGE NOTICE. . .The NASA Lodge 2755, American Federation of Government Employees, will not meet this month. The next meeting will be held January 30.

CORRECTION NOTICE. . .The retirement party for Clyde D. Hall, Fabrication Division, will be held on Friday, January 11 at 6 p.m. at the West Cafeteria. The cost will be $5 per person or $9 per couple, including one dollar for the gift. For information or reservations, call Steve Horvath or Chuck Bryan, extension 2025.

SKI TRIPS. . .The NASA Ski Club has planned the following trips for January: January 9 - Bryce Mountain; January 16 - Massanutten; January 23 - Bryce Mountain; January 24 - Massanutten; and January 30 - Bryce Mountain. Cost for each trip will be $21 which includes lift tickets, transportation and rentals. The bus leaves Newmarket Shopping Center at 5 a.m., arrives at destination by 9 a.m., starts home at 5 p.m., arrives home by 9:30 p.m. Persons planning to go on the trips are requested to make checks payable to Richard Bennett and send them to him at MS 199. Be sure to include shoe size, height and weight on back of check. The group is also planning a week trip to Big Bromley Mountain for the last week in February. This trip includes 5 days of skiing, 2 hours of instruction each day, and all meals except lunch. For further information call Richard Bennett, 595-7456.

WINTER MEETING. . .The winter meeting of the LRC Historical and Archeological Society will be held January 7 at 7:30 p.m. in the Activities Building. The program will feature two very interesting speakers. J. Paul Hudson, Curator of the National Colonial Historical Park Museum at Jamestown, will speak on ''The Identification of Pottery from American Colonial Sites'' and Edward McManus, Conservator, Southside Historical Sites Foundation, will speak on ''Recent Conservation Techniques for Colonial Artifacts.'' The business meeting will follow the program and will include a report on the archeological excavation of the ''Moore'' site and a discussion of future plans. The meetings are open to the general public, so don't hesitate to bring your friends.

TV SHOW. . .Comet Kohoutek will be the subject of the talk show ''Conversation'' with Dona Smith on WVEC, Channel 13, December 30. Participants will include Gale A. Harvey, Environmental and Space Sciences Division, and Robert Hit, Director of the Chesapeake Planetarium.

VISITOR CENTER NOTE. . .According to the manager of the Visitor Center, end of the day routine involves turning out the lights and a casual glance over the names and comments in the guest register. The most heart-warming note in a long time was left recently by one of a group of former POW's who were in the area during the annual ''Defenders of Bataan'' convention. The day was considered a success when the comment ''Makes one proud to be an American'' was read.

key organizational positions

The following have been selected for the key organizational positions indicated:

Walter C. Hoggard - Reliability, Safety and Quality Assurance Officer, Design and Operations Safety Office, Office of Director for Systems Engineering and Operations.

Vincent R. Mascitti - Technical Assistant, Office of Director for Aeronautics.

TIRE REPAIR TIPS. . .Punctures in radial tires can be repaired only if they occur in the center area of the tread, between the two major outer grooves, and are less than one-fourth-inch in diameter. Tire experts say you should never try to repair a puncture in the shoulder or sidewall.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published biweekly in the interest of its employees. Address contributions to the Editor, Mail Stop 154, telephone 3116.

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Staff Photographer.....Bob Nye
Reporters.....Langley Employees

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.

swap and shop

(Articles advertised here must be offered for sale or as otherwise advertised without regard to race, color, religion, sex, or national origin.)

WANTED

Driving combination from Lynnhaven Dr. to E.A. on 8 shift. Armistead, 3805.

Alternate drivers from Lee School-Briarfield Rd. area to E.A. on 8 shift. Wright, 2573 or 826-5597.

FOUND

Umbrella across from Headquarters. Henk, 2326.

Lady's watch. Langley Researcher, 3116.

FOR RENT

3-bedroom, 1-1/2-bath furnished house in Beechmont - air conditioned. Vaughn, 596-4131.

FOR SALE

Sylvanian stereo, portable, solid state - $50. Mayo, 596-8054.

Dining room chandelier, 18-inch diameter, antique white and gold - $20. Miller, 599-4321.

Shampoo and buffer with 4 brushes, Sears Model 80 - $50 or best offer; Simmons hide-a-bed - $35 or best offer. Cooper, 877-3192.

1971 2hp Evinrude outboard motor - $100; 1968 Maytag automatic washing machine - $65. Kaylor, 642-5901 (Gloucester).

Maple chest and dresser - $30; chrome dinette table with leaf and 4 chairs - $25. Childs, 898-6719.

Green oval braided rug, 9 x 12 - $15. McGuire, 851-4287.

