Save the evening of Tuesday, February 3, for the Credit Union Annual Meeting. As in the past, business will be combined with pleasure - but with a difference. No movie this year. This year “the play will be the thing.” The place is the Newport News High School Auditorium.

The Credit Union has arranged with the Peninsula Community Theater for a presentation of the stage play “Dark of the Moon.” This play has nothing to do with the Apollo space program, even though the title may convey to some that impression. Rather, it is a serious drama and Credit Union members and their guests will be privileged to view a first nighter performance of the play. It will be presented to the patrons of the Peninsula Community Theater on subsequent evenings of the same week.

As in the past, the program will start at 7:30 p.m. with a business session. Robert L. Girouard, President of the Langley Federal Credit Union, and other officers will report to members on the status of our business enterprise.

Ours is a $9 million plus federal credit union - the second largest in Virginia. With continued growth has come expanded responsibilities on the officers, staff, and members. The annual meeting is the ideal time for members to critically “eye-ball” the operation.

The Credit Union plans Annual Meeting February 3

NEW INCOME TAX WITHHOLDING RATES EFFECTIVE DECEMBER 30

The Tax Reform Act of 1969, Public Law 91-172, became law on December 30. This reduces the income tax surcharge from 10 per cent to 5 per cent and introduces a new low-income allowance.

The Internal Revenue Service has supplied the Center with revised rates and tables for withholding income tax from wages paid on and after January 1. This reduced withholding will be reflected in pay checks employees receive on Jan. 19. The Employees Statement of Earnings and Deductions furnished each employee on payday will show the new withholding amount.

The percentage method of income tax withholding will be used, and the amount of $23 as the biweekly amount of one withholding exemption.

The steps in computing the income tax to be withheld under the percentage method are as follows:

1. Multiply the amount of one withholding exemption by the number of exemptions claimed by the employee; subtract the amount thus determined from the employee's wages;
2. Determine amount to be withheld from the following table.

Table - Biweekly Payroll Period

<table>
<thead>
<tr>
<th>Amount of wages</th>
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</tr>
</thead>
<tbody>
<tr>
<td>$42</td>
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<tr>
<td>$42-$65</td>
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</tr>
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</table>

ACTIVITIES ASSOCIATION OPENS SEASON WITH TWO BIG EVENTS

The Activities Association is making plans to open the 1970 social season with a bang. Two big events have been scheduled for starters - a NASA Rock Festival and a Valentine Dance.

The NASA Rock Festival will be held at the Activities Building on Sunday, January 25 from 2 p.m. until 8 p.m. Featured will be The 5 O’clock Shadows and at least one and possibly two other groups. Admission will be one dollar per person and tickets will be on sale at the door.

The Valentine Dance will be held at the Activities Building on Saturday, February 14, from 9 p.m. until 1 a.m. Music will be furnished by Jap Curry and The Blazes. Admission will be three dollars per couple not including set-ups. Advance tickets will go on sale at the Activities Building on Wednesday, January 14. Reservations may be made only with a ticket purchase. Sales will be on a first come basis.

APOLLO 13 CREW: On hand to watch the Apollo 13 space vehicle as it was moved to Pad A at Launch Complex 39 were (from left): Astronauts Thomas K. Mattingly II, command module pilot; Fred W. Haise Jr., lunar module pilot, and James A. Lovell Jr., commander. The nation’s third lunar landing mission is scheduled for launch March 12.
ANNOUNCEMENTS

ENGAGED...Making plans to desert the bachelor ranks is Samuel E. Harper, Fabrication Division. He is engaged to Eleanor V. Woodmansee, Hampton, and plans call for a June wedding.

NEW TAX DEDUCTIONS...Arriving just in time to meet the income tax deadline was eight-pound, three-ounce Elizabeth Ann, daughter of John Witherspoon, Personnel Division. The young lady was born on December 30. Weighing in at four pounds, fourteen ounces on December 19 was Shaun Barnes, new daughter of Walter Long, Flight Instrumentation Division. Celebrating the birth of a nine-pound, three-ounce Elizabeth Buchan (center) shows her gag gift to John Witherspoon and Linda Sutherland. Stuck with the chore of cleaning up the mess (right photo) are Helen Wheary and Dianne Mason.

ENEMY OF THE WEEK. The following menu will be served in the cafeterias during the week of January 12:

Monday - Puree of bean soup, braised beef tips, baked salmon loaf, chicken-fried beef steakette, cheese omelette.
Snack bar - Soup, barbecued, hot pastrami, French fries.
Tuesday - Cream of mushroom soup, baked Smithfield ham, breaded veal cutlet, chicken chop suey, chili con carne.
Snack bar - Soup, hamburgers, veal cutlet.
Wednesday - Vegetable beef soup, Swiss steak, stuffed shrimp, smoked sausage, pork loaf.
Snack bar - Soup, ham and egg sandwich, sliced barbecue, German potato cakes.
Thursday - Chicken-vegetable beef soup, beef stroganoff, smoked ham, fried chicken, franks and beans.
Snack bar - Soup, hot dogs, baked ham, corn fritters.
Friday - Cream of tomato soup, Spanish pot roast, seafood Newburg, fish crisps, grilled cheese.
Snack bar - Soup, grilled cheese, hot roast beef, French fries.
The menu for the week of January 19 is as follows:
Monday - Cream of potato soup, roast pork, stuffed flounder, Salisbury steak, baked hash.
Snack bar - Soup, sea dog, flying saucer, French fries.
Tuesday - Split green pea soup, baked ham, chuckwagon steak, chicken chop mein, chili-mac.
Snack bar - Soup, devilled ham, chuckwagon steak, French fries.
Wednesday - Vegetable-beef soup, rib eye steak, chicken pie, spaghetti and meat sauce, fish cakes.
Snack bar - Soup, hamburgers, steak sandwich, French fries.
Thursday - Cream of tomato soup, baked stuffed pork chop, beef liver, knockwurst, tamale pie.
Snack bar - Soup, hot dogs, Lou's satellite special, German potato cakes.
Friday - Manhattan clam chowder, hot roast beef sandwich, halibut steak, beef stew, Spanish omelette.
Snack bar - Soup, fish sandwich, hot roast beef, French fries.

FOR SALE: Oak flooring, 224 board feet - 2-1/4 inches wide by 2 feet long (Random), select white - $35. Grafton, 809-804 after 5:30.

FOR SALE: 1966 Opel Kadett sport coupe. Copeland, 595-5094 after 5 p.m.
UNDERGRADUATE COURSES OFFERED

Arrangements have been completed with the Directors of Extensions from the College of William and Mary and Old Dominion University to offer courses for the spring semester provided a sufficient number of students enroll.

Old Dominion is offering 207 Mechanics III (Dynamics) - The course will cover a vector approach to kinematics and to the kinetics of particles and rigid bodies by way of Newton's Laws. Dr. Breedlove will teach the course in Building 1149 from 3:30 to 6:30 p.m. The day the class will meet will be announced later.

The following William and Mary courses are being offered:

Math 201 - Calculus with Analytic Geometry - 48 hours. Inequalities, absolute values and analytic through conics will be covered. Included will be sets, ordered pairs and functions leading to limits and derivatives of algebraic and transcendental functions including application to maxima, minima, plane motion, and Law of the Mean Value. The class will meet in Building 1149, Room 201, on Mondays from 4:30 to 7:30 p.m. William Turner will be the instructor.

Math 202 - Calculus with Analytic Geometry - 48 hours. The definite integral and the Fundamental Theorem of Integral Calculus and their applications to areas, volumes, work, first moments, and centroids including improper integrals and solids of revolution will be covered. Technique of integration, parametric equations, polar coordinates, and vectors will also be discussed. The course will be taught by Luther Conner on Mondays from 4:30 to 7:30 p.m.

Math 410 - Vector Analysis - 48 hours. Topics from the algebra and calculus of vectors including addition and products of vectors, derivatives of vector functions, divergence and curl, integrals of vector functions will be covered. The class will meet on Wednesdays from 4:30 to 7:30 p.m. in Building 1149, Room 201.

Application forms may be obtained from the Training Office, extension 2611.

TECHNOLOGY UTILIZATION NEWS

Much has been said recently about the high cost of our space program to taxpayers but little has been said of its great value to our nation.

As we enter a new decade of challenge and achievements in space and science, we should observe the price and value aspects involved in their true perspective.

NASA's $4 billion annual budget is actually "peanuts," since it amounts to less than 1/2 percent of our Gross National Product (GNP). Government expenditure for the military is $80 billion and $60 billion for welfare and charity. Our fellow citizens spend, for example, $30 billion for automobiles, $20 billion for gasoline, $4.7 billion on foreign travel, over $6.5 billion in amusements, and nearly $4 billion for non-durable toys and throw-away sports supplies. Veterinarian bills for pets amount to some $6 billion per year, and women spend close to $10 billion for hairdressing and cosmetics. Alcoholic beverages and tobacco products amount to astronomical sums, the alcohol tax revenue alone is equal to NASA's budget.

The space program, in addition, uses only about 3 per cent of our national pool of scientists and engineers and we have only begun to reap the benefits in higher living standards through improved science and technology. Satellites are providing live TV broadcasts from around the world. Marked gains in weather forecasting are being made because of worldwide satellite observations. The potential economic impact of improved long-range forecasting is enormous in agriculture, forestry, fishing, commerce, transportation, and other fields. The Russians, with less than half of our GNP, are spending more for their space program because they realize that it is an essential investment to gain military superiority and world prestige as well as improved living standards.

NASA's new technology developed in the space program constitutes a major and expanding natural resource. Its effective use will broaden and strengthen the nation's technological base, increase the rate of economic growth, improve the quality of life and help fill unmet human and community needs.

SPECIAL AWARDS: Special Achievement Awards were recently presented to four staff members. Herbert E. Boulter (left), Instrument Research Division, was cited "for his outstanding work in the successful development of a neutron technique using the 10 MeV Linac at the Space Radiation Effects Laboratory as a photoneutron source." Daniel I. Sebacher (center), Aero-Physics Division, received his award "for pioneering work in the experimental measurement and analysis of internal energy modes of high energy hypersonic flows using electron beam apparatus and spectrographic techniques." Robert B. Askew (right), Research Support Division, was honored "for his ingenious and diligent work on the high-speed ground transportation test programs at the 7- by 10-foot tunnels and the landing loads track facility, and for his superior performance and leadership which were key factors in permitting the force measurement test program to be successfully completed on schedule." K. James Weilmuenster (not pictured), Aero-Physics, was cited "for superior performance and inventive development of an electromagnetically opened ternary diaphragm for the expansion tunnel."

Can You Solve This Problem?

Better instrumentation for the investigation of flame chemistry is needed by the National Air Pollution Control Administration. The instruments should be capable of measuring the flame content in situ. Extracted samples do not have the same chemical characteristics (e.g. no free radicals, etc.) as in situ flame content. A knowledge of the chain reactions involved and the free radicals produced can suggest a point of attack on the combustion process. Refer to AP-29. Contact the Technology Utilization Office, extension 3281, for the problem abstract or if you have a contribution.

WANTED: Fifth driver from Beechwood to W.A. on 8 shift. Cavelli, 3571.

1969 -- YEAR OF APOLLO

It was 1969, . . .
. . . the year of the Apollo Moon landings, the year of close-up studies of Mars and, closer to home, a year when communications satellites, space weather observation and scientific examination of the Earth's environment from orbit continued with increasing sophistication.

Following the Apollo 9 and 10 readiness missions, the first lunar landing mission was launched July 16 and man set foot on another celestial body for the first time four days later.

"That's one small step for a man, one giant leap for mankind" were the words of Apollo 11 Commander Neil A. Armstrong as he swung down from the Lunar Module to the dusty Sea of Tranquility at 10:56 p.m. EDT July 20.

Exactly four months later Apollo 12 Commander Charles "Pete" Conrad led a second two-man exploration team to the Moon, this time in the Ocean of Storms.

The era of manned exploration of other planets has begun-- bringing to fruition the ten-year effort of the government-industry-university complex in which 400,000 Americans had brought about the first major milestone in unlocking the secrets of the universe.

Two unmanned spacecraft, Mariners 6 and 7, flew by Mars in July and August revealing it to be different than - rather than resembling - either the Moon or Earth.

Results of the flyby in which 200 photos of Mars were taken confirmed earlier data received from Mariner 4 in 1964 that there are numerous craters and the atmosphere is roughly equivalent to that of Earth at about 100,000 feet altitude.

But the unprecedented clarity of the new pictures showed numerous craters including one about 300 miles in diameter as well as one vast stretch of over 1,200 miles with almost no craters. The only identifiable cloud was a very thin streak hanging 20 to 30 miles off the edge of the planet.

Ice cap temperatures were measured to be very similar to that of dry ice although one experimenter believes there may be water ice at the edge of the cap.

MICROSCOPE TECHNIQUE: A Langley-developed microscope technique that permits time-lapse photographs of cell division mechanisms shows a view of two mouse cancer cells connected by an intercellular bridge. The bridge between the bottom pair of cells has been broken by a micromanipulator probe for experimental purposes.

APOLLO SUPPORT: The four astronauts who landed on the moon in two Apollo missions in 1969 trained prior to their historic flights on the Lunar Landing Research Facility. This is one of Langley's many simulators for duplicating some of the conditions of space for research in support of manned space flight. A Langley pilot is shown practicing a landing.

In the meteorological satellite area, Nimbus 3 was placed in polar orbit. Shortly after launch, it was apparent that not only the cloud cover photos being returned were of excellent quality, but a new step forward in meteorology had been taken. A weather bureau official called it a breakthrough as significant to meteorology as the launch of the first satellite.

He referred to the vertical temperature measurements, air pressure, vapor content and wind speeds taken at numerous locations around the world on a daily basis.

NASA also launched a regular meteorological operational satellite for ESSA, ESSA 9, in February, and four communications satellites were launched for Communications Satellite Corp. One of the four, INTELSAT III F-5 failed to achieve orbit because of a launch vehicle malfunction.

Two more Orbiting Solar Observatories, OSO's 5 and 6, were launched by NASA during the year to continue the study of the Sun and another Interplanetary Monitoring Platform, IMP-G, and an Orbiting Geophysical Observatory, OGO-6, were launched to study the medium near Earth and out to more than 100,000 miles in space.

Other launches for outside organizations included an ionospheric sounding satellite, ISIS 1; ESROI-B and German Research Satellite-A, both scientific satellites, and a communications satellite, Hydnet-A, for the British Ministry of Defense.

Another important flight during the year was Biosatellite 3. This was the first mission involving a primate and though it was aborted far short of its scheduled flight of one month, results from the flight were important.

New knowledge about the structure and behavior of cancer cells was a surprise 1969 research dividend. Researchers at the Langley Research Center developed a microscope technique that permitted time-lapse photographs of cell division mechanisms in healthy and cancerous tissues.

The goal was to get data on how space radiation might affect cellular growth. What they discovered and recorded was that cancer cells split, but remain connected by thin, stretchy...
WING CONCEPT: This airplane model provides a revealing view of the NASA supercritical wing, a Langley concept which has the potential for enhancing both the cruise performance and the operational economics of subsonic jet airliners. A full-scale version of the new wing currently is being mounted on a modified jet fighter and will undergo flight tests.

linkages and that one cancer cell could cause connected cells to divide in sequence by sending a sort of chain reaction-stimulus through the linkages.

In aeronautical research, the promising NASA supercritical wing concept moved from hand-crafted, wind tunnel refinements into preparation for full scale flight tests. The concept, also originating at Langley, has stirred unusual interest because of its potential for enhancing both the cruise performance and the operational economics of subsonic jet airliners. Flight tests will be made with such a wing mounted on a modified jet fighter acquired by NASA from the U.S. Navy.

Double success twice rewarded NASA's efforts in tracking and data acquisition in 1969, with the successful lunar landing flights of Apollo 11 and 12, and the two Mariners flying close to Mars.

The Manned Space Network performed virtually without flaw in maintaining contact on two flights, with two Apollo spacecraft at once -- the Lunar Module stationed on the Moon, the Command Module continuing in lunar orbit. The 85-foot antennas of the major stations at Goldstone, Calif.; Canberra, Australia, and Madrid, Spain, used main and wing, or backup, antennas to carry out this long-range double-track task. In addition, with 210-foot antennas at Goldstone and Parkes, Australia, they provided live television direct from the Moon to an audience estimated, for Apollo 11, in the hundreds of millions of persons over many modern nations.

The Mars feat attracted the interest of astronomers because the cameras of Mariners 6 and 7 returned 200 high quality photos of the planet in a period of some 12 hours -- a gross gain from the technology possible with Mariner 4, in 1965, when 22 Mars pictures were transmitted in 175 hours. Last July 31 and August 5 Mariner 6 and 7 passed within 2,000 miles of Mars to scan two different faces of the planet, and transmitted photo and other data to Earth over a distance of 60 million miles.

GOOD SCOUT: NASA lists 22 major launches in which the agency was involved during the past year. Two of the successes were propelled into space by the Langley-managed Scout, including the ESRO 1-B polar ionosphere experiment and the GRS-1 energetic particles test. Both flights took place in October at the Western Test Range, California.

NASA's international program broke new ground in 1969 with an agreement with India for use of a synchronous communications satellite to broadcast TV directly into 5,000 Indian villages for such program objectives as population control and agriculture improvement. The year also saw the successful launching of three scientific satellites in cooperative programs with Canada, Germany and the European Space Research Organization (ESRO).

More than 50 foreign countries continued to obtain daily meteorological data directly from NASA and ESSA weather satellites by means of inexpensive automatic picture transmission (APT) ground receiving stations. The cloud-cover photographs received contributed widely to improved weather forecasting and storm advisories.