3-bedroom, 1-1/2-bath Denbigh Townhouse, air conditioned, all appliances, assume 7% loan ($190 per month) - will consider renting. Heyman, 693-4521 or 877-8572.

1-1/2-acre lot on 120-acre lake in Isle of Wight, paved streets, city water. Hansbrough, 826-8402.

1970 Ford 1/2-ton pick-up, 302 V8, air conditioned, 36-inch insulated camper top. Gowdey, 693-4113 (Gloucester).

1968 Ford Galaxie 500, air conditioned, power steering - $825. Puffenberger, 723-9304.

AKC registered white Toy Poodle puppies. Askew, 723-5582.

Pair of Lange pro ski boots, size 8-1/2. Langhans, 723-0836 after 5 p.m.

Aria 12-string guitar and lined case - $85; microscope with 3-lens turret, case, and accessories - $15. Rainey, 596-9402.

1972 4-door Pontiac Catalina, power accessories, new polysteel tires; also two 14-inch wheels with H-78 tires mounted, fits Chrysler products - $20. Williams, 826-0021 after 5 p.m.

1970 Coachman 11-foot truck camper, sleeps 6, self-contained - $2250. Todd, 898-5989.

1964 Pontiac Tempest LeMans, 326 engine, power accessories, air conditioned - $250. Arrington, 877-7235.

1964 Valiant, 4-door, automatic transmission, radio and heater, new fuel pump, locked gas cap, March inspection sticker - $450 cash. Huffman, 722-8401.

LIFE is easier than you think. All you have to do is accept the impossible, do without the indispensable, and bear the intolerable.

WHY is it that opportunities always look bigger going than coming?

TECHNOLOGY AWARD: Dr. John Duberg (left), Associate Director, presents cash awards for Tech Briefs to (from left) Chris Gross, James B. Robertson, Edwin F. Williams, and John B. Hall. NASA Tech Briefs are issued to encourage commercial application of new technology derived from the space program and are distributed nationwide.

Harleth Wiley Dies At Age 53

Harleth G. Wiley, Head of Vehicle Dynamics Section, High-Speed Aircraft Division, died December 2 in a local hospital.

A native of Crozet, Wiley entered on duty at the Center on July 1, 1943, after receiving his B.S. degree in Aeronautical Engineering from the University of Virginia. He served as a Naval officer from 1944 to 1946, after which he returned to Langley.

Since 1957 he has coordinated and directed the Langley experimental dynamic-stability research at transonic and supersonic speeds which made important contributions to both the aeronautics and space programs. During this time he supervised development of advanced dynamic-stability equipment which provided Langley with a unique capability in the high-speed regime.

Recently he was involved in the development of the Cryogenic High Reynolds Number Tunnel concept which has had an impact on the selection of the next major aeronautics facility. As a result of this work, he received two group achievement awards.

Survivors include his wife, Mrs. Paulette Wiley, a son, Paul, and a daughter, Catherine.

CALCULATORS AVAILABLE

The Activities Association will again be taking orders for pocket calculators. Orders for the Bowmar MX100, Unicom 2025R, Victor 225, Victor 224 and Victor 85 will be taken at the Activities Building until the close of business Jan. 25.

Orders must be accompanied by check for the single unit price. Refunds will be made upon final billing from manufacturer. Specification sheets for each type unit may be looked at in the Activities Building. Please do not call the bookkeeper for technical information. Discounts are based on the number of calculators sold.

FLIGHT OPERATIONS REVIEW: Pictured during a break in Viking Flight Operations Reviews at LRC are (from left) A. Thomas Young, VPO, Science Integration Manager; James S. Martin, VPO, Project Manager; and Henry W. Norris, JPL, Orbiter System Manager. The reviews are in preparation for Viking Flight Operations which will take place in 1975 and 1976, including landing operations in the summer and fall of 1976, when two Viking Landers will be on the surface of the planet and two orbiters will be observing from orbit. On Nov. 14, the Flight Operations Status Review was held to discuss how the many elements of the flight team will work together. On Nov. 15, the Science Analysis and Evaluation Directorate Review took place to review the procedures by which the Viking scientists participate in the conduct of the mission so as to obtain optimum scientific results during the exploration of the red planet.

TNCC COURSES ANNOUNCED

Classes to be offered by LRC during the winter quarter at Thomas Nelson Community College as part of the Upward Mobility Program are as follows: BUAD 164, Principles of Business Management I; English 102, Communication Skills II; SPDR 136, Oral Communications; Psychology 128, Human Relations; and Math 152, Introduction to Business Mathematics II.

All of these classes offer 3 quarter hours of credit for each course and all except Math 152 will meet at the Center during duty hours. Math 152 meets at the college from 4 to 7 p.m.