NASA continued to transfer to industry, small business and the scientific community the new technology coming out of space-related research and development activity. Most of this technology comes from NASA field centers where specialists review research and development projects for promising new ideas. NASA contractors, also, are required to report inventions, discoveries, innovations and improved techniques they develop in work for NASA.

(In a listing of 22 major launches involving NASA, two of the year's successes included the Scout, which propelled into space the ESRO 1-B polar ionosphere experiment and the GRS-1 energetic particles test. Both were from the Western Test Range, California, in October.)

NOTE: This news release issued by NASA Headquarters included some of the highlights of this nation's aeronautical and space activities as the decade of the Sixties came to a close.
EMPLOYEES RECEIVE AWARD
Sixteen staff members, pictured at left, recently received cash awards for suggestions under the Incentive Awards Program.

The recipients and their suggestions are as follows:

Sidney L. Powell, Fabrication - $35 for a suggestion relative to modifying a micrometer head for controlling the size of a thermocouple bead when welded by a Dynitech Welder.

Gene A. Wagner, Research Support - $50 for the design and implementation of a model support system safety circuit for the 20-Inch Hypersonic Tunnel.

John Fryer, Research Support - $75 for the development of a better technique for using Kodak Type 101-01 short-wave radiation 35 mm film in research performed by the Leybold-Heraeus Grazing Incidence Vacuum Spectrometer.

Charles A. Rogers, Research Support - $35 for installing spring loaded limit switches to improve the safety and the operating procedure of the hydraulic actuator over-travel circuit in the astrodynamics fatigue-test vacuum chambers.

I. Quinby Collier, Research Support - $30 for developing a method for aligning brackets and gage blocks which will provide more accurate alignment for mounting specimens for fatigue study in the Center's Dynamics Research Laboratory.

Charles R. Lane, Procurement - $25 for suggesting the use of a Purchase Request to cover a Fiscal Year's business on specified items thus resulting in a more economical procurement procedure and eliminating the preparation of individual Purchase Requests for these items.

Robert A. Baals, Research Support - $125 for the development of a more economical method for making more versatile hot wire probes.

Albert L. Foley, Research Support - $35 for the development of a more efficient method for resurfacing air bearing plastic floors.

Virginia M. Finch, Full-Scale Research - $70 for suggesting the use of lightweight aluminum strips on 8130 Printers which will allow the paper to fold properly without the manual assistance of an operator.

M. Patricia Turgeon, Procurement - $40 for developing a better method for soliciting a proposal on a sole source basis which will result in both manpower and material savings.

James E. Wade, Research Support - $15 for suggesting the use of copper pipe in Building 1251 to replace the rubber inset hose in oil drums in order to decrease spillage and perform a more efficient job.

Ramon P. Barr, Research Support - $170 for the development of a technique for cleaning pressure transducers installed in wind-tunnel models and survey rakes without having to remove the model from the tunnel.

George O. Brooks, Research Support - $25 for suggesting the placing of plywood or wood blocks under safes to prevent sweating and seepage of stripping fluid which rust the tile floors.

Betty R. Clem, Aero-Physics - $15 for suggesting the use of printed envelopes for delivery of Time and Attendance Reports to payroll clerks and for returning Statements of Earnings and Deductions to appropriate organizational units.

George W. Baber, Research Support - $45 for the design of a mounting fixture which will provide an accurate and repeatable means of attaching platinum strain gages to test specimens.

HOLIDAY FEAST: Members of the Space Environment Branch and Chemistry and Physics Branch, AMPD, got together during the holiday for a Christmas smorgasbord. Janice Grow (top left) cuts the cake while Larry Brumfield and Walter Bressette (top right) grab a chicken leg. Also enjoying the goodies are Kathleen Jones and Warren Kelliher (lower left). Greeting the guests (lower right) are Nell Cuinn, Dr. George Pezdzirtz, Norman Mayer, NASA Headquarters and Janice Grow.

GROUP INSURANCE CHANGES
The U.S. Civil Service Commission has approved the following changes in premium groups for optional insurance, effective with the first pay period in April 1970

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There will be no January increase in premiums for employees who reached age 35 or 55 in 1969.

There will be a Federal Employees Group Life Insurance Open Season during the month of March 1970 during which employees will have an opportunity to obtain regular insurance coverage as well as the additional optional insurance.

FOR SALE: Snow tires on wheels for Chevrolet, 7.75 x 14 - $12.50 each. Childs, 898-6719.

FOR SALE: 1964 Chevrolet, 4-door hardtop, power steering, V-8 - $795. Wilson, 851-3125.

FOR SALE: 2 table lamps, 2 walnut step tables with lamp table to match, tables with formica tops 35 inches x 5 feet, new linen window shades, blackboard, old bottles. Barricklow, 596-5108.

Walter P. Kabana, Fabrication - $325 for the development of a new method of producing true butt welds on very fine gage thermocouple wire.
TAX WITHHOLDING RATES

Continued from page 1)

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(b) Married Person

If the amount of wages is:

Not over $42 .......... 0

Over - But not over

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<td>$354</td>
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<td>$692-$846</td>
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RESEARCHER HAS CAMERA AVAILABLE ON LOAN BASIS TO CENTER GROUPS

The New Year's Eve Dance pictures shown above were taken by Bob Nye, Staff Photographer, with a new Polaroid camera which Langley Researcher has purchased for the use of staff members.

The camera will be issued on a loan basis. Divisions, sections, or groups planning social, athletic, or other type functions and who wish photographic coverage in Langley Researcher, may borrow the camera for this purpose. Film packs and flash bulbs will also be furnished.

The camera will be maintained by Nye who will give each potential cameraman brief instructions on the use of the equipment.

Scheduling for use of the camera may be made by calling Ruth Verell, Langley Researcher, extension 3116.

WANTED: Men to sing in organized barbershop chorus and quartets. Tennis, 3989 or 722-8302 or 723-7528.

FOR SALE: 2 bunk-type mattresses, 39 inches wide x 74 inches long x 5 inches thick - $10 each; Harvard single bed frame - $4; weight-lifting set - $9. Malley, 877-2994.

FOR SALE: 1965 Mercury, 4-door sedan, air conditioned, powered accessories. Price, 877-7912.

WANTED: Home for German Shepherd. Shuster, 868-6575.


FOR SALE: 2 Firestone 6.50 x 13 snow tires. Belchner, 838-1360

A Space Systems Research Division under the Assistant Director (Group 2) has been established at the Center. Eugene S. Love has been named division chief. Axel T. Mattson is assistant division chief and Richard H. Weinstein is technical assistant. The group will be located in Unitary Wind Tunnel Building.

This new research division was created to provide a continuing focus for Langley research and technology support of two major systems developments planned for the 1970's: the space station/base and the space shuttle.

In addition to its specific research and study tasks, the Space Systems Research Division will assume a Centerwide coordination function for the space shuttle and space station activities.

Groups and individuals assigned to this division were announced in a Langley Research Center Announcement (green sheet).

(Continued on page 7)

Dr. Richard T. Whitcomb, head of the 8-Foot Tunnels Branch, Full Scale Research Division, has been selected by the American Institute of Aeronautics and Astronautics to receive the AIAA Sylvanus Albert Reed Award for 1969.

The award is presented annually for "a notable contribution to aeronautical engineering design or the aeronautical sciences resulting from experimental or theoretical investigations which...

(Continued on page 3)

OFFICIALS VISIT CENTER: Dr. George M. Low, who was recently appointed NASA Deputy Administrator, and Dr. Homer E. Newell, NASA Associate Administrator, visited the Center January 8 to inspect a number of research facilities. At several locations throughout the Center, key personnel presented information on some of the significant highlights of research in progress. The presentations were tailored to show awareness of the emerging national goals in aeronautics and space and how the Center's work relates to these goals. Emphasis was placed on the Center's expanded aeronautics program, the development of space station/base, the development of economical transportation for this base and the automated and manned exploration of Mars. The program included a tour of the Experimental Machine Shop (left photo). Viewing examples of new fabrication techniques are (from left): Percy Crain, Chief of Engineering and Technical Services; Dr. John E. Duberg, Langley Associate Director; Dr. Low, and Dr. Newell. At right Lenwood Clark, Space Systems Research Division, explains a life support demonstration to Pete Korycinski, Office of the Director; Charles Shufflebarger, SSRD; Bob Kirby, Office of Assistant Director (Group 2); Bill Gardner, SSRD; Dr. Newell; Edgar M. Cortright, Langley Director; Dr. Duberg, and Dr. Low. Both Low and Newell were impressed with the presentations. In a letter to Cortright, Low expressed his appreciation to Langley for making his visit "most worthwhile." He added, "I was most impressed by the variety of technical subjects that were presented and by the apparent depth that was demonstrated in each area. But even more impressive was the fact that the work appeared to be well focused and that good reasons existed for each piece of work."
HAPPENINGS

"SOME THOUGHTS FOR 1970"... Because of the expressed interest of many employees in the Director's message to Langley supervisors entitled "Some Thoughts for 1970," copies of this document are available from Reproduction Section, extension 3383.

SILVERSTEIN THANKS STAFF... E. M. Cortright, Director, recently received a message from Dr. Abe Silverstein, who retired from the position of Director of Lewis Research Center, in which he expressed sincere appreciation to all who attended retirement parties given for him at Cleveland and Washington, D.C., as well as to all members of the staff for the special gifts which were presented in the name of the Langley staff. Dr. Silverstein also commented on the wonderful cooperation which was expressed so generously over the years by Langley personnel in carrying out efforts of common interest to Langley and Lewis.

ARTS AND CRAFTS EXHIBIT... It has been suggested that the Activities Association sponsor an Arts and Crafts Exhibit consisting of paintings, sculpture, and crafts. Persons qualified in this field who would be willing to help with such an exhibit are asked to contact Sybil Coleman, 3313.

FLYING CLUB... Persons interested in forming a flying club of 15 students and pilots with a Cessna 150 airplane are requested to contact Fowke, 596-1445, or Nesbitt, 826-4228, after 4:30 p.m.

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

PROFESSORS TO VISIT... Dr. Joseph A. Schetz, Dr. Fred R. DeJarnette, Dr. Clark H. Lewis, and Dr. Warren D. Smith, Department of Aerospace Engineering, VPI, will visit the Center January 29. Employees interested in discussing the graduate program with these professors are requested to call Training Branch, 2517, for an appointment.

HEAP BIG CHIEF: Axel Mattson, who has been appointed Assistant Chief of the new Space Systems Research Division, was given a big powwow by his associates in Headquarters Building before moving to his new office in Unitary Wind Tunnel Building. Bidding him a friendly farewell are Priscilla Balanis (left) and Betty Phillips.

EUROPEAN TOUR... The Activities Association is combining its proposed European Tour with the Lewis Research Center. The Lewis tours will be for 21 days and eight countries will be visited. The first tour will run from August 18 to September 8. Cost of this first class tour from Patrick Henry Airport will be $780. Travel only will be $330. The second tour will run from November 8 to November 29 and the cost will be $640. Travel only will be $268. Complete details will be announced later. Further information may be obtained from Ernie Greene, 3071.

NOTICE TO RETIREES... Persons planning to retire are requested to apply two months ahead of their retirement date in order to expedite the paperwork for their retirement payments.

(Continued on page 6)
WHITCOMB RECEIVES AWARD
(Continued from page 1)

have had a beneficial influence on the development of practical aeronautics." It consists of a certificate and an honorarium of $500.

Whitcomb won the honor for "the imaginative use of wind tunnel experimentation for the solution of aerodynamic problems for the improvement of aerodynamic performance of transonic aircraft."

Presentation of the award, one of many high honors Whitcomb has won since he began his career at Langley in 1943, was made at an honors night banquet January 20 during the AIAA Eighth Aerospace Sciences Meeting in New York.

Whitcomb is currently developing a new wing concept which, if successfully applied to future aircraft, particularly commercial jet transports, offers the promise of enhancing both the cruise performance and the operational economics of subsonic jet airliners.

Known as the supercritical wing, it was conceived at Langley as a result of wind tunnel studies conducted by Whitcomb and his associates over nearly a five-year period.

The wing has the potential for allowing highly efficient cruise flight close to the speed of sound, or nearly 660 mph at an altitude of 45,000 feet. This would be about 100 mph faster than present subsonic transports normally travel, and could be accomplished without the addition of power.

Preparations are under way for flight tests of the wing concept, using an existing Navy F-8 jet aircraft as a test bed. The regular wings are being replaced with Whitcomb's wing shaped to simulate that of a subsonic transport.

Purpose of the program, to be conducted at the NASA Flight Research Center, is to determine if the performance of the new wing as measured with models in wind tunnels can be fully achieved in flight.

A native of Evanston, Illinois, who was reared in Worcester, Massachusetts, Whitcomb came to Langley direct from the Worcester Polytechnic Institute. He graduated "with high distinction" with a B.S. degree in Mechanical Engineering (Aeronautical).

Whitcomb discovered in 1952 and later experimentally verified a revolutionary aircraft design concept called the area rule, a method of designing aircraft to reduce drag and increase speed without the addition of power. The area rule, considered by the aircraft industry as the key to practical supersonic flight, is incorporated in every American supersonic airplane.

Whitcomb's area rule research brought him many high honors. He was one of the youngest persons, at 35, to receive his university's honorary Doctor of Engineering degree. He won the Collier Trophy for 1954 for that year's "greatest achievement in aviation in America." The former National Advisory Committee for Aeronautics, forerunner of the NASA, conferred its first Distinguished Service Award, the NACA's highest recognition, for his significant contributions. He received the Exceptional Service Award from the U.S. Air Force for improvements in military aircraft realized through use of the area rule design concept.

Great minds discuss ideas, average minds discuss events, and small minds discuss people.

The most observant person was the historian who noticed Lady Godiva had a horse with her. -Hy Gardner

LANGLEYITE OF THE MONTH

Featured as our Langleyite of the month is John R. Denton, Head of Research Equipment Mechanical Services Section, Research Support Division. John stepped into the spotlight on December 17 when he became a 10-gallon blood donor during a Bloodmobile visit to the Center.

According to medical science, John has given and replaced his total blood supply approximately eight times.

John first started giving blood back in 1953 when his wife needed a transfusion. He said he has continued donating it since that time and he doesn't intend to stop now - not as long as there is a need for it.

A native Hamptonian, John attended Hampton High School and served in the U.S. Army during World War II. Following his discharge from the service, he joined the Center staff on October 16, 1943.

John enjoys fishing, boating, and woodworking. He has a complete woodworking shop at his home and has built about 12 boats. He owns two boats - one which he built himself. In addition to building boats, he also enjoys intricate carving. He has designed and carved numerous figurines and fancy bowls out of exotic woods.

He is married to the former Venita Budlong of Newport News. They have two daughters - Denise who is 15 years old and Robin who is 14.

APPRENTICE CLASSES START FEB. 2

The Langley Apprentice School will start its spring semester February 2. Courses offered and instructors are as follows:

- Wednesdays - Technical Writing, Mrs. D. V. Mellig, Thomas Nelson College.
- Fridays - Electronics I - Lab, John Lawrence, Thomas Nelson College.

Marriage is the Keeeley cure for love's intoxication. -Rowland
THE LANGLEY RESEARCH CENTER LIBRARY
STRESSING NEW QUARTERS, NEW SERVICES, NEW HOURS

RECEPTION AREA. A self-operating elevator opens into the Reception and Reference Desk area. Here Jane Hess helps Leonard Credeur. Also working at the desk are Nadine Batkins (left) and Willaree Curtis.

A Library has been recognized over the centuries as an open treasure house of the world’s wisdom. Books and documents are kept for the use of all, collections are carefully built, and appropriate services are provided to the users to help them find the information they want. This certainly is a good description of the Langley Research Center Library, which has just moved into enlarged and improved quarters within Building 1194.

The Technical Library is just about as old as the Center itself, and over the period of 52 years has served the staff of the Center well. During this time, it has been building its collection of technical literature and its catalog file. For many years, the collection was mostly related to the field of aeronautics, but in later years, that literature which relates to the many aspects of space research has found its way into the collection. The collection of books and documents currently available in the Langley Library is considered to be one of the outstanding scientific collections in this country or abroad. It consists of approximately 32,000 books and 575,000 documents, most of them in hard copy form. Much of the current literature is available in micro-miniaturized form, however.

Heading the Library Branch, within the Administrative Services Division, is Philip Weatherwax, with Betty Gilman serving as Head Librarian. In addition, the Library is staffed with skilled professional Librarians and library assistants, all of whom have come to consider that service to the Center staff is their most important product.

"After all," commented Weatherwax, "if we are really doing our job, we must not only be able to furnish what is asked for, but we must try to anticipate the needs of the researchers and the engineers. This business of aero-space research is a fast moving field so we must always be alert to new literature and new sources of data.''

Other suggestions and ideas for the improvement of the Library come from members of the Center’s Library Committee, which is currently headed by Dr. Samuel Katzoff, Senior Staff Scientist. Other members represent a cross section of scientific and engineering disciplines. The Committee serves as a sort of Board of Directors, to insure that the Library is, in fact, responsive to the needs of the scientists and engineers.

Being responsive to the Center's needs may take many forms, and one step that is currently being taken is to provide an opportunity for those who wish to make use of the Library facilities in the evening to do so. In addition to the present regular daily hours (Monday to Friday) of 7:30 a.m. to 4:30 p.m., the Library will remain open each Tuesday and Thursday evening from 4:30 p.m. to 8:30 p.m. These new evening hours will start on January 27. This is being done on a trial basis for a period of three months, and if the users take advantage of the service it will be continued.

"This step is being taken because some of our users find it difficult to get away from their work during regular hours and have asked for this service," said Weatherwax. "We are pleased to comply and hope this new service will be used."

Not all the services offered during regular hours can be included during evening hours because only a minimal staff will be available. The reading room, which contains the books and journals as well as indexing and abstracting publications, will be open for browsing and self-service. Night telephone service number is 2786.

In recognition of the emergence of new and important literature relating to the field of business management, the Library has attempted during the past year to improve availability of books and magazines relating to this field. A special invitation is, therefore, extended to those staff members who are interested in this literature to drop by the Library and see what is available. Mrs. Gilman, as Head Librarian, has been making the selection of this material and is familiar with what is available or on order. She will be pleased to discuss other requirements which staff members have.

SUBJECT REFERENCE ROOM: Especially trained librarians will help you identify and locate sources of information on particular technical subjects. Using the subject reference facilities are (from left): Donald Ogleska, Sandra Blow, Sue Seward, Herbert Palloff, and Marie Tuttle.
READING ROOM: A spacious, comfortable reading room is available to library visitors. Using the facilities are (clockwise): S. R. Barringer, J. E. Cooper, L. R. Greenwood, Harold Poole, and Ray Wright.

A word of caution to those who use the Library infrequently and find the shelves lacking the book or document you need. If you don’t find it, ask for assistance because very likely it is available, but out on loan. Library assistants will be glad to call the document or book back so it can be made available to those who need it.

Another innovation in the total NASA library system which is proving to be an excellent tool for the scientists or engineers is RECON (Remote Console System). Essentially, this system utilizes input-output devices to provide access to a master file of scientific data at a remote location. It supplements the Library catalog and reference files, providing a much broader base of data. Searches for information may be initiated by use of a console keyboard at the Center’s Library and a visual display is fed back to the searcher of the information requested. A hard copy printout of the data can also be obtained. Detailed information and assistance in the use of the equipment are available at the Library.

A second set of RECON equipment is currently on order and it is hoped that staff members will want to use this system, even on a self-help basis.

In concluding the interview with Weatherwax upon which this article is based, he urged that special invitation is being extended to members of the staff to drop by the facility for a look at its collection and discuss its services. Harking back to his prior comment, Weatherwax considers the Library as a viable function of the Center only when it is meeting the requirements of all staff members.

The pleasant decor of the Library and the dedication of its staff will make your visit a rewarding experience and one which staff members will want to repeat regularly.

LEAVE RECORD CARDS

Government Employees Insurance Company has furnished a supply of 1970 Leave Record Cards for employee individual leave records. Any employee desiring one of these cards may pickup one from either the East or West Cafeteria.

If you want to be miserable think about yourself, about what you want, what you like, what respect people ought to pay you and what people think of you. —Charles Kingsley

AIAA GROUP TO HEAR HOFF

Nicholas J. Hoff, Head of the Department of Aeronautics and Astronautics, Stanford University, will be the guest speaker at a meeting of the Hampton Roads Section of the American Institute of Aeronautics and Astronautics on February 2 at the Holiday Inn.

Hoff will speak on “Little-Known Inventors of the Airplane.” The story of the invention of the airplane by Wilbur and Orville Wright is well known. Much less is known in general about a number of other persons who gave much of their thoughts, energies, money, and often even their lives to the development of the airplane. Hoff will discuss some of these little-known inventors.

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 Bernie Spencer, 851-7510; Marty Copp, 838-8928; or Tom Foughner, 838-4177.
**CAFETERIA MENU**

The following menu will be served in the cafeterias during the week of January 26:

- **Monday** - Puree of bean soup, pot roast of beef, grilled pork steak, chicken chop suey, Austrian ravioli. Snack bar - Soup, barbecued pork, hot roast beef, French fries.
- **Tuesday** - Cream of tomato soup, country style steak, fried oysters, sauteed chicken livers, franks and beans. Snack bar - Soup, hot dogs, steak sandwich, French fries.
- **Wednesday** - Chicken-noodle soup, corned beef and cabbage, meat loaf, fried chicken, grilled cheese and bacon sandwich. Snack bar - Soup, grilled cheese and bacon, hot corned beef, French fries.
- **Thursday** - Vegetable-beef soup, barbecued spare ribs, breaded veal steak, broiled halibut, chili con carne. Snack bar - Soup, chili, hamburger, veal steak, German potato cakes.
- **Friday** - Split green pea soup, boiled ham, fried flounder, creamed dried beef on toast, baked hash. Snack bar - Soup, fish sandwich, boiled ham, French fries.

The menu for the week of February 2 is as follows:

- **Monday** - French onion soup, grilled pork steak, braised short ribs, knockwurst and sauerkraut, fish cakes. Snack bar - Soup, barbecued pork sandwich, hot pastrami.
- **Tuesday** - Minestrone soup, roast beef, breaded veal cutlet, spaghetti and meat sauce, western omelette. Snack bar - Soup, ham and egg sandwich, hot roast beef, French fries.
- **Wednesday** - Vegetable-beef soup, chopped steak, chicken cacciatore with spaghetti, deep-fried liver, tamale pie. Snack bar - Soup, hot dogs, Lou's satellite special.
- **Thursday** - Chicken-noodle soup, chicken and dumplings, seafood Newburg, Salisbury steak, franks and beans. Snack bar - Soup, hamburgers, veal cutlet, French fries.
- **Friday** - Manhattan clam chowder, grilled rib eye steak, baked ham, stuffed flounder, deviled crab, baked hash. Snack bar - Clam chowder, fish sandwich, baked ham.

**HAPPENINGS**

(Continued from page 2)

**DISNEY ON PARADE**... Wednesday, February 11 will be NASA night at the Hampton Roads Coliseum. The big attraction will be Disney on Parade and the show starts at 8 p.m. Section G has been reserved for NASA families and admission will be one dollar less than the box office prices. Tickets will go on sale at the Activities Building on January 26.

**ALUMNI CHAPTER**... The Hampton Roads Alumni Chapter of Tau Beta Pi, national engineering honorary fraternity, will hold a dinner meeting at the Holiday Inn on January 29. Guest speaker will be Officer W. F. Parks, Hampton Police Department, who will discuss the problems of narcotics. Wives of the members and guests are welcome. The meeting will begin with a social hour at 7 p.m. For further details call Bob Boughner, 3271.

**NEW EYES**... New Eyes for the needy is a non-profit, non-sectarian volunteer organization whose sole purpose is to help better vision for the poor the world over. New Eyes is endorsed by the National Society for the Prevention of Blindness, Fight for Sight, Inc., and the American Academy of Ophthalmology and Otolaryngology. It solicits: metal frames in any condition, unbroken plastic grames with lenses, sun-

**FEB. 2 PAYCHECK WILL BE LESS**

Three deduction changes will be reflected in the paycheck Langley employees receive on February 2.

This will be the first paycheck for permanent employees to have the 7 per cent retirement contribution instead of the previous 6-1/2 per cent; for those having health insurance deductions, this check will be at the new increased rate, and this is the first deduction for the 1970 Combined Federal Campaign which was pledged last October.

**SIGNS AGREEMENT**: Announcement was made last November that the United States Army Materiel Command and the NASA had signed an agreement to participate jointly in aeronautical technology. Under this basic program, the Langley Research Center and the Army Aviation Systems Command at St. Louis have agreed to participate jointly in selected aspects of the Center's aviation technology program which are Army-related. The program at Langley, scheduled to get under way later this year, is expected to expand the national capability in low-speed aviation technology and result in substantial benefits and savings in areas of mutual interest. Edgar M. Cortright (second from right), Langley Director, signed the Army-Langley agreement January 6. Major General John L. Klingenhagen, Commanding General of the Army Aviation Systems Command, signed the agreement for the Army on December 31. Interested observers are (from left) J. Wallace McDonald, Chief Engineer, U.S. Army Aviation Systems Command at St. Louis; Laurence K. Loftin, Assistant Director; and T. Melvin Butler, Assistant Director for Administration.

**BASKETBALL GAME**... The Old Dominion University freshmen will play the University of Maryland freshmen in a basketball game at the Hampton Roads Coliseum at 8 p.m. on February 2. Starring on the Maryland team will be Howard White, who was voted High School All-American when a student at Kecoughtan High School. Admission is two dollars.

**IAM MEETING**... The NASA Lodge No. 892, International Association of Machinists, will meet February 3 at 7 p.m. at the Central Labor Union Hall.
NASA ROCK FESTIVAL: Center swingers are reminded that the Activities Association will open the 1970 social season with a NASA Rock Festival from 2 p.m. until 8 p.m. Sunday.

SPACE SYSTEMS RESEARCH DIVISION
(Continued from page 1)

In establishing the new division Edgar M. Cortright, Director, stated, "Because of its responsibilities for Center-wide coordination of space station/base and space shuttle activities, the structure and charter of SSRD depart somewhat from those of the classic division we are used to at Langley. Langley support to the space station/base and space shuttle will, of course, involve most of the Center, with the discipline-oriented divisions undertaking supporting research in their particular specialties.

"As a focal point at the Center for these major systems, SSRD will endeavor to facilitate the intimate involvement of other technical divisions so that their full available strength can be brought to bear on critical problems. Where possible, a 'work package' concept will be followed where in division supporting research will be identified by the joint participants, approved by the cognizant Assistant Director, and integrated into the total LRC effort. I feel this to be an effective approach to providing the intensive support required by these major development undertakings during the next several years."

VALENTINE DANCE PLANNED

The Activities Association's second social function of the year will be a Valentine Dance which will be held Saturday, February 14 in the Activities Building. Dancing will be from 9 p.m. until 1 a.m. to the music of Jap Curry and The Blazes.

Admission will be three dollars per couple not including setups. Advance tickets are on sale at the Activities Building. Reservations may be made only with a ticket purchase.

If you attend to your work, and let your enemy alone, some one else will come along some day, and do him up for you.
- E. W. Howe

A woman would rather marry a poor provider any time than a poor listener.
- Kin Hubbard

LANGLEY CREDIT UNION PLANS ANNUAL MEETING FEBRUARY 3

It was a good year for the Langley Federal Credit Union. As President Bob Girouard's annual report will show, business in 1969 was good. A nice profit was made. Yet it was a year of ups and downs. Inflation, rise in the number of bankruptcies, decrease in government personnel and other factors had to be carefully appraised and judgments made on their possible impact on the future course of the LFCU.

The full story will be brought out in the reports of the officers of the Credit Union at the Annual Meeting on Tuesday, February 3.

The annual meeting will take place in the auditorium of Newport News High School. Doors will open at 6:45 p.m. and the business session will start at 7:30. To encourage members and their guests to be in the auditorium for the start of the business session, the Credit Union will present favors to the ladies and gentlemen. For the ladies something special. Each lady coming early will receive a small corsage made of real orchids flown in from Hawaii. The quantity will be limited and the corsages will be issued on a first-come, first-served basis. So, ladies, please expedite the primping and get to the meeting early.

Following the meeting, the Peninsula Community Theater will present the stage play "Dark of the Moon." This is adult entertainment and will appeal to persons interested in serious drama.

Admission will be by tickets which members may obtain from the Credit Union Office. For those who decide to come at the last minute, tickets will be available at the door. The Newport News High School auditorium can accommodate over twice the number of persons attending the previous meetings, so good seats should not be a problem.

Plan to attend. An informed membership is a strong membership.

Popular opinion is the greatest lie in the world. --Carlyle
POACHER'S POT

Staff members are reminded that all advertisements for publication in Langley Researcher must be submitted in writing. All for sale and for rent ads must have the employee's name and home telephone number. The number of the Center telephone extension may be used on ads concerning rides or driving combinations to and from work. Send ads to Langley Researcher, Mail Stop 154.

WANTED

Ride or driving combination from Dare to E.A. on 8 shift.
Mulqueen, 896-6327.

Ride from Carriage Hill area to W.A. on 7 shift. Zellers, 3234.

Driving combination from Riverdale to E.A. on 8 shift.
Everhart, 3604.

LOST AND FOUND

Brown rimmed safety glasses (bi-focals) found in Room 111, Building 647. Newman, 2208.

Would the person who has the book Oliver Heariside by Ernst Berg please return it to the Technical Library.

FOR SALE

Wilson tennis racket, Kramer autograph, medium weight, new gut. Hoggard, 596-0449 after 5 p.m.

RCA Victor stereo record player - has new motor - $50.
Imig, 877-1723.


Dining room suite - plastic composition table with four upholstered chairs - $75. Garver, 851-0596.

AKC registered Scottish Terrier puppies. DiCarlo, 595-4198.


1968 Chevrolet Impala, four-door hardtop, air conditioning, power accessories - $1495. Hall, 723-5022.


1964 Chevrolet Impala, 4-speed 327 cu. in./300 hp, new paint job. Taylor, 722-1083.

BOTTLE BRIGADE BOGS DOWN

About a year ago, it became necessary to call the staff's attention to an unsightly situation, as well as a dangerous situation, with respect to the manner in which empty soft drink bottles were being handled. As a result of that notice, there was a marked improvement in taking care of the empty bottles, but during the past several months, there has been a recurrence of the problem with the result that it cannot be ignored.

All staff members generally have pride in the environment in which they work, and it causes morale problems as well as safety problems when that environment is degraded by the presence of unsightly trash or empty soft drink bottles. Broken glass often results from the indiscriminate placement of empty bottles in cardboard boxes or on shelves or filing cabinets. This increases the opportunity for accidents. It makes a bad impression on visitors.

Al that is required to take care of this problem is that NASA personnel and contractor personnel alike just assume a little more personal regard for the appearance of offices and conference rooms and put them in containers which are placed in all buildings for that purpose. The soft drink distributors have been contacted and asked to make pick-ups of empty bottles on a more regular basis. If all work together, this single problem can be eliminated very quickly. Langley will be a better place to work with your help!

PUTTING WORDS INTO PEOPLES’ MOUTHS

...Ed Curtright, what's yours?

By golly you're right! Swiss cheese!

NEW SERIES: With this issue Langley Researcher starts a series of gag pictures in which we spoof employees by putting words in their mouths. These pictures are not to be taken seriously and we hope staff members will accept them as a friendly form of jest. The quotes are imaginary and, as far as we know, bear no resemblance to anything ever actually said by the people pictured. If you have a similar idea, and one that you feel will not embarrass anyone, please send it to Langley Researcher, Mail Stop 154.

Can You Solve This Problem?

Following a mine disaster, rescue efforts are hampered by a lack of communication with those trapped within the mine. An emergency signalling device accessible to everyone within the mine is desirable. Individual units are preferred, but should be small enough to be carried and not interfere with normal work. The system should be capable of penetrating several hundred feet through rock, soil, water, etc. Refer to MS-5. Contact the Technology Utilization Office, extension 3281, for the problem abstract or if you have a contribution.

A man hopes his lean years are behind him; a woman hopes hers are ahead.

Ever notice how some people resemble boats - they toot loudest when in a fog.
ASTRONAUT BORMAN, APOLLO 8 COMMANDER, LEAVING AGENCY

Astronaut Frank Borman, commander of Apollo 8, the first spacecraft to circle the Moon, will leave active duty with NASA July 1 to become an officer in an industrial firm and to assist in the establishment of a new foundation.

Since May 1969, Borman has been Field Director of NASA's space station effort.

Borman, assigned to NASA by the U.S. Air Force since 1962, will retire from the Air Force after 20 years of active duty. He will continue to serve NASA as a consultant on Earth-orbiting space stations.

He will become Vice President of Electronic Data Systems, Inc., of Dallas, Texas. The computer services company is headed by Ross Perot.

Prior to the historical Apollo 8 flight around the Moon in December 1968, Borman performed a variety of special duties, including backup command pilot for the Gemini 4 flight and member of the Apollo 204 Review Board.

He was command pilot of the Gemini 7 mission, launched December 4, 1965, and participated in establishing a number of space firsts -- among which are the longest manned space flight (330 hours and 35 minutes) and the first rendezvous of two manned maneuverable spacecraft -- Gemini 7 and Gemini 6.

A native of Gary, Ind., Borman received his B.S. degree from the U.S. Military Academy in 1950 and his M.S. from California Institute of Technology in 1957.

VON BRAUN MOVED TO HEADQUARTERS; REES APPOINTED MARSHALL DIRECTOR

Dr. Wernher von Braun, for a quarter of a century a leader in space rocket development, will head the NASA's planning effort for future U.S. space missions.

NASA Administrator Dr. Thomas O. Paine said that Dr. von Braun, Director of the George C. Marshall Space Flight Center, would become Deputy Associate Administrator for Planning of NASA. He will be succeeded as Director at Marshall by his long-time Deputy, Dr. Eberhard Rees.

Dr. von Braun joined NASA when the Army Ballistic Missile Agency development team at Huntsville, Ala., which he headed, was transferred to NASA in 1960. Since then he has been in charge of the Marshall Center which put the first American satellite in orbit, and developed the world's largest rocket, the Saturn V which carried men to the Moon.

"It is essential that we bring NASA's best talents to bear on our future space planning," Dr. Paine said. "As we move from the accomplishments of the 1960's to the Post-Apollo programs of the 1970's we must select our new space ventures with the best critical judgment and make every dollar count. Dr. Wernher von Braun has an unmatched record of looking to the future to choose the most promising avenues of technical advance. He brings to his new assignment sound vision, insight, and technical competence and we are delighted he has agreed to accept this important post."