In addition to the classes listed, intermediate and advanced shorthand will be offered, neither of which will carry college credit.

If you have questions concerning these courses, contact Eloise McGehee, extension 2838.

Two courses which will be taught by TNCC instructors but which will be non-credit are Human Relations and Advanced Human Relations. These courses are not part of the Upward Mobility Program. For information contact your division training coordinator or call Mary Lemke, extension 2567.

All the classes listed will being the week of January 7 and end on or before March 18.

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THERE is no better exercise for strengthening the heart than reaching down and lifting people up.

QUESTIONS AND ANSWERS

Q. What is the policy at LRC in regards to taking four hours blood-leave on the day of the Bloodmobile visit? Some sections take this leave freely, without any repercussions from management. Other sections are told that they can take it only if they are feeling sick after giving blood.

A. Employees who donate blood to American Red Cross Bloodmobiles at the Center, or in emergencies as authorized by the Occupational Health Services Section, will be excused without charge to leave for up to four hours per donation. This four -hour period includes the time spent at the Bloodmobile and is consecutive time off. If more than four hours is required for recuperation, additional leave may be requested from the Personnel Officer by using Langley Form 54. Center policy is to encourage and support the participation of our employees in this worthwhile project; therefore, supervisors should permit their employees the benefit of the full four hours if the employee desires to take it. This policy will be reflected in the revised LMI 3600.1, which will be issued early next year.

Q. If LRC can afford to spend $250,000 over a 3-year period for physical examinations for employees, why couldn't a comparable figure be spent to build a new Activities Building so as to provide employees adequate facilities for maintaining good physical condition? This is in light of the proposed rehabilitation of Building 1222 as outlined in facility project-brief project document T75 2305 RM1, dated June 1973.

A. During the past several years, the official position of the Government, according to an Administrative official, has been to encourage agencies to provide for the physical well being of staff members in a manner similar to programs available in industry. This new position did not, however, permit a relaxation of the policies and regulations with respect to the construction of new facilities, as this question suggests.

Langley has elected to expand its effort in the area of occupational health and has extended the physical examination program to include all staff members wishing to participate. Should the situation change further in the future so that funds can be obtained for special facilities to promote physical conditioning programs, LRC will certainly pursue the matter.

In the meantime, the Activities Association continues to expand outdoor recreational facilities at the Center and encourages participation by all staff members. The proposed rehabilitation of the Activities Building is designed to make the facility more versatile for both employee recreation and for official functions.

UNDERGRADUATE COURSES

Two undergraduate engineering courses will be offered in the local area by Old Dominion University during the winter semester which begins January 9.

Engineering 431, Energy Conversion, will be taught at the Center by Dr. Duren N. Tiwari on Mondays and Wednesdays from 9:30 to 10:45 a.m.

Engineering 408, Applied Numerical Methods, will be taught at VARC by Dr. Harold O. Ladd on Tuesdays and Thursdays from 5:15 to 6:30 p.m.

For course descriptions and application forms call the Training Branch, extension 2517.

Personnel Profiles

By

Allan C. Hanrahan

(Editor's Note: From time to time this column will feature staff members who were nominated for the Langley Research Center Outstanding Volunteer Award. As has been announced previously, the award was won by T. Melvin Butler, Director for Center Development and External Affairs.)

Some weeks ago there appeared in the New Dominion magazine section of the Newport News Sunday Daily Press an article written by the editor of that publication, Howard Goshorn.

The article was about the Hopesville Ranch for boys, located in Gloucester County, and as is so very, very often the case in endeavors of this nature a Center employee can be found performing yeoman service behind the scenes in a volunteer capacity.

In this instance it is Ivan E. Beckwith, Head of the Gas Dynamics Section of the Hypersonic Vehicles Division and a Center employee since 1948.

Beckwith, according to the person who nominated him for the Langley Research Center Outstanding Volunteer Service Award, "became involved in this effort to provide a home and guidance for young boys in trouble because of Christian commitment to do something about crime prevention."

Beckwith has been a member of the Board of Directors of Hopesville Ranch since 1969 as Finance Chairman, Vice President, or Treasurer on a completely volunteer basis. During the early years of 1969-1971, Beckwith, along with other board members, spent considerable volunteer time working on the new building and on various other projects to improve the outbuildings and grounds.

In 1971 Beckwith served as chairman for a fund raising campaign in addition to designing and writing the campaign brochure. Enough campaign contributions were obtained to complete the main building, valued at $67,000. The capacity of the Ranch is now sixteen boys.