(Continued on page 8)

MOONMAN AND MOON ROCK: Astronaut Neil Armstrong, the first man to walk on the moon, and an Apollo 11 lunar sample were at the Center last week. Over 2,600 staff members viewed the moon rock which was on display in the Activities Building. Shown viewing the rock (left) are Armstrong and Edgar M. Cortright, Director. Armstrong also toured a number of research facilities. At right he is shown viewing a supersonic transport display in Unitary Wind Tunnel. With him are (from left): John Becker, Chief of Aero-Physics Division; Roy Harris, Full-Scale Research Division; and Richard T. Whitcomb, head of 8-Foot Tunnels Branch, Full-Scale Research Division.
NASA ROCK FESTIVAL ATTRACTS THE YOUNG AND VERY YOUNG

HAPPENINGS

POSTHUMOUS AWARDS. . .SP4 Jackie C. DeHart, formerly of Research Support Division, who was killed August 28 near Vung Tau, Vietnam, has been honored posthumously with three significant decorations. His mother, Mrs. Donna Stafford of Hampton, received the posthumous awards of the Distinguished Flying Cross, the Bronze Star Medal, and the Air Medal, second and third Oak Leaf Clusters. A graduate of Hampton High School and the NASA Apprentice School, DeHart was killed while on a volunteer mission that disregarded personal safety owing to darkness and stormy weather.

TELEPHONE DIRECTORY. . .Staff members using the Center Telephone Directory are reminded that the employee's name in the back of the book is followed immediately by the individual's mail stop. A number of staff members have been sending mail to the last number following the employee's name - this is the room number NOT the mail stop number.

DIAPER LINE. . .Word has been received at the Center that Sandra Branum, Fiscal, became the mother of a seven-pound, nine-ounce daughter, Jennifer Lynn, on January 8.

HEALTH BENEFITS. . .Employees who have dependent children covered by the Federal Employees Health Benefits are reminded that all dependent children lose their benefits at age 22. Following the 22nd birthday, the dependent has 31 days in which to convert his policy.

WEDDING BELLS. . .Patricia Hemeter, Flight Mechanics and Technology, took her final vows with Ensign David A. Spriggs, Charlotte, North Carolina, on January 24 at the U.S. Naval Academy Chapel, Annapolis, Maryland.

GRAND TOURS. . .Lewis and Langley Research Centers are offering two European Tour plans. The first tour will start on August 18 with return set for September 8. The tour will include England, France, Monaco, Italy, Austria, Switzerland, Germany, and Holland. Cost of the first class tour will be $780. Travel only will be $330. The second tour will run from November 8 to November 29 and the cost will be $638.50. Travel only will be $268.50. A $50 deposit on the air fare and a $50 deposit on the land portion is needed by April 1 to insure reservations. Final payments are due on or before July 1 (August charter) and September 20 (Nov. charter). For further information call Linda Tribeck, 2058, or Ernie Greene, 3071.

ENGINEERS' DANCE. . .The Virginia Society of Professional Engineers will sponsor a dinner-dance February 27 at the Activities Building in observance of Engineers' Week which is February 23-27. Tickets are five dollars per person and may be obtained from Gil Freedman, Lockheed, 838-3037, or Joe Alford, 3711, by February 20. A social period will be held at 6:30 p.m., followed by dinner at 7:15 and a talk at 8:15 by Dr. Dorothy M. Harmes, Assistant Professor of Business at Hampton Institute. Dancing will be from 9:45 to 1 a.m. to the music of Ben Dale and the Co-ops.

ICARIAN FLYING CLUB. . .The Icarian Flying Club will hold a banquet-dance tomorrow night at Edgehill Recreation Center. Tickets are $5.50 per person and may be purchased from Bob Champine, 2911; Norman Crabill, 3081, or Paul Kurbiyun, 3281. Activities will start at 6:30 p.m.
‘BOSS’ CLASS STARTS FEB. 16
A training course in Better Office Skills and Services (BOSS) is being offered for new clerical assistants, clery- typists, and clerk-stenographers beginning February 16 and continuing through February. The class will meet daily for three hours and the time will be announced later. Instructors will be Evelyn Myers, Office of Chief Council, and Eloise McGehee, Administrative Services Division.

The purpose of the BOSS class is to provide new clerical assistants with an opportunity to refresh, update, and build their clerical skills and abilities and thereby to increase their value to their supervisors, their office, their division, and the Center.

Students will be taught the correct way to prepare Langley correspondence, Langley forms, and reports; how to order supplies, how to prepare cost-time and time and attendance reports, and how to be more effective in handling telephone calls and office receptionist duties. Discussed in the class will be the organizational set-up at Langley, who to contact for information and assistance, how the mail system works, etc. The kinds and type of reference sources and aids that are available and the rules of punctuation, grammar, and capitalization will be reviewed.

Persons interested in this training or supervisors who have employees they would like to enroll in the class are requested to call Josh Foyles, Training Branch, extension 2611, M.S. 309, by Wednesday, February 11.

LANGLEYLITE OF THE MONTH

ADULT SCOUT AWARD: The Silver Beaver, the highest award a local Boy Scout Council can bestow, is presented to C. Willis Cross Jr., Technical Information and Utilization Division, by Steward Sedwick, vice chairman, Silver Beaver Committee, Peninsula Council, as Mrs. Cross watches.

In ceremonies held recently, the Peninsula Council of the Boy Scouts of America presented the Silver Beaver Award to C. Willis Cross Jr., Scientific and Technical Photographer, Technical Information and Utilization Division. The Silver Beaver is the highest award a local Boy Scout Council can bestow on an individual.

Cross, who has worked in scouting since he was 12 years old, received a certificate citing him for his distinguished service to boyhood and a silver beaver on a blue and white ribbon.

During his scouting days, Cross earned 74 merit badges and attained the rank of Eagle Scout with bronze palm. As an adult scouter, he has exemplified "service to others," as expected of an Eagle Scout.

Some of Cross’ scouting services include assistant scoutmaster and scoutmaster of Troop 17, Ivy Memorial Baptist Church; assistant cubmaster of Pack 64; cubmaster of Pack 64; troop committeeman of Troop 64 and later Troop 158. He also has served the Western District as Advancement Chairman, Neighborhood Sustaining Membership Enrollment Chairman, member of the District Advancement Committee, and Eagle Board of Review.

Currently he is serving as District Vice Chairman and is a brotherhood member of Kecoughtan Lodge #463 Order of the Arrow serving as adult advisor to the lodge ceremonial team.

Cross was born and educated in Newport News. Before joining the Center staff in 1959, he served eight years as manager and secretary and treasurer of Greenlawn Cemetery. He has been in the U.S. Naval Air Reserve for 22 years and holds the rank of Warrant Officer. He is a member of Saint Tammany Masonic Lodge No. 5 and Saint John’s Royal Arch Chapter #87, Newport News.

He is married to the former Etta Martin of Eclipse and they have one son, Martin, 15, who is a Life Scout in Troop 158.

Since 1931 the Peninsula Council has recognized 85 adult scouters for distinguished service to boyhood. Other Center employees who have received the Silver Beaver include Walter Ellis, Flight Instrumentation, 1950; Hartley A. Soule, retired, 1951; Norman Pope, deceased, 1954; Roy Steiner, Dynamic Loads, 1960; Robert W. Miller, Dynamic Loads, 1964; James P. Shivers, Flight Mechanics and Technology, 1967; and Melvin E. Hathaway, Structures, 1969.

INVENTION AWARDS: Jack F. Zanks (top photo), Flight Instrumentation Division, has received a $100 award from the NASA Inventions and Contributions Board for his invention entitled “Space Vehicle Spin Rate Measuring Device.” Richard N. Young (left), Flight Vehicle and Systems Division, receives a check and congratulations from Robert C. Wells. Young shared a $100 award with Norman M. Hatcher, Manned Spacecraft Center, for their invention entitled “Automatic Balancing Device.”
BOY SCOUTS SERVING LOCAL YOUTH

At the conclusion of the last Combined Federal Campaign, Edgar M. Cortright, Director, in thanking members of the staff for their contributions and cooperation, promised that during the year 1970, a series of articles would be run in Langley Researcher showing the work of some of the beneficiary agencies which receive the funds raised at Langley Research Center. Letters were sent to the local United Community Services organization, the International Service Agencies organization, and the National Health Agencies, asking each for appropriate material and illustrations on which the articles could be based. There follows the first of these articles on the Peninsula Council, Boy Scouts of America #595 and it is hoped that they will be found to be informative and interesting.

The American people have been investing in boyhood through the Boy Scout movement since 1910.

The Scout program's appeal to the interest of the boy and his parents has resulted in a steady growth. Today there are 5-1/2 million members, with more than 38 million enrolled since 1910.

Hundreds of thousands of devoted volunteer leaders have found satisfaction in helping boys to grow into men of character, trained for participating citizenship. Good scouting depends on a lot of things and a lot of people.

The attainment of scouting's objective, therefore, requires budgets to enable the program to continually extend its influence in the lives of more boys.

Scouting benefits the entire community. Its goals are self-reliance and resourcefulness coupled with leadership development, service to others, and the strengthening of personal spiritual ties.

The Peninsula Council, Boy Scouts of America, is one of the youth servicing agencies of the United Community Service. It is chartered by the Boy Scouts of America to serve the boys in the area which includes Newport News, Hampton, Williamsburg, James City, York County, Gloucester County, Mathews County, and Poquoson, in character building, citizenship training, and physical fitness. At the conclusion of 1969, the council was serving a registered membership of more than 8,300 boys and 2,800 adult leaders, a total of over 11,100. This is an increase of 31 per cent over the last three years.

MEMBERSHIP: Today 29 per cent of the available boys in the Peninsula Council benefit from scouting. In seven short years there could be 45,000 available boys if the influx of population continues. The council expects to extend the benefit of scouting to almost one-third of these by 1976.

PARTNERSHIP WITH INSTITUTIONS: Today over 162 churches, schools, synagogues, and civic organizations sponsor 240 cub packs, Boy Scout troops, and explorer posts registered in the Peninsula Council.

INNER-CITY PROGRAM: The Boy Scouts are very proud of their continuing efforts to be more effective in reaching boys in the city districts. Results to date are very encouraging and prove that concentrated professional effort in the most difficult areas of our cities can be very rewarding. They hope to be able to gain additional professional help to extend this concentrated service.

SCOUTING TODAY - A LONG-RANGE PLAN: On January 1, 1969, the manpower of the Boy Scouts of America in each of its 500 councils launched BOYPower '76, a new long-range plan that will carry through 1976 - the 200th anniversary of our nation. During those eight years of intensive effort, we will move forward under the basic truth that "America's manpower begins with BOYPower." The purpose of BOYPower '76 is to deeply involve a representative one-third of all American boys in scouting and to help the families and institutions in the nation prepare a new generation with the skill and confidence to master the changing demands of America's future and prepare to give leadership to it. The plan calls for deeper penetration into poverty areas, doubling our present rate of growth in boys served (the greatest percentage growth is projected in Exploring), an improved quality program, and a better service to units. If scouting has favorably affected the lives of one-fourth of America's boys in the past, there is no reason it cannot more effectively influence a representative one-third of our boys in the immediate future.

LOCALLY: Due to the wholehearted support of business, industry, and employees such as those at NASA, a camp

SCOUT-O-RAMA: Members of Hampton Troop 29 receive instructions from their scout leader during the annual Scout-o-rama.

CHARTER PRESENTED: William Fish (center), Scout Executive for the Central District, presents the Charter for Explorer Post No. 36 to T. Melvin Butler, Assistant Director for Administration. Looking on is Axel T. Mattson, Assistant Chief of Space Systems Research Division.
EXPLORERS: Harry Pilgrim, Flight Mechanics and Technology Division, points out some of the major components of a helicopter to members of the Langley Explorer Scout Post 36. A surplus H-19 helicopter, which is to be donated to the Hampton Aerospace Park, is used for this program.

reservation, located on Route 3, Lightfoot, and the Scout Service Center, 11725 Jefferson Ave., Newport News, were recently constructed. Interested persons are invited to visit the camp reservation.

EXPLORING - THE CONTEMPORARY LOOK: As times change, so does the Boy Scouts of America, especially with its high school age program. The BSA is genuinely concerned about its effectiveness in serving a higher percentage of high school "young adults" with a quality program. As part of the more contemporary look a hand of welcome is being offered to the opposite sex. Both sexes appreciate the opportunity to associate without the pressure of dating. This opportunity they get in special interest Exploring. This type explorer post relates much of its program to the product service, and/or function of its chartered institution. It has a unique attraction for high school juniors and seniors because they are beginning to think of an adult occupation and advanced education. Sponsors for such posts usually are from businesses, industrial and professional groups.

NASA exemplifies exploring's objectives. Five special interest posts are currently sponsored by NASA. Programs in career interest are offered in the fields of space-biology, life support, aeronautics, computer science, and instrumentation-optics. Approximately 75 young men and women and 24 of NASA's staff are involved in this program. These men not only apply their professional skills but also apply their energies in developing a sense of responsible citizenship in these young people, to help them develop character, and to satisfy their growing mental and physical needs. In addition to these people working directly with the NASA sponsored units, there are countless NASA employees volunteering their services to local cub packs, scout troops, and explorer posts in their own community or on district or council committees or projects.

The Peninsula Council is proud to have NASA lead the way. Today NASA sponsors more Explorer posts than any other organization on the Peninsula.

SKI TRIP: Skiing enthusiasts are invited on a ski trip to Bryce Mountain for a day of skiing on February 18. Complete details will be posted on bulletin boards.

ENGINEERS' CLUB TO HEAR JORDAN

Charles E. Jordan, Manager of Fiber Structures, Hercules, Inc., Wilmington, Del., will be guest speaker at a meeting of the Engineers' Club of the Virginia Peninsula on February 12 at the Sportsmen's Steak House, 12399 Warwick Blvd.

Jordan will speak on "Advanced Composite Materials and Their Applications." His talk will be concerned with Boron and Graphite filaments which, when combined with polymer and metal matrices, comprise a newly emerging family of advanced composites. Starting about 1965, Boron technology preceded the development of high strength/modulus graphite by approximately three years. Graphite technology has moved relatively faster than Boron due to better potential price reductions, ease of manufacturing and wider use potential. Mechanical properties are comparatively equal, with Boron composite being somewhat better in shear and compression.

The meeting will be preceded by a social hour at 6 p.m., dinner at 7 p.m. and the meeting at 8. For reservations call Glenn Snyder, 595-5614 after 5 p.m., or John Allen, 838-616 before 5 p.m., by Tuesday, February 10.

TECHNOLOGY UTILIZATION NEWS

Serendipity is a popular word which says a lot about Technology Utilization. As coined by Horace Walpole, it refers to a certain kind of creativity, "a gift for discovery by accident and sagacity while in pursuit of something else." Many of the so-called spin-offs of space research are serendipitous, being unanticipated bonuses of our major pursuit.

All of us at Langley should be alert to channel NASA's new technology into other areas, not only for industrial applications, but for the solution of biomedical and public sector problems such as air and water pollution, crime prevention, airway and highway safety.

A recent example of an imaginative transfer of space technology to industry was made by Martin Menges, Research Support Division. Martin, having employed a dielectric heating process for ablative heat shields, proposed its use in processing acrylic fibers. If his idea is successful, as preliminary tests indicate, much good will be generated with one of our local industrial neighbors.

Don't hesitate to apply a little imagination to produce more serendipity in the space age. Much is needed to solve the numerous problems of modern civilization. Contact the T.U. Office in case you have any brainstorm ideas. Your ideas will be gratefully accepted, even if you may consider them to be less than conservative. An up-to-date list of biomedical and public sector problems on which solutions are being sought is available at the T.U. Office, 3281.

IN proportion to one's wealth, the poor are the more generous.

-Sabol

MONEY used to wear a hole in your pocket. Today it can't even work up a sweat.
CAFETERIA MENU

The following menu will be served in the cafeterias during the week of February 9:

**Monday** - Puree of bean soup, grilled pork chops, stuffed shrimp, sauteed chicken livers, cheese omelette. Snack bar - Soup, cheesesburger, corned beef, French fries.

**Tuesday** - Vegetable-beef soup, pot roast, roast pork, fried fish crisps, macaroni and wiener. Snack bar - Soup, hot dogs, hot roast beef, French fries.

**Wednesday** - Cream of tomato soup, fried oysters, liver and onions, beef stew, Spanish omelette. Snack bar - Soup, fish sandwich, flying saucer, French fries.

**Thursday** - Cream of celery soup, pepper steak, lasagna, fried fillet of flounder, grilled cheese. Snack bar - Soup, grilled cheese, steak sandwich, French fries.

**Friday** - Manhattan clam chowder, hot roast beef sandwich, halibut steak, fried chicken, chili con carne. Snack bar - Soup, sea dog, hot pastrami, French fries.

The menu for the week of February 16 is as follows:

**Monday** - Split green pea soup, beef stroganoff, grilled slices of smoked ham, salmon loaf, grilled pork loaf. Snack bar - Soup, spiced pork loaf, smoked ham, French fries.

**Tuesday** - Cream of potato soup, country steak, barbecued pork chunks, fish crisps, franks and beans. Snack bar - Soup, barbecue, steak sandwich, French fries.

**Wednesday** - Chicken-rice soup, chopped steak, chicken pie, pigs-in-a-pong, fish cakes. Snack bar - Soup, ham and egg sandwich, Lou's satellite special, French fries.

**Thursday** - Vegetable-beef soup, baked corned beef with cabbage, chuckwagon steak, broiled perch, baked hash. Snack bar - Soup, hot dogs, chuckwagon steak, French fries.

**Friday** - Cream of mushroom soup, roast beef, seafood Newburg, fried beef liver, cheese omelette. Snack bar - Soup, fish, hot roast beef, French fries.

VALENTINE DANCE PLANNED

Langley socialites are reminded to reserve Saturday, February 14 for the Activities Association’s Valentine Dance at the Activities Building.

Dancing will be from 9 p.m. until 1 a.m. to the music of Jap Curry and The Blazers.

Why not get a group of your fellow-workers interested and make it an evening of togetherness.

Admission will be three dollars per couple not including setups. Advance tickets are on sale at the Activities Building. Reservations may be made only with a ticket purchase. Tickets will also be available at the door.

Can You Solve This Problem?

An objective method for measuring stack plume opacity in low density plumes must soon be developed for air pollution control. The present method requires visual comparison by an expert of plume density against a set of standard panels known as the Ringelmann Chart. A suggested approach could be an instrument relating plume density to an optical standard. Refer to SRI/AP-1. Contact the Technology Utilization Office, extension 3281, for the problem abstract or if you have a contribution.

PIG GETS SHAVED: Wardell Langford (left) and Bruce Kastelberg, Experimental Foundry Unit, Research Support Division, are shown shaving a frozen pig in preparation for making a mold of the pig. After the mold has been made, a live pig will be placed in it for radiation tests. The inset picture might be titled “Nurse Takes Up Surgery.” The Foundry personnel had to borrow razors from the dispensary for the job so Nurse Julia Stainback decided to try her hand at pig shaving.

COIN CLUB HOLDS BANQUET

The Langley Research Center Coin Club held its annual banquet January 23 at the Activities Building and officers for 1970 were installed. New officers are Bob Wright, president; Lois Taylor, vice president; John Cox, secretary-treasurer; and Ernie Anglin, sergeant-at-arms.

Also included on the agenda were presentation of Past President Awards to Thayer Sheets and Bob Coltrane, an auction, and door prize drawings. Everyone received at least a consolation prize in the door prize drawing.

The next club meeting will be held on Tuesday, February 17 at 7:30 p.m. in the Activities Building. Doors will open at 7 p.m. In lieu of a speaker, this will be display night plus an auction and raffle. The raffle item will be a BU Lincoln set, 1941-1969, complete. Guests are invited.

BANQUET: The Langley Coin Club held its annual banquet last month in the Activities Building. The picture on the left shows Warren Kelliher (left) watching the birdie. At right George Boyles and Bill Henderson inspect the auction lots.
COLISEUM DEDICATED: NASA played a prominent role in the dedication January 31 of the $8.5 million Hampton Coliseum. Mayor Ann H. Kilgore of Hampton (top) pauses with Edgar M. Cortright, Langley Director, at the Activities Building during a visit to the Center by the City's Coliseum dedication guests. Upper left: Representative Thomas N. Downing of Virginia's First Congressional District (left) discusses Activities Building exhibits with Eugene C. Draley, Assistant Director, and Cortright. Upper right: Governor Linwood Holton of Virginia, Mrs. Holton, and Cortright inspect a Lunar Orbiter model. Dr. John E. Duberg, Associate Director, is at Holton's left. The guests saw a movie depicting Langley history and accomplishments, inspected the Lunar Landing Research Facility and the 16-Foot Transonic Tunnel and had lunch in the West Cafeteria before assembling at the Coliseum where Dr. Donald Lee Holmquest (lower left), NASA Astronaut, delivered the principal address. A feature of the popular NASA aerospace exhibit in the Coliseum was the Apollo 11 lunar sample display (lower right).
POACHER’S POT
WANTED
Driving combination from Norfolk to W.A. on 7 shift. Land, 2137.
Lionel trains and home for 3-year old German Shepherd. Shuster, 868-6575.
Ride or driving combination from Robinson Drive and Harpersville Rd. area to W.A. on 7:30 shift. Henderson 3483.
Fourth driver from Riverdale to W.A. on 7:30 shift. Bulle, 2056.
Ride or driving combination from Briarfield Rd. to W.A. on 8 shift. Heath, 3518.

FOUND
Small ring found in Credit Union parking lot. Connor, 3541.

FOR SALE
The Activities Association has a piano for sale by sealed bids - may be seen at Activities Building Feb. 9 and 10. Send sealed bids to Bill Beasley, M.S. 222.
2 snow tires 7.50 x 14; also Delmonico TV set - needs repairs. Riggin, 722-6087.
Mitchell air conditioner, York air conditioner, Marlin 22 caliber semi-automatic rifle, Federal photo enlarger with 2-1/2-3-1/2 negative holder, Bryant gas operated floor furnace - 65,000 btu input and 45-500 btu output. Goad, 722-0638.
Complete sound home movie set including sound camera, tape recorder, projector, screen, flood light, tripod, carrying case. Hunt, Lot 37, Bethel Trailer Park, Hampton.
1966 El Camino pick-up 327 V-8, standard transmission, power steering. Adkins, 888-6419 after 4 p.m.
1957 Pontiac Catalina - 4-door. Rucker, 877-3303 after 5.

THIRTY-NINE AND HOLDING: H. A. “Hack” Wilson (right), Chief of Applied Materials and Physics Division, and Paul R. Hill, Associate Chief, recently celebrated their respective birthdays. When Paul claimed he was 39 Hack apparently said, “No, no, Paul! Thirty-nine plus one.” (Editor’s Note: Since there is five years difference in their ages, we assume Hack must be thirty-five).

PUTTING WORDS INTO PEOPLES’ MOUTHS

VON BRAUN IN NEW POSITION
(Continued from page 1)

Dr. von Braun was born in Wirsitz, Germany, March 23, 1912. He received a bachelor’s degree at the University of Berlin in 1932 and his doctorate in 1934. He became a U.S. citizen April 14, 1955.
Dr. von Braun and his colleagues came to the U.S. in September 1945 under contract to the U.S. Army and he directed high altitude firings of the V2 at White Sands Missile Range.
Among the U.S. rockets developed by von Braun and his team were the Redstone, Jupiter, Juno and Saturn. The first U.S. satellites were launched by the Jupiter C and Juno II.
Dr. Rees was born in Trossingen, Wuerttenberg, Germany. He received his technical education in Stuttgart and at the Dresden Institute of Technology. From 1934 until the outbreak of World War II Dr. Rees was assistant to the manager of a steel mill in Leipzig, Germany.
He came to the U.S. with Dr. von Braun and has been associated with him since. Dr. Rees became a U.S. citizen in 1954.

NOTHING cures juvenile delinquency like good, hard, honest work.
-Sabo
CREDIT UNION DECLARES RECORD DIVIDEND AT ANNUAL MEETING

The several hundred souls who braved the inclement weather on Tuesday evening, February 3, to attend the annual meeting of the Langley Federal Credit Union in the Newport News High School heard President Robert L. Girouard report that the year 1969 was a good one for the Credit Union.

The LFCU continues to grow with substantial gains in shares on deposit and in loan volume. If this trend continues, the Credit Union will be a $10,000,000 credit union early in 1970. A further sign of financial health was the declaration for the first time in the LFCU's 34-year history of a 5.25 percent dividend on shares.

Colonel Hugo Zimmerman and Victor M. Harkavy, USAF Tactical Air Command, and Bernard Ellis, James C. Tingle, and William L. Williams, Langley Center, were elected to the 11-man Board of Directors. Frank A. Lofurno, NASA, and M/Sgt. Leavitt Simmons, USAF, were elected to the five-man Credit Committee.

Mary Virginia "Myrt" Bunting, member of the Credit Union office staff, was named "Employee of the Year" in recognition of the excellence of her performance of office duties.

To climax the evening, the stage play "Dark of the Moon" was presented by the Peninsula Community Theater. LCFU members and guests were delightfully entertained by the theater group's interpretation of this folk drama.

CREDIT UNION MEETING: All set to welcome members and guests to the Credit Union annual meeting are (from left): Pete Korycinski, Chairman, Education Committee; Bernard Deem, Board of Directors and Secretary; Al Braslow, Jim Tingle, and Roger Peters, Board of Directors.

APPRENTICE GRADUATION TODAY; JULIAN SCHEER TO ADDRESS CLASS

Julian Scheer, Assistant Administrator for Public Affairs, NASA Headquarters, will be the principal speaker at the graduation ceremony of the NASA Apprentice School at 1:30 p.m. today in the Activities Building.

Edgar M. Cortright, Langley Director, will introduce Scheer and preside at the ceremony. Reverend G. Raymond Bodie Jr., Aldersgate United Methodist Church, Hampton, will give the invocation.

Everette L. Davis Jr., who will receive a journeyman completion certificate as a dynamic modelmaker, was selected by the graduates to represent them as the class speaker.

Musical selections will be provided by the Tactical Air Command Band under the direction of CMSgt. Donald M. Kraft.

Presentation of journeyman certificates will be made by S. Walter Hixon, Supervisory Employee Development Specialist, Personnel Division.

Pictures of the graduates are shown on page 5 of this issue.

Scheer joined NASA in November 1962 as a Consultant and has served as Assistant Administrator for Public Affairs since November 1963. He earlier was Deputy Assistant Administrator for Public Affairs and Deputy Assistant Administrator for Technology Utilization and Policy Planning.

He was born in Richmond, Virginia, and graduated from the University of North Carolina. His entire professional career has been involved in some form of communications. He began his career in 1939 as a reporter for a large chain of weekly publications.

He has owned and operated a newspaper feature syndicate, The Scheer Syndicate, which served a nationwide list of clients. He was Assistant Director of Sports Information at the University of North Carolina from 1949-1953 and was a columnist-reporter for The Charlotte News (North Carolina) from 1953-62. He has had his own television news program and as a freelance writer, has contributed to a large number of national publications including Newsweek, The New York Times, New Republic, Parade, Ebony, Congress Weekly, and others.

He is the author of five books, three for adults and the two most recent, which are currently best-sellers, are for children, "Rain Makes Applesauce," published in 1965, was a runner-up for the Caldecott Award as the outstanding juvenile book of the year.

He has done some college teaching, has been engaged in a great deal of tourist attraction development and promotion and has been active in civic affairs.

He served in the Merchant Marine during World War II.

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Presentation of journeyman certificates will be made by S. Walter Hixon, Supervisory Employee Development Specialist, Personnel Division.

Pictures of the graduates are shown on page 5 of this issue.

Scheer joined NASA in November 1962 as a Consultant and has served as Assistant Administrator for Public Affairs since November 1963. He earlier was Deputy Assistant Administrator for Public Affairs and Deputy Assistant Administrator for Technology Utilization and Policy Planning.

He was born in Richmond, Virginia, and graduated from the University of North Carolina. His entire professional career has been involved in some form of communications. He began his career in 1939 as a reporter for a large chain of weekly publications.

He has owned and operated a newspaper feature syndicate, The Scheer Syndicate, which served a nationwide list of clients. He was Assistant Director of Sports Information at the University of North Carolina from 1949-1953 and was a columnist-reporter for The Charlotte News (North Carolina) from 1953-62.

He has had his own television news program and as a freelance writer, has contributed to a large number of national publications including Newsweek, The New York Times, New Republic, Parade, Ebony, Congress Weekly, and others.

He is the author of five books, three for adults and the two most recent, which are currently best-sellers, are for children, "Rain Makes Applesauce," published in 1965, was a runner-up for the Caldecott Award as the outstanding juvenile book of the year.

He has done some college teaching, has been engaged in a great deal of tourist attraction development and promotion and has been active in civic affairs.

He served in the Merchant Marine during World War II.
HAPPENINGS

NEWLYWEDS. . . Wedding bells rang on Valentine’s Day, February 14, when Dianne Adams, Office of Public Affairs took her final vows with Larry Puckette, Newport News, at the Riverside Baptist Church, Newport News.


PROFESSORS TO VISIT. . . Dr. Joseph A. Schetz, Head of the Department of Aerospace Engineering, Virginia Polytechnic Institute, will lecture on “Turbulent Mixing in Jets and Wakes” at 10 a.m. February 24 in Room 200, Building 1212. Dr. Fred R. DeJarnette and Dr. Frederick H. Lutze will accompany Dr. Schetz. All three will be available to discuss the graduate program in Aerospace Engineering at VPI. Employees wishing an appointment should call Training Branch, 2517.

ENGAGED. . . Dan Cupid scored a victory when Sybil Coleman and Charles “Skip” Watson, both of Technical Information and Utilization Division, announced their plans to wed. The big event will take place May 16.

GOLF ASSOCIATION. . . The NASA Golf Association will meet on February 25 at 7:30 p.m. in the Activities Building to discuss golfing activities for the coming season. Free refreshments will be served.

TENNIS CHAMPIONSHIPS. . . The Indoor Tennis Championships will be held at Hampton Institute March 2-8. Stan Smith, Cliff Richey, Arthur Ashe, Clark Grascwber, Charles Pasarell, Bob Lutz, Tom Edlefsen, Roy Barth, James Osborne, and Jim McManus, the top ten in American tennis, are among the 42 who will be playing for $25,000 in prize money. The Langley Research Center Tennis Club has been active in support of this tournament. This event is a historical one and is a giant step in promoting tennis on the local scene. Tickets are $15 for reserved seats and $7 for general admission. Tickets are good for all matches and may be obtained from Ed Riddle, 877-9577; Tom Foughner, 838-4177; or Arnold Mueller, 877-6889.

ALUMNI BANQUET. . . The Apprentice Alumni Association of the Newport News Shipbuilding and Dry Dock Co. will hold its annual banquet in the Williamsburg Lodge Conference Room on March 7. L. C. Ackerman, Shipyard president, will be guest speaker. Tickets for the social hour and dinner will be $10 and the dinner only will be $8. Tickets may be obtained from Ray Goodman, 3231.

PREPARING FOR ECLIPSE: Posing outside the Skywatcher’s Observatory, located behind the Activities Building, are (from left): Bob Mack, Wilbur Gaskins, and Leonard Weinstein. They, as well as other club members, have been working feverishly to get the observatory ready for the March 7 eclipse of the sun. The black cloth which they are holding will be used as a liner for a lens cover for the scope’s 16-inch mirror. A large number of amateur astronomers and scientists will be in the Tidewater area for the eclipse. Accurate information on eclipses past 1980 is not available, however; it is estimated that the next total eclipse will not occur here until after the year 2162. In general, weathermen give residents of Virginia a 50-50 chance of not being disappointed by the weather. A number of Skywatchers are expected to set up their instruments here at Langley for viewing. In addition, the club’s 16-inch and 6-1/2-inch reflectors will be put to use on important eclipse experiments. The Skywatchers will meet on February 26 at 7:30 p.m. in the Activities Building to further discuss plans for the eclipse. All members and particularly experimenters should try to attend this meeting.

VALENTINE DANCE: Herb Boulter, Chairman of the Social Committee, was on hand with the Researcher camera to give photographic coverage to the Activities Association’s Valentine Dance held Feb. 14 at the Activities Building.
ARMSTRONG AND KRANZ HONORED

Astronaut Neil A. Armstrong and the flight director during the critical Apollo 11 lunar surface landing maneuvers, Eugene F. Kranz, received the Arthur S. Flemming Award in Washington, D.C., February 19. The award is presented annually by the Downtown Jaycees of Washington to ten young men in civil service in recognition of their outstanding and meritorious service in the Federal Government.

Armstrong was commander of the Apollo 11 spacecraft which made the first lunar landing July 20, 1969. Kranz is Chief of the Flight Control Division at Manned Spacecraft Center.

The award for 1969 brings to 16 the number of men who have earned the Flemming Award while employed by NASA. Among the NASA recipients were Edgar M. Cortright, Langley Director; Dr. George F. Pezdzirtz, Applied Materials and Physics Division; and Dr. Christopher C. Kraft Jr., formerly of the Langley staff and now Deputy Director, Manned Spacecraft Center.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of February 23:

Monday - H O L I D A Y
Tuesday - Puree of bean soup, baked ham, stuffed flounder, chicken chow mein, western omelette. Snack bar - Soup, hamburger, baked ham, French fries.
Wednesday - French onion soup, pot roast, breaded veal cutlet, knockwurst and sauerkraut, fish cakes. Snack bar - Fish sandwich, breaded veal cutlet, French fries.
Friday - Chicken-noodle soup, chicken and dumplings, grilled pork steak, fried fish, macaroni and Wiener's. Snack bar - Soup, hot dog, corned beef, French fries.

The menu for the week of March 2 is as follows:

Monday - Split green pea soup, roast veal, grilled pork chops, stuffed shrimp, chili con carne. Snack bar - Soup, sea dog, baked ham, French fries.
Tuesday - Vegetable-beef soup, roast beef, shrimp jam-balaya, liver and onions, grilled cheese. Snack bar - Soup, grilled cheese, roast beef, French fries.
Wednesday - Chicken-rice soup, Swiss steak, broiled fish, fried chicken, western omelette. Snack bar - Soup, hot dog, Lou's satellite special, French fries.
Thursday - Cream of mushroom soup, rib eye steak, beef pan pie, spaghetti and meat sauce, fish cakes. Snack bar - Soup, barbecue, steak sandwich, French fries.
Friday - Manhattan clam chowder, boiled ham, stuffed flounder, chicken chop suey, baked hash. Snack bar - Soup, fish sandwich, hot pastrami, French fries.

DID YOU KNOW? You can help cost reduction by eliminating unnecessary meetings and by reducing frequency of reporting.

COST REDUCTION TIP: Eliminate, reduce, or combine requirements at no loss of effectiveness of function.

AFGE MEETING: The NASA Lodge 2755 American Federation of Government Employees will meet on Wednesday, February 25 at 7:30 p.m. at the Central Labor Union Hall.

ADDRESSES ISA GROUP: Dr. Randall M. Chambers, staff scientist with Dynamic Loads Division, was guest speaker at last month's meeting of the Instrument Society of America. He is shown here being introduced by Otis Ingebritsen (left), program chairman. Seated at right is Tom Carpini, Tidewater ISA president.

CHAMBERS ADDRESSES ISA GROUP

Dr. Randall M. Chambers, staff scientist with Dynamic Loads Division, discussed life support system development and acceleration training of astronauts at the January 28 meeting of the Instrument Society of America.

Dr. Chambers described stress factors involved in life support and performance of astronauts, such as acceleration, vibration, noise, work load and the resultant effects on bodily comfort, annoyance, endurance, and motor performance. A history of how these factors were evaluated during the training of military pilots and astronauts from the Mercury, Gemini, and Apollo Project was given, which emphasized the difficulty in obtaining the necessary psychological data.