Ivan and his wife, Irene, have four boys of their own: David, age 25; Douglas, age 22; Darel, age 14; and Scott, age 10. In addition, they have two daughters: Dounia, age 21; and Lorrie, age 12.

Beckwith is a fifty-one year-old native of Valentine, Nebraska, and spent his early childhood there but he finished high school in Iowa. Not long after graduating from the University of Iowa he entered the Army Air Corps and served as a navigator aboard a B-17. Shot down over Yugoslavia, he subsequently spent thirteen months in a German prison camp.

In the not-so-distant past, Beckwith flew air planes but they were of the radio-controlled model variety. And in the past he also used to do quite a bit of vegetable gardening but we got the impression - during a pleasant chat - that his work and the Boys Ranch now take up most of his time.

Ivan and his wife are quite active in the Bethlehem United Methodist Church of Bena and from what we have learned of Ivan Beckwith we feel safe in stating that he practices Christianity not only on Sunday but the other six days of the week as well.

COURSE FOR WOMEN OFFERED

A 3-day course entitled "Creative Career Development for Women" will be offered at the Center January 23-25, 1974.

The course is based on insights developed by management consultants and counselors, emphasizing the need for self development to increase present effectiveness and future worth.

Each participant will review her history to assess her strengths. Using this increased self-knowledge, she will develop plans for on-the-job improvement. There will be discussion and guidance on building a work and life style that increases present effectiveness as a member of a team.

Part of the time will be set aside to discuss areas of special concern identified by the participants. There will be course work to complete outside of class. Participants must be willing to complete these assignments, since they are an integral part of the program.

Registration for this course will be done through division training coordinators. For further information about the course, call Eloise McGehee, Training and Education Services Branch, Personnel Division, Ext. 2838.

DOG TRAINING CLUB NEWS

Approximately 75 persons attended the charter membership night of the NASA Dog Training Club, heard Mrs. Elenoa Tinetti speak on obedience from the dog's point of view, and witnessed basic obedience demonstrations by Sebastian (toy Dachshund), Caesar (St. Bernard), and Dame (6 mo. Doberman Pinscher). Reynold Tinetti demonstrated leash training and stand-sit-down exercises, using a 3-1/2-month-old Laborador Retriever puppy.

The first kindergarten Puppy Training (KPT) class started Dec. 5. The class will meet weekly at Bowditch Ford, Warwick Boulevard, until the Activities Building is available. Other obedience classes will start sometime in January.

Mrs. Tinetti is planning to conduct an instructors and instructors assistants course immediately after the KPT class on Wednesday nights. Persons interested in participating or receiving information on the classes are requested to contact Doris Bryan, Ext. 3921.

CAN YOU SOLVE THIS PROBLEM?

Bronchofiberscope provides a unique means of visually inspecting and sampling the interior surfaces of the stomach, colon, and bronchial tubes. A method is needed to keep the sampling channel sealed until it is desired to take a sputum sample. Refer to UNC-79. Contact the Technology Utilization Office, extension 3281, for the complete problem statement or if you have a potential solution.

REGISTRATION REMINDER: Interested staff members are reminded that registration for George Washington University graduate courses will be held Thursday, Jan. 3 from 9 a.m. to 12 noon in Building 586. Registration for Old Dominion University graduate courses in engineering will be held on Thursday, January 3 from 3 to 6 p.m. at VARC.

8 CYLINDERS FOR SALE: See them on the Credit Union lot. Four in 1973 Vega 2-door Hatchback (8,308 miles) with automatic transmission, radio; and four in 1973 Pinto 3-door Runabout (17,926 miles) with front disc brakes, rear window defroster, vinyl sun-roof, and radio. Both below Blue Book at $2320 each. LFCU will finance for eligible purchaser. Climb aboard the small car boom the easy way!

ACHIEVEMENT AWARD: Charles E. Martin (second from left) recently received a Special Achievement Award for his superior performance ''over an extended period and his engineering leadership in the design, modifications, and alterations of mechanical systems in research and institutional facilities.'' Participating in the presentation are J. A. Zitzelberger, Head, Construction Engineering Branch; C. E. Horne, Head, Electrical and Mechanical Systems Section; R. E. Johnson, Assistant Chief of Plant Engineering; and B. C. Carr, Chief of Plant Engineering.

GOOD GUY AWARDS: The Activities Association's first Good Guy Awards for outstanding support of Carnival 73 were presented to Oran W. Nicks (top photo), Deputy Director, and Howard B. Edwards (bottom photo), Chief of Instrument Research Division, by Herb Boulter, Association President. Nicks and Edwards responded to the Association's challenge to division chiefs and above to get dunked in the baseball throw pool at the Carnival. Their performances were real highlights of the Carnival.