The importance of the human centrifuge in astronaut training and life support system design was emphasized. This work, which Dr. Chambers directed for the Navy, provided inputs to spacecraft design such as the space suit, the acceleration couch, and the manual reentry and abort control system.

Some of the tests of motor performance of animals under high acceleration were mentioned. It was interesting to note that chimpanzees could withstand more acceleration than man for comparable motor performance degradation.

The application of the psychological evaluation techniques developed for astronauts to the civilian population was discussed in the contexts of effects of aircraft flyover noise on people and the problems associated with high altitude flight in a SST or space shuttle. The noise effects were noted to be functions of personality types and attitudes toward aircraft, which were difficult to evaluate. The need for astronaut training or physical endurance criteria for flight in the SST were of importance because endurance data for flight under these conditions apply to trained astronauts and jet pilots in good physical and mental condition, but these data may not be detailed enough for application to the general public who travel by air.

DR. FREDERICK TO VISIT: Dr. Daniel Frederick, Department of Engineering Mechanics, VPI, will visit the Center March 4 to discuss VPI's graduate program in Engineering Mechanics with interested staff members. Persons wishing an appointment with Dr. Frederick are requested to call the Training Branch, extension 2517.
SPACE SHUTTLE RESEARCH: The HL-10, a lifting body concept of the Langley Research Center, is one of three wingless craft being evaluated as possible prototypes of future space shuttle vehicles capable of supplying men and material to orbiting space stations. The three include (from left) the X-24 Air Force design; the M-2 concept of the Ames Research Center; and the HL-10. They are being flight tested by the Flight Research Center, Edwards, California. The HL-10 (right) prepares to land after a recent flight. With its rocket engine, the HL-10 is capable of reaching altitudes of 80,000 feet and speeds of over 1,000 mph to simulate maneuvering tasks of an actual shuttle craft returning from space flight. The HL-10 and other shuttle concepts have been studied extensively in Langley wind tunnels and other specialized laboratories.

TRADING POST
WANTED
Ride from 48th St. and Marshall Ave. to W.A. on 8 shift. Brenda Gooch, 3404 or 245-4890.
Alternate driver from Wythe or LaSalle Ave. to E.A. on 8 shift. Olson, 2681.

LOST
Will the person who accidently took a man's brown, checked raincoat with leather gloves in pocket from West Cafeteria on Feb. 12 please return it to Cauchon, M.S. 214A.

SWAP SHOP
Will trade complete double Hollywood bed for double roll-away bed with good mattress. Wagner, 851-1328.

FOR SALE
High capacity portable humidifier - suitable for apartment. Broome, 851-1250.
Part Collie puppies, mixed colors, available March 9 - $10 each. Copeland, 595-5094 after 5 p.m.
Black pearl snare drum with stand - $35. Mulac, 596-0666.
9-foot, 6-inch Dewey Weber surfboard - $75. Cluverius, 898-5058 after 4 p.m.
24-inch riding lawn mower, motor needs rebuilding - $30; also assorted parts for 1955 Ford, 4-door Fairlane. Wagner, 851-1238.
Schnauzer puppies, 8 weeks old, AKC registered, champion stock, miniature salt and pepper. Forde, 878-3242 after 5.
Antique (primitive) dining set - 6 chairs, claw-foot table, high chair, buffet; odd-size bookcase-desk combination; Muntz 21-inch TV, needs repair. Caplan, 838-4182.

COMMUNITY PLANS NEW YMCA
The attention of the Center staff is called to a worthwhile community endeavor on the part of the YMCA of the Lower Peninsula to raise funds for the construction of a new YMCA Family Center on Warwick Boulevard in Newport News.

A number of NASA personnel have given of their time and financial aid to make this Center a reality and it now seems possible that construction can start in the near future.

As the drive period comes to a close, there may be others who wish to take part in this effort and they may do so with a contribution or a pledge to be paid over a specified time period.

Donations or pledges may be sent to Y/CARE, 7827 Warwick Boulevard, Newport News, Va. 23607.

EMPLOYEES URGED TO WEAR BADGES
It has come to the attention of Center officials that some employees are not wearing their identification badges while on duty.

Langley security regulations require that personnel employed at or requiring access to Center areas and facilities must wear a Langley identification badge in plain view.

This requirement is not in force during visits by personnel to the cafeterias, Credit Union offices, first aid stations, Employment Office, and the Activities Building.

Staff members are requested to cooperate by wearing their badge and also challenging persons attempting to enter a facility without proper identification.

COST REDUCTION SHOPPING LIST: Eliminate forms, eliminate some travel requirements, eliminate telephones.
SEVENTEEN LANGLEY APPRENTICES GRADUATE TODAY

Everette L. Davis, Jr.
Washington County, Va.
Dynamic Modelmaker
Dynamic Model Dev. Section

Thomas E. Deans, Jr.
Hampton, Virginia
Experimental Facilities Mech.
8-Ft.-Transonic Pressure Tun.

George C. Firth
Newport News, Va.
Engineering Draftsman
Research Equipment Section

Robert L. Fixx, Jr.
Newport News, Va.
Experimental Facilities Mech.
Hypersonic Propulsion

Boyce E. Lavender, Jr.
Newport News, Va.
Experimental Facilities Mech.
Attitude and Control Simulator

William O. Moore, III
Hampton, Virginia
Experimental Facilities Mech.
Reentry Physics

James R. Morris
Stroudsburg, Pennsylvania
Experimental Facilities Mech.
Space Vacuum Laboratory

Joseph R. Powers
Philadelphia, Pennsylvania
Dynamic Modelmaker
Composite Model Development

Charles A. Rawls
Hampton, Virginia
Experimental Facilities Mech.
Gas Dynamics Laboratory

James I. Richardson
Newport News, Va.
Experimental Facilities Mech.
Particle Accelerator

John D. Scholz
Newport News, Va.
Experimental Facilities Mech.
Hypersonic Nitrogen Facilities

Raymond M. Taylor
Asheville, North Carolina
Experimental Facilities Mech.
Unitary Plan Wind Tunnel

George C. Firth
Newport News, Va.
Engineering Draftsman
Research Equipment Section

Jerry A. Williams
Norfolk, Virginia
Experimental Facilities Mech.
Magnetoplasmadynamics

Joe C. Woolsey
Mountaintop, Arkansas
Experimental Facilities Mech.
Fatigue Branch
TOUR NATION: The Apollo 11 spacecraft and the first rock from the lunar surface will be displayed in Richmond Dec. 23-28 as part of a special NASA exhibit tour of the 50 state capitals beginning in mid-April. The exhibit will be carried in a special mobile van (illustrated above) measuring 40 feet long and 14 feet wide. During its stay in each state capital, the van opens up to accommodate a walk-through ramp on each side, permitting thousands of visitors to see the exhibit daily. Apollo 11 was launched from Kennedy Space Center July 16, 1969, with Astronauts Neil A. Armstrong, Commander; Michael Collins, and Edwin E. Aldrin Jr. Collins piloted the command module in orbit around the moon while Armstrong and Aldrin made the first manned landing on the lunar surface July 20. The historic mission ended July 24 with splashdown in the Pacific southwest of Honolulu.

ENGINEERS PLAN DINNER-DANCE

The Virginia Society of Professional Engineers will sponsor a dinner-dance Friday, February 27 at the Activities Building in observance of Engineers' Week which is Feb. 23-27.

Dr. Dorothy M. Harms, Professor of Business Administration at Hampton Institute and the Tidewater Center Graduate School of the George Washington University, will be the key speaker. She will speak on "Engineering...Environmental Design for the 1970's."

During the evening candidates for "Engineer of the Year" will be presented, and the man selected will receive an award during the dinner.

Dr. Harms received her Bachelor of Science degree from New York University in 1950; a Masters of Business Administration in 1962 and a Doctor of Business Administration in 1968, both from George Washington University.

Dr. Harms will focus on the fact that preserving our environment is not merely a matter of cleaning up the nation's rivers and attacking the problems of smog, vital as these objectives may be, but that the country must wake up to the fact that the quality of our living space is seriously deteriorating on a broad scale.

Following Dr. Harms' remarks, there will be a dance to the music of Ben Dale and the Co-ops. A social period will be held at 6:30 p.m., followed by dinner at 7:15 and the talk at 8:15. Tickets are five dollars per person and may be obtained from Gil Freedman, Lockheed, 838-3037, or Joe Alford, 3711.

COST REDUCTION TIP: Turn in equipment and supplies that you do not need.

HABIT RECORDS our characteristics and then plays them back year after year after year. --Sabol

EMPLOYEES RECEIVE AWARD

Twelve staff members, pictured at right with their supervisors, recently received cash awards for suggestions under the Incentive Awards Program.

The recipients and their suggestions are as follows:

John F., Wilson, Research Models and Facilities - $130 for improving the method of making electrode tips for high-intensity arc air heater by means of casting the tips rather than by machining.

David C. Duxbury, Research Support (two awards) - $15 for suggesting the utilization of a new method of repairing test models by using Eutectic 157 high-temperature solder which will reduce the risk of further damage to the model; $50 for a suggestion relative to motorizing the mass flow valve in the 11-Inch Tunnel to provide an automatic valve positioning device for valve settings which will allow the tunnel operator to independently operate the valve when stagnation pressures exceed 20 atmospheres.

George M. Dudley, Fabrication - $40 for designing a tool in which Freon-12 gas is used as a coolant for machine tool application.

Kenneth R. Williams, Research Support - $30 for development of a compact, safe, and economical system for providing controlled and automatic thermal shock testing on metallurgical specimens.

Jerry A. Williams, Research Support - $50 for the modification of the probes for a high-powered plasma thruster (MPD arc) which will greatly increase the flexibility and scope of several areas of research.


Maywood L. Wilson, Fabrication - $35 for improving the method of separating a liquid from a precipitated solid when the precipitated solid is to be discarded.

Charles E. Johnson, Fabrication - $30 for the installation of an electric heater on the Devilbiss Dust Collector which will prevent the freezing of the conveyor belt.

Ferdinand E. Hartman, Research Support - $30 for designing a spindle adapter for the Fastax High Speed Camera thus providing more versatility in using various types of film.

Boyd L. Williams, Research Support - $50 for suggesting the use of a Polaroid camera attachment on the electron microscope for expediting research procedures.

Richard G. Lyeth, Research Support - $100 for suggesting a $50 award for a suggestion relative to increased employee morale and research efficiency resulting from modifications made for the Pegasus test chamber air conditioning unit.

APPRENTICE HONOR ROLL

Nine apprentices completed the fall semester with an average of 95 or better. Members of the honor roll are as follows:

Robert W. Bourgeois, Plant Electrical; John W. Cox, Spacecraft Structures; Carl E. Gray, Landing and Impact; Alton C. Hall and Stephen W. Willis, Simulator Development; George E. Hickman, Molecular Biophysics; Barry D. Meredith, Instrument Physics Research; William O. Moore, Reentry Physics; and Homer F. Rush, Research Equipment.

ALL CHANGE is not growth; as all movement is not forward. --Ellen Glasgow
ISA TO HEAR GEORGE PASSAGE

George Passage, the dean of Virginia newscasters, will present "A Visit to the South Pole" at the February 25 meeting of Instrument Society of America. Passage was one of a group which went to Antarctica, and he will include some film shots of his visit in his talk.

Passage has been editorial editor of the Daily Press and news analyst with WGH Radio since 1958. He has received the highest awards of the Virginia Association of Broadcasters for the past four years. He is associated with the National Press Club and other professional organizations and with the Peninsula United Fund. He served in World War II as instrument flight instructor and also received battle stars for action in the Pacific.

Thomas J. Kehoe, ISA President, will be guest at this meeting. He will give a short state-of-the-ISA message.

This will be ladies' night and wives and guests are cordially invited.

The meeting will be held at the Elk's Club at Tide Mill Lane and LaSalle Avenue in Hampton. The steak dinner will be five dollars per couple. A social hour will start at 6:30 p.m., followed by dinner at 7:15 and the meeting at 8. For reservations call Pat Kyle, 3492.

Can You Solve This Problem?

Sulfuric acid is an undesirable and highly visible air pollutant. It is formed as the oxidized end product in many industrial exhaust streams containing sulfur gases. It scatters light so strongly that the apparent density of the plume is much greater than that of an equivalent water droplet plume. A means for completely removing sulfuric acid mist from a gas stream is needed. Refer to SRI/AP-18. Contact the Technology Utilization Office, extension 3281, for the problem abstract or if you have a contribution.

What About The Problems!

The problems listed in the Researcher, on the cafeteria tables and provided to the technology utilization monitors in each division have been documented by five NASA sponsored Biomedical or Technology Applications Teams.

These teams, located at non-profit institutions, work with other government and city organizations, research medical facilities, hospitals and rehabilitation centers to identify problems requiring solution. It is the interest of this effort to more rapidly utilize technology generated in NASA aerospace programs to solve medical or public sector problems.

An electronic system known as the Complex Coordinator which was submitted by Dr. Jim Scow, Life Support Research Group, as a potential solution to an air pollution problem, has been accepted as the desired solution. Congratulations, Doc!

The following persons should also be congratulated for their contributions of potential solutions, which have been forwarded to the application teams for evaluation:


ARCHERY CLUB: The NASA Bowmen will meet February 24 at 7:30 p.m. at the Activities Building. All members and interested persons are invited to attend.

PUTTING WORDS INTO PEOPLES’ MOUTHS

How sweet it is!

Oh, I really dig that soul music!

Jam up and jelly tight.
Now you’re outta sight.
You look a little naughty.
But you’re so polite.

TWO EUROPEAN TOURS PLANNED

Final plans are being made by the Activities Association for two European tours. The big news to date is that the price of the August 18 to September 8 tour has been reduced from $780 to $648.80 for the complete tour and from $330 to $298.80 for airfare only.

The second tour will run from November 8 to November 29 and the cost remains $638.50. Travel only will be $268.50.

Both tours will include visits to England, Holland, Germany, Switzerland, Austria, Italy, and France.

Persons planning to go on either tour are reminded that a $50 deposit on the airfare and a $50 deposit on the land portion must be made by April 1 to insure reservations.

A complete itinerary and additional information may be obtained from Linda Tribeck, 2058, or Ernie Greene, 3071.

IAM MEETING: The NASA Lodge No. 892, International Association of Machinists, will meet March 3 at 7 p.m. at the Central Labor Union Hall.
SOLAR ECLIPSE: These three photographs show three stages of a solar eclipse. A partial eclipse is shown at left as the moon begins to cross the sun. The center photo shows the solar corona at total eclipse. As the sun (right) comes into view the so-called "diamond ring" effect is strongly exposed. -- Photos courtesy of Sky and Telescope

NASA SCIENTISTS TO CONDUCT INTENSE STUDY OF TOTAL ECLIPSE

Using spacecraft in deep space, Earth orbital satellites, sounding rockets and instruments on the ground, scientists will make an intense study of the 1970 eclipse of the sun tomorrow, concentrating on the effect the fairly abrupt and brief cessation of sunlight will have on Earth's atmosphere.

The bulk of the experiments sponsored by NASA will observe eclipse effects on the Earth's atmosphere and ionosphere but some will study the sun itself with observations only possible when the disk of the sun is occulted by the moon.

Highlight of the NASA-sponsored studies will be the launching of 32 sounding rockets from its Wallops Station facility including 26 on the day of the eclipse.

On the ground, NASA-sponsored observations will be made of the eclipse from three locations, two in Virginia and one in Mexico.

David Adamson, Head of Space Physics Branch, Aero-Physics Division, is eclipse coordinator for Langley Research Center. Langley associated experiments are as follows:

Flash Spectra of the Chromosphere - Gale Harvey, Applied Materials and Physics Division, will be at the Sandbridge (Va.) site. The experimenter will photograph the solar flash spectrum, light from the chromosphere between the corona and the disk too weak to be seen when the sun is not obscured. It can be photographed just before the sun becomes totally eclipsed.

Photography of Comets - As many as three unusual cameras owned by the Smithsonian Astrophysical Observatory (SAO) may be used during the eclipse in an effort to photograph (Continued on page 3)
HAPPENINGS

NEWHEIR. . . Celebrating the birth of a five-pound, eleven-ounce son, Stiegel Logan, on February 25 is Cary Spitzer, Viking Project Office.

FILM . . . The Peninsula Chapter of the National Multiple Sclerosis Society will show an educational film dealing with multiple sclerosis, which is a disease of the central nervous system, to interested staff members on Monday, March 9 at 11:45 a.m. and 12:30 p.m. in the Projection Room of the 7-x 10-Foot Tunnels Building (1212). The film, which is 15 minutes in length, deals with the symptoms of the disease and the treatment.

ICE CAPADES. . . The Hampton Roads Coliseum is offering staff members group discount prices for the Ice Capades which will be at the Coliseum April 8-12. Discounts will be for the following performances: 8 p.m. on April 8 and 9; 2 p.m. on April 11; and 6 p.m. on April 12. Prices will be as follows: $4.50 tickets will be $3.50, $4 tickets $3, and $3.50 tickets $2.50. Ticket prices for youths under 16 years of age will be $4.25, $2, and $1.75. Discount tickets will be handled by mail order only. Mail order envelopes will be available starting March 9 from district representatives, the cafeterias, credit union, and Activities Building.

EUROPEAN TOUR. . . Interested staff members are reminded that reservations and deposits for the two European Tours must be made at the Activities Building by April 1. Deposit for the charter jet and group land tour is $100 per person and deposit for the charter jet flight only is $50 per person. Fares for the August 18 to September 8 tour are $298.90 for airfare only and $678.80 for the grand tour. Prices for the November 8 to November 29 tour are $268.50.

FLYING DUTCHMAN: Bob James' Olympic Class Flying Dutchman will be on display at the Southeastern Virginia Boat and Sport Show in the Hampton Roads Coliseum March 14-22. Bob is the current U.S. Olympic competitor in the class and represented the U.S. in the 1968 Olympics. He recently won the Flying Dutchman Midwinter Championships at Miami where he won five races out of a ten-race series and was the only competitor to win more than one race. Bob is assistant branch head of Flight Projects, AMPD. He is currently training with crew Larry Hoffman, also of AMPD, in an attempt to represent the U.S. at the 1972 Olympics.

RECEIVE DEGREES: Two co-operative education students recently received their bachelor degrees from North Carolina State University and returned to the Center as full-time employees. Lamont R. Poole (left), who received his degree in Aerospace Engineering, is a native of Spencer, N.C., and has been assigned to the Re-entry and Recovery Section, AMPD. Robert M. Adams, Trenton, N. C., received his degree in Mechanical Engineering and has been assigned to the Space Vacuum Lab Section, AMPD. Poole was ranked second academically in the school's Department of Mechanical and Aerospace Engineering, while Adams was seventh. Another Langley co-op student from N.C. State, Roy Fleming, was first in the department at the time of the annual tabulation.

GOLF ASSOCIATION. . . The NASA Golf Association will meet at 7:30 p.m. on March 11 at the Activities Building. Final plans will be made for the season and officers will be elected. Last year the association had 92 members.

BOOKS NEEDED. . . Persons who would like to contribute books for the annual book sale of the Hampton Branch of the Association of American University Women are requested to call Mrs. E. E. Mathauser, 595-0515; Mrs. T. C. Kelly, 851-1470; or Mrs. W. J. Conley, 245-3747.

RECEIVES CERTIFICATE. . . A commendation certificate was recently awarded to Explorer Post 36 - NASA in recognition of an outstanding window display which was exhibited (Continued on page 8)
faint comets believed to be near the sun. Previous observations suggest that there are such comets but efforts to film them have been inconclusive. Scientists associated with the effort are Dr. R. E. McCrosky, SAO; Dr. Bertram D. Donn, Goddard Space Flight Center; and A. R. Wineman, Research Models and Facilities Division.

Photography of Coronal Structure - This experiment by Ames Research Center will use a better resolution of the low contrast, intermediate scale structure of the K-corona or electron corona to study the coronal structure. Investigators are Sheldon M. Smith and Milton Henderson, Ames, and Leonard M. Weinstein, Aero-Physics Division.

Photoelectric Photometry of the Solar Corona - A Langley experiment will be conducted in the path of totality at Manuatin, Mexico. It will use NASA’s Satellite Photometric Observatory, a completely mobile and self-supporting facility, originally built for precision tracking of satellites. The observatory, housed in a 16-ton truck, is a 24-inch Cassagrainian telescope, a four-axis tracking mount, and a four-channel, cryogenically cooled phototube detection system for intensity and dual-beam polarization measurements. The purpose of the experiment is to determine the intensity of the coronal radiation to an accuracy of one per cent. Davis S. McDougal, Applied Materials and Physics Division, is the scientific investigator.

Wayne L. Kitchen, Flight Instrumentation Division, will conduct a number of experiments including color movies of beginning and end of totality, sequence of color pictures covering entire eclipse, and photography of shadow bands.

COIN CLUB MEETS MARCH 17

The Langley Research Center Coin Club will meet at the Activities Building on March 17 at 7:30 p.m. Doors will open at 7 o'clock for socializing and trading. Guests are welcome.

Thayer Sheets and Bob Wright will give a program on coin grading. Also included in the activities will be the raffle of a 1959 U.S. proof set and a 1964 U.S. proof set, plus the auction. Members are urged to bring out their trading material so a table can be set-up for trading sessions.

At the last meeting the club had display night and much interesting numismatic material was shown. The raffle item, a BU Lincoln set from 1941 to 1969, was won by Butch Barringer.

The remaining club meetings this year will be held on Thursday evenings. It is hoped this will be more convenient for members and prospective members.

ECLIPSE SERIES: These 11 exposures are part of a series of 13 made at five-minute intervals near Valence, France, during the total eclipse on February 15, 1961. --Photo courtesy of Sky and Telescope

CENTURY'S LAST TOTAL ECLIPSE

(Continued from page 1)

Scotia and Newfoundland, eventually terminating in the North Atlantic. Locally, the eclipse begins at 12:17 p.m. and ends at 2:50 p.m. Totality occurs at approximately 1:35 p.m. For an observer stationed along the center of the path of totality the total eclipse lasts longer than it does for one watching from near the edge of the path. Newport News and Hampton lie toward the western edge of the path. Totality lasts between 42 and 90 seconds, depending upon location. Cities south of the James River lie closer to midshadow and will have about 2 minutes, 44 seconds of darkness.

About 10 minutes before totality the darkness begins to be sensed and the remaining light, coming as it does from the edge of the sun alone, is much altered in quality so that both sky and landscape take on strange colors. Animals are preplexed by the darkness and birds go to roost. The temperature falls and dew can appear.

A few minutes before the shadow reaches the observer, quivering, ripple-like shadow-bands of the moon on Earth appear on every white surface just before totality. The last disappearing shred of the sun is often broken up by the irregularities of the moon’s edge into specks called Baily’s Beads. With the arrival of the full shadow, the corona or luminous sun’s atmosphere which rings the moon, becomes visible, showing eruptions of the sun and the solar flares.

As the total phase ends a narrow crescent of the sun will reappear on its lower edge. This will enlarge for about an hour until the moon has moved off and the sun again shines with its usual brilliance.

CAUTION! Warnings about eye damage from watching the eclipse have been issued by the American Association of Ophthalmology and the National Society for the Prevention of Blindness.

The organizations say damage to the eyes from eclipse-watching involves burning the retina, and it is difficult to tell when such damage is occurring because the retina is insensitive to pain.

The damage produces a blank spot in the field of vision at the vital area of the retina used for reading and fine seeing. The damage is permanent -- incurable.

RABBITS NEEDED: The Children’s Committee of the Activities Association would like for someone who has live rabbits to bring them to the annual Easter Egg Hunt on Sat., March 28. Persons interested in helping with the hunt and games are also needed. Please call Elizabeth Buchan, 2583.
**CAFETERIA MENU**

The following menu will be served in the cafeterias during the week of March 9:

**Monday** - Puree of bean soup, roast ribs of beef, barbecued pork chunks, broiled fish, Spanish omelette. Snack bar - Soup, barbecued, hot corned beef, French fries.

**Tuesday** - Beef broth, roast pork, chuckwagon steak, beef stew, meatless ravioli. Snack bar - Soup, ham and egg sandwich, chuckwagon steak, French fries.


**Thursday** - Cream of tomato soup, shortribs of beef, fried chicken, grilled pork steak, tamale pie. Snack bar - Soup, hot dog, flying saucer, French fries.

**Friday** - Manhattan clam chowder, baked Virginia ham, seafood Newburg, chicken pie, baked hash. Snack bar - Soup, sea dog, hot pastrami, French fries.

The menu for the week of March 16 is as follows:

**Monday** - Cream of mushroom soup, Spanish pot roast, smoked pigs-in-a-pone, fried fish, grilled cheese. Snack bar - Soup, grilled cheese, hot roast beef, French fries.

**Tuesday** - Split pea soup, corned beef and cabbage, Irish stew, Salisbury steak, fish cakes. Snack bar - Soup, fish sandwich, hot corned beef, French fries.

**Wednesday** - Puree of bean soup, chopped steak, stuffed flounder, creamed beef on toast, western omelette. Snack bar - Soup, ham and egg, Lou's satellite special.

**Thursday** - Vegetable soup, hot roast beef sandwich, broiled fish, fried chicken, chili con carne. Snack bar - Soup, hamburger, hot roast beef, French fries.

**Friday** - Cream of celery soup, grilled steak, fried shrimp, chicken chow mein, macaroni and wiener. Snack bar - Soup, hot dog, steak sandwich, French fries.

**HAMILTON DIES UNEXPECTEDLY**

James "Scotty" Hamilton, Assistant Chief of Research Support Division, died unexpectedly on February 18. Hamilton was born November 22, 1909 in Scotland. He served in the Royal Navy from 1938 to 1946. At the time of his discharge he was a Lieutenant Commander.

He joined the Center staff in 1946 and was appointed to his position as Assistant Division Chief when that division was established last year.

He is survived by his widow, Mrs. Margaret M. Hamilton of Newport News, and two sisters, both of Scotland.

**HASTINGS ENGINEER OF THE YEAR**

At a meeting attended by approximately 200 engineers, wives and guests of local engineering groups, Charles E. Hastings was proclaimed Engineer of the Year for the Virginia Peninsula. The occasion was the fourth annual joint meeting of engineering societies on the Virginia Peninsula.

The meeting featured a dinner and a keynote speech by Dr. Dorothy M. Harms, professor of business administration at Hampton Institute and the George Washington University graduate school. The evening was concluded with dancing to the music of Ben Dale and the Co-ops.

Robert C. Basford, president of the Peninsula Chapter of the Virginia Society of Professional Engineers, presented a certificate citing Hastings for his active participation in engineering activities and community affairs.

Hastings, a registered professional engineer in the State of Virginia, was born in Baltimore, Maryland, and received his B.S. degree in Electrical Engineering from Johns Hopkins University. He joined the Center staff in September 1935. While here he served as head of the Instrument Development Section. In 1940 he married Mary Comstock, a graduate physicist, who was also employed at Langley.

He left the Center in 1944 and founded the Hastings Instrument Company which was later to become Hastings-Raydist, Inc. Hastings was president, chief engineer and chairman of the board when his firm merged with Teledyne in March 1968.

**CREDIT UNION HELPS STUDENTS**

The Langley Federal Credit Union is now an accredited lending institution under the Federally Insured Student Program. This means that, on a one-year trial basis, eligible students may submit applications for low cost loans to assist in financing college work or vocational training during the school year 1970-71. Funds for future years will depend upon the Board's evaluation of this year's experience.

Those interested, parent or student, should stop by the Credit Union as soon as possible and pick up an informational brochure and an official application form. Students to be eligible must have a parent who (1) is a member of the LFUC, and (2) is currently employed on LAFB or is retired and living in the local area. This program is a great break for parents since the student is solely responsible for the repayment of the loan.

Other features include a 7% annual percentage rate with the Government paying during enrollment if the family adjusted income is under $15,000; a repayment plan beginning 9 months after enrollment ends and stretched over several years; and provision for deferment in cases of post-graduate work, Peace Corps service, or duty with the Armed Forces. School approved applications must be submitted to the Credit Union not later than May 1, 1970. Students will be notified of Credit Committee action on or about June 1.

**ANY BOSS with a weakness for apple polishing, deserves the employ of the apple polisher.**

--Sabol
SPECIAL ACHIEVEMENT AWARDS: Four staff members were recently honored with Special Achievement Awards. Laurence Loftin (above), Assistant Director, congratulates Leonard Weinstein and Arthur Henderson, Aero-Physics Division, who received a joint award "for an outstanding contribution in developing a unique, practical, and simplified method of helium flow visualization which significantly aids helium wind-tunnel research." Dr. George Brooks (top right photo), Assistant Director, presents the special award to Sandy Stubs (right), Structures Research Division. Sandy was cited "for continued highly productive research on the landing impact problems of spacecraft and logistics vehicles and for developing and implementing advanced technologies for the evaluation of the landing characteristics of such vehicles." Mary Edwards (right), Instrument Research Division, received her award "for her sustained superior performance in the outstanding preparation of data acquisition system specifications for the Unitary Plan Wind Tunnel, the 7- by 10-Foot High-Speed Tunnel, the V/STOL Tunnel, and the Transonic Dynamics Tunnel."

TECHNOLOGY UTILIZATION NEWS

The solution to air pollution, as well as crime prevention and other public sector problems now in the limelight are dependent largely on the imaginative application of new technology. Buried in NASA's growing stockpile of technology are many solutions awaiting someone to match them with the existing public sector problems. Half the battle, however, seems to lie in the problem definition phase.

To provide a systematic approach to public sector problems, the Technology Utilization Division has established the use of Technology Application Teams which function along similar lines used so successfully by the Biomedical Application Teams. These "BAT" groups have identified and defined over 400 important biomedical problems over the past three years. Significant technology transfers have been made to over 100 of these problems.

The concept of the "TAT" groups is that of a catalyst in bringing together the expertise of NASA and the technical needs of the public sector. The TAT team at IIT Research Institute, for example, is concentrating on problems in law enforcement and mine safety.

In the area of mine safety, the team discusses and carefully defines problems with the U.S. Bureau of Mines, the Committee on Mine Rescue and Survival of the National Academy of Engineering, the Bituminous Coal Operators Association and the United Mine Workers Union.

Problem Statements, such as those published in Langley Research, are concise documents which present all of the important characteristics of the problems in technical terms which can be recognized. The teams investigate all leads to solutions of these stated problems.

At the Research Triangle Institute, for example, the TAT team there specializing in air pollution is anxiously awaiting your ideas to help solve the problems they are so carefully compiling.

Contact the T.U. Office, 3281, for more specific information on how you can help solve these important public sector problems.
TRAINEES COMPLETE PROGRAM

A completion ceremony was held recently for clerical and mechanical trainees nearing the completion of one-year training programs. Thirteen clerical trainees and 12 mechanical trainees received certificates from Norvelte Downing, Executive Director of the Newport News Office of Economic Opportunity, and T. Melvin Butler, Assistant Director for Administration.

Center Director Edgar M. Cortright presented three awards. Gwendolyn R. Burton received an award for the highest scholastic average for the year; Samuel W. McKoy was cited for dependability; and Dorothy M. Valentine was recognized for making the most progress during the year.

Clerical trainees receiving completion certificates were Millie Boone, Carolyn Brown, Gwendolyn Burton, Mary Cox, Claudia Ervin, Brenda Gooch, Alberta Reid, Marion Savage, Carolyn Scott, Evon Stamps, Portia Thomas, Dorothy Valentine, and Synade Whitaker.

Mechanical trainees receiving completion certificates were Raymond Carter, Marvin Lowrie, David Ward, Frank Williams, Clarence Mason, Samuel McKoy, Robert Johnson, Frank Lipkins, David Bazemore, James Sinclair, Edward Earlie, and Donald Chavers.

Six instructors from the Center staff have worked with the trainees during the past year. In the clerical training program Eloise McGehee, Administrative Services, taught clerical English; Evelyn Myers, Office of Chief Counsel, was instructor in secretarial practices; and Katherine Johnson, Aeronautical and Space Mechanics Division, taught office arithmetic.

In the mechanical training program there were three instructors from Research Support Division. Fred Eichenbrenner taught general mathematics and algebra; Horace Bellamy was instructor in blueprint reading and drafting technology; and Thomas Hall taught shop applications.

Training coordinators for the two programs were John Witherspoon, Clerical Training Program, and Frank Penland, Mechanical Training Program. J. Norwood Evans, Assistant Personnel Officer was contract administrator for the two joint OEO–NASA training programs.

LIBRARY OPEN EVENINGS

The staff is reminded that the Langley Research Center Library is now open until 8:30 p.m. on Tuesdays and Thursdays.

A special invitation is extended to any interested persons to take advantage of these extended hours of service.

THE DOGMAS of the quiet past are inadequate to the stormy present... As our case is new, so we must think anew and act anew. We must disenthrall ourselves. --Lincoln

COST REDUCTION TIP: Clean out and turn in file cabinets.

from work that will be required.

It is Langley policy to restrict approved outside employment to a maximum of 20 hours a week. Approval for outside employment will be granted for an indefinite period of time unless the employee specifically requests that the approval be limited to a specific period. When the outside work is discontinued, the employee is to notify the Assistant Personnel Officer.

OUTSIDE EMPLOYMENT POLICY

Staff members are reminded that in order to engage in private employment outside NASA, prior approval must be obtained from Center officials.

NASA employees may not engage in outside employment which might reasonably result in conflict of interest or an apparent conflict of interest between the private interest of the employee and his official Government duties and responsibilities. Employees are not permitted to work for any firm having a contract with Langley Research Center.

In the absence of such conflict, however, NASA employees are entitled to the same rights and privileges as other citizens and there is no general prohibition against NASA employees engaging in outside employment if the employee's performance of his Government job is not adversely affected by the outside work, and the employee's outside employment does not reflect discredit on the Government or NASA.

A request for permission to engage in outside employment should be submitted to the Assistant Personnel Officer, through official channels, and contain the following facts:

1. Employee's name, title, grade, and salary.
2. Full description of specific duties or service to be performed.
3. Name and business of person or organization for which the work will be done.
4. Estimated total time that will be devoted to the activity. (If on a continuing basis, the estimated time per year; if not, the anticipated ending time.)
5. Whether service can be performed entirely outside of duty hours; if not, estimated number of hours of absence

TRAINEES HONORED: A completion ceremony was held recently for clerical and mechanical trainees who had completed one-year training programs. Dorothy Valentine (top) receives a special award for making the most progress during the year from Edgar M. Cortright, Director. Six staff members (above) instructed the trainees in various subjects. They are (from left): Horace Bellamy, Fred Eichenbrenner, Thomas Hall, Evelyn Myers, Eloise McGehee, and Katherine Johnson.

COSTREDUCTION TIP: Clean out and turn in file cabinets.

from work that will be required.

It is Langley policy to restrict approved outside employment to a maximum of 20 hours a week. Approval for outside employment will be granted for an indefinite period of time unless the employee specifically requests that the approval be limited to a specific period. When the outside work is discontinued, the employee is to notify the Assistant Personnel Officer.
DAVIS SPEAKS FOR GRADUATES

(A number of employees have requested copies of the speech given by Everette Davis, Dynamic Model Development Section, at the apprentice graduation ceremony February 20. The speech is printed here in its entirety.)

Mr. Cortright, distinguished guests, ladies and gentlemen, welcome to the 27th Langley Research Center Apprentice School completion exercises.

Four and one half years ago, in the spring of 1965, 340 individuals took the examination for this apprentice school. Of this number, 40 per cent received a passing grade, 8 per cent were chosen for employment, and 5 per cent have made it to this day of graduation. While we take pride in being that 5 per cent, we realize that the proof of our potential lies much more before us now than behind. Did we learn? Have we accurately discerned the vital from the trivial, the wise from the foolish? Has our growth as men remained equal to our refinement as technicians? Having worked closely with men of all types, do we recognize which characteristics to emulate, and which to shun? Our hope is that the answer to each of these questions is yes; our purpose, to prove it true.

Today we join many of you in the ranks of technicians, to work by your sides as full partners. There is no finer welcome you could give us than to continue to offer the help, the encouragement, and the understanding that has meant so much to us in these past four years. If we have ever failed to acknowledge the value of your assistance, let us do so now.

We would like to extend our thanks also to our instructors, most of whom are engineers and former graduates, concerned enough with the apprentice program to add the burden of teaching to schedules that are already heavy, often without adequate recognition. And there are those special few who have attempted to take us beyond the required parameters of instruction, who have shared with us their work and their enthusiasm, who have labored to instill in us a drive for knowledge. To you, and to those of the Training Office and management, who made our concern their concern, and dealt with us so honorably, we can only say, ‘Gentlemen, we could not hold you in higher respect.’

It seems somehow fitting that 1969 and 1970 graduates should share this day. Between us, we bring one decade to a close and open another, the first apprentices to graduate post-lunar landing. NASA accepted the challenge of the ‘long climb,’ and won; man on the moon before 1970. Now, having touched the moon, NASA looks outward to the planets and back to the Earth, back to the problems that, for some, dulled the grandeur and obscured the purpose of such an achievement. This class graduates as plans solidify for a vast accumulation of aerospace technology is brought to bear on conservation of resources, pollution of air and water, transportation systems, industrial techniques, ecological balance, and medicine. At a time such as this, if any one word best describes us, perhaps that word should be ‘impatient.’ To many, it seems, impatient has poor connotations - immature, over eager, unthinking. By impatient, we mean that we want to become a part, rapidly; we want to be involved, totally; we want our intelligence and our ability to

BLOOD PROGRAM: Dr. Thomas O. Paine, NASA Administrator, kicks off the 1970 blood drive by donating the first pint at Headquarters. Last year Center employees donated a total of 874 pints of blood during five Bloodmobile visits. The Red Cross recently presented a Certificate of Appreciation to Center staff members for Langley’s accomplishment in exceeding its assigned quota in 1969. The next Bloodmobile visit to the Center will be on March 18. Persons who have not registered for this program and are interested in participating are requested to call East Dispensary, 2243.

NASA SLOW PITCH SOFTBALL TEAM

A slow pitch softball team, sponsored by the Activities Association, is being organized to participate in the Newport News Softball Association (NNSA) Recreation League, the toughest slow pitch softball league on the Peninsula. All NASA employees are invited to try-out for this team. Players will be selected on a competitive basis. Each man will be given an opportunity to try-out for any position he desires.

A meeting will be held March 11 at 7:15 p.m. in the Activities Building to discuss organizational and operational details of the team. All LRC employees interested in becoming a member of this team should attend. For additional details contact Tom Moore, extension 2528.

DID YOU KNOW? You can help cost reduction by reducing the distribution of documents and reports and by combining or eliminating some documents and reports.

A SOUND discretion is not so much indicated by never making a mistake as by never repeating it. - Bovee

be the only stops on the speed with which we progress. Our work compels us to search out the weakest part of a system, to weigh to the hundredth part of a gram, to build the thousandth part of an inch, to measure time to the millionth part of a second. Our impatience compels us to search out the best within ourselves and others.

As we make this transition today, we each take a personal vow, to remember that which we feel was right, and propagate it; to remember that which we feel was wrong, and attempt to set it right. To those who shall follow us, and to those who now work with us, we shall endeavor to be the givers of good gifts.”
SWAP AND SHOP
WANTED
Ride from 1104 Todds Lane to E.A. on 8 shift. Jean Miller, 2605.
Three co-ops need old furniture suitable for antiquing. Rees, 3621.
Research project section needs slate blackboard. Wood, 3754.

FOR SALE
Double jalousie aluminum window with screen - 67 3/4 inches wide x 51-1/4 inches high x 2 inches thick - $35. McArthur, 596-2543 after 5 p.m.
1964 Corvair Spyder sports coupe - $600. Kowitz, 622-7513, Norfolk, after 5 p.m.
14-foot runabout with 10 hp motor and trailer - $275.
Siviter, 723-1989.
72 x 42-inch mahogany drop leaf table with table pads. White, 877-1714.
20-gauge Ithaca pump model 37 DVR shotgun. Miller, 595-5058.
3-bedroom, 2-bath ranch house and apartment, air conditioned, 3/4 acre with access to water - located in York County (Marlbank) - $52,900. Roberts, 898-5140.
Seal Point Siamese kittens without papers; also 61-inch vertical venetian blind. Lockett, 595-6262 after 5 p.m.
17-1/2-foot Kenskill travel trailer, sleeps 4, toilet and shower facilities, gas stove, refrigerator, hitch and brakes - $1200. Sawyer, 393-9437.

PUTTING WORDS INTO PEOPLES' MOUTHS

Well, John R., are the ben lines short enough for you?

CONSULTANT VISITS: Richard McCurdy (right), newly appointed NASA Consultant on the Administrator's Management Development Panel, and James Nolan (left), NASA Office of Management Development, visited the Center last week. Shown with them are Laurence Loftin (second from left), Assistant Director, and John Becker, Chief of Aero-Physics Division.

HAPPENINGS
(Continued from page 2)

at Penney's Department Store in Newmarket Shopping Center during Boy Scout Week. The display depicted some of the milestones reached by NASA during the last few years, with particular emphasis on the Apollo program, and showed how NASA is working with scouting to interest young men in science. Included in the exhibit were displays of a few of the experiments of members of Explorer Post 36. The award rated the display as first place in its field.

TELEPHONE NOTICE... NASA officials have received complaints from GSA switchboard operators who have had NASA employees demand that the GSA operators complete telephone calls over the FTS Network from off-net locations. It is a NASA policy that NASA employees and NASA contractor employees will not make off-net to on-net FTS calls.

MORE than one woman who henpecked her husband has found him cuddling some chick.

THE FIRST half of our lives is ruined by our parents and the second half by our children. - Clarence Darrow
CHILDREN'S ANNUAL EASTER EGG HUNT PLANNED FOR SAT., MARCH 28

The Activities Association's annual Easter Egg Hunt for children of Center employees will be held on Saturday, March 28 at 1:30 p.m. on the grounds of the Activities Building. The annual event is for NASA children and is free.

Two areas will be marked off - one for children ages 1 through 4 and one for children ages 5 through 7.

Six regular chicken eggs (well marked) will be hidden and prizes will be awarded to the children who find them.

Please have each child bring a basket or a small paper bag for their eggs.

For children 8 through 10 there will be games such as egg-rolling contests, sack races, and egg relays.

Persons who would like to volunteer to help during the egg hunt are asked to contact Elizabeth Buchan, Chairman of the Children's Committee, extension 2583.

SOLAR ECLIPSE DATA STUDIED; STAFF MEMBERS CONDUCT TESTS

Scientists are studying the largest amount of data ever gathered on a solar eclipse from ground observations and from rocket-borne experiments after the sounding rocket barrage from Wallops Island March 6-8.

It will be several months before most of the scientific information gathered from the sounding rockets as well as ground and spacecraft observations will be analyzed. Scientists are especially interested in comparing data from ground observations with those from sounding rocket and satellite measurements.

NASA-sponsored ground observations of the eclipse on March 7 all had ideal viewing conditions at two sites in Virginia and one in Mexico. Langley Research Center experimenters at Langley, Sandbridge, and near Miahuatlan, Mexico, reported their instrumentation worked well and that good data were obtained.

In order to assist various NASA and other scientists planning to make observations of the eclipse a Langley Working Group in support of the Solar Eclipse Activities was established. Members of the working group were: David Adason, scientific and technical co-chairman; Jess Ross, administrative co-chairman; Dr. Robert Costen, secretary; Dr. Samuel Katzoff, ex-officio; William B. Mayo, Edward B. Boswell, John N. Daniel, Daniel S. Wentz, Harry Hamilton.

(Continued on page 4)
**HAPPENINGS**

**PURCHASE REQUESTS.** In order to expedite processing purchase requests, staff members are requested to forward all requests to Property Control and Utilization Branch, Mail Stop 221, in lieu of MS 148.

**NEWLYWEDS.** Wedding bells rang March 7 when Sharon Huggett, Dynamic Loads Division, took her final vows with Terry E. Lantz, Mt. Jewett, Pennsylvania, at Temple Baptist Church, Newport News.

**DAFFODIL SEASON.** The Tidewater Virginia Daffodil Society, which includes a number of Center employees as members, is presenting its Annual Daffodil Show on March 28 and 29 at Nachman’s Community Room in the Warwick Shopping Center of Newport News. Saturday hours are 2 p.m. to 6 p.m. and Sunday from 1 p.m. to 5 p.m. Jane A. Moore, Aero-Physics Division, one of three Regional Directors of the Middle Atlantic Region of the American Daffodil Society, Inc., is Coordinator of Clerks and Records and Schedule Co-Chairman of the Annual Daffodil Show. Irene P. Christian, Dynamic Loads Division, and Mercer W. Christian Jr., Fabrication Division, are serving as Chairmen, Rearrangement of Entries. Several Langley employees will have daffodils in the colorful show, which usually attracts entries from many sections of Virginia and nearby states.

**AFGE MEETING.** The NASA Lodge 2755 American Federation of Government Employees will meet on Wednesday, March 25 at 7:30 p.m. at the Central Labor Union Hall.

**BOATING COURSE.** The U.S. Coast Guard Auxiliary’s free public education course in basic seamanship is again being offered by Flotilla 61 of Hampton. This eight-lesson course will begin at 7 p.m. on Tuesday, March 24, at Flotilla Home Base, 523 Bridge St. The class will meet each Tuesday and Thursday evening through April 16. All hands are eligible for enrollment and may do so simply by attending the first session on March 24. For further information contact W. W. Bailey, 851-7464, or T. C. Brittain, 596-8134.

**OPERATION BIRTH-IN:** Members of Research Operations Section were quite surprised when a female member of the feline family mistook their quarters for a maternity ward. Comforting the mother and her new family of five is Lloyd Nelson, Research Support Division.

**TRAINING PROGRAM:** Officials of the Langley Research Center and the Newport News Office of Economic Opportunity (NNOEO) recently launched a second clerical training program. Under the program trainees will participate in a one year training effort designed to improve skills of the trainees. Discussing the program are seated (from left): Ronald Bensten, Deputy Director of NNOEO; William Convery, NNOEO Finance Office; T. Melvin Butler, Assistant Director for Administration; Norville Downing, NNOEO Executive Director; and Edward T. Maher, Deputy Equal Employment Opportunity Officer at Langley. Standing - David Caplan, Langley’s Office of Chief Counsel, and J. Norwood Evans, Assistant Personnel Officer.

**WATCH THAT PAINT.** The Air Force is planning to spray paint the two water tanks near the Boat House in East Area. For the next month, Center employees are advised not to park in this area.

**AUTO TAGS.** Virginia State and Hampton City automobile licenses will be sold at the Phoebus Amoco Station, 201 E. Mellen Street through April 15. The office will be open daily including Saturday, from 8 a.m. until 6 p.m.

**SOFTBALL TEAM.** Tryouts for the NASA slow pitch softball team that will participate in the Newport News Softball Association this year, will begin at 5 p.m. March 30 on the field behind the Activities Building. Persons interested in trying out for the team should contact Tom Moore, 2528.

**WEDDING BELLS.** Wedding bells rang on March 11 when George C. Firth, Research Models and Facilities Division, took his final vows with Wanda Sue Columbia, Newport News. The wedding took place at the home of the groom in Newport News.
BATTERTON DIES UNEXPECTEDLY

Sidney A. Batterson, Head of Landing and Impact Branch, Dynamic Loads Division, died unexpectedly March 9 in Riverside Hospital.

Batterson was born July 11, 1916 in Cincinnati, Ohio. He received his B.S. degree in Aeronautical Engineering from the University of Cincinnati and joined the Center staff on January 25, 1940. He was recognized as an authority on landing gear design and aircraft landing and braking.

Among contributions he made to the space program was the dynamic landing experiment of the Surveyor spacecraft which made a soft landing on the moon preceding the Apollo flights.

Surviving are his wife, Mrs. Carol Batterson; two sons, James Gary and Steven Lee, all of Newport News.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of March 23:
- Tuesday - Vegetable-beef soup, pot roast, smoked ham, deep-fried liver, baked hash. Snack bar - Soup, ham and egg, hot roast beef, French fries.
- Wednesday - Chicken-noodle soup, chicken and dumplings, veal cutlet, broiled fish, franks and beans. Snack bar - Soup, hot dogs, veal cutlet, French fries.
- Thursday - Puree of bean soup, barbecued pork chunks, beef steakette, stuffed pepper, grilled cheese. Snack bar - Soup, grilled cheese, baked ham, French fries.
- Friday - Manhattan clam chowder, broiled fillet, boiled ham, chicken croquettes, Spanish omelette. Snack bar - Soup, fish, hot corned beef, French fries.

The menu for the week of March 30 is as follows:
- Monday - Consomme julienne, beef stroganoff, grilled pork steak, salmon loaf, tamale pie. Snack bar - Soup, hamburgers, sliced barbecue, French fries.
- Tuesday - Split green pea soup, country steak, fried oysters, chicken chop suey, chili con carne. Snack bar - Soup, barbecue, steak sandwich, French fries.
- Wednesday - Vegetable-beef soup, roast beef, liver and onions, fried chicken, Austrian ravioli. Snack bar - Soup, ham and egg, hot roast beef, French fries.
- Thursday - Cream of tomato soup, pepper steak, broiled fish, beef stew, macaroni and wiener. Snack bar - Soup, hot dogs, steak sandwich, French fries.
- Friday - Cream of mushroom soup, baked ham, chicken pie, fried fish, baked hash. Snack bar - Soup, sea dog, baked ham, French fries.

PROGRAM FEATURES NASA TRANSFER

A special program featuring transfers from NASA research has been scheduled for each Sunday through April 12 at the Planetarium of the Peninsula Junior Nature Museum, located at J. Clyde Morris Boulevard, Newport News.

The program, which is about an hour in length, consists of a planetarium type show along with a lecture, illustrated with slides on aerospace transfers. Two performances are given each Sunday - 3 p.m. and 4 p.m. There is an admission charge of 75 cents for adults and 50 cents for children below the age of 13 for the planetarium type show.

A MAN’S liquor lubricates his wife’s sharp tongue. -Sabol

MOON RICKSHAW: This is a prototype of the Module Equipment Transporter (MET), nicknamed the Rickshaw after its shape and method of propulsion. The MET will be the first wheeled vehicle on the moon and will be used first by the Apollo 14 crew. The MET will be of great value during lunar surface extravehicular activity. It will be a portable workbench with a place for the lunar handtools and their carrier, three cameras, two sample container bags, a special environmental sample container, spare film magazines, and a lunar surface penetrometer.

TECHNOLOGY UTILIZATION NEWS

Benefits to man from Earth satellites are continuing to increase as our satellites become more specialized and sophisticated. Satellites are the practical working tools of the space program and have already caused a revolution in communications, navigation, geodetic surveying, and weather forecasting. Earth resources satellites promise to benefit man greatly in the seventies as a tool to survey his storehouse of food, water, and minerals from an orbital vantage point.

Delicate remote sensing equipment aboard the newest Earth Resources Technology Satellites is expected to enable agriculturists, for example, to identify the types of crops growing hundreds of miles beneath the satellite and to observe such things as growth rate, crop vigor and health. Repetitive observations are expected to show the emergence of insects or disease which, if left unchecked, could wipe out a crop.

Sensors aboard the satellites are also capable of detecting forest fires or subterranean heat sources. Ocean currents may be more accurately plotted and air or water pollution sources may be pinpointed. With a little imagination, many more uses of satellites will be made.

Such useful space tools are significantly affecting the quality of our life here on Earth and their payoff will amount to billions of dollars per year, far more than the cost of the entire space program.

DID YOU KNOW? Langley Researcher has an Advisory Committee to help make the paper more interesting to more staff members. If you have any suggestions or bits of news you may call the Researcher Office, 3611, or one of the following committee members: Rupert Bullard, 2214; Rita Southall, 3526; Elizabeth Buchan, 2583; Jack Antinori, 3141; Marvin Waller, 2885; Wayne Goff, 2466; Jim Osborn, 2956; or Larry Rowell, 2988.
SOLAR ECLIPSE DATA STUDIED
(Continued from page 1)

ton, and Glenn Ford. Consultants for the group were Frederick R. Morrell, Leonard M. Weinstein, Gale A. Harvey, and Joseph B. Emerson.

Langley sponsored experiments and members of the groups were as follows:

Assisting Dr. D. E. Billings, University of Colorado, in the measurement of coronal polarization were Frederick Morrell and Benjamin O. Smith, Flight Instrumentation.

Leonard M. Weinstein, Aero-Physics, assisted Sheldon Smith, Ames Research Center, in coronal photographs.

Using cameras installed at the solar test facility at Langley for an AMPD experiment were Robert B. Lee, Edwin J. Prior, James A. Mullins, Gerald Keating, William Lee, William Parker, and Max Bryan.

In the flash spectra experiment Gale Harvey was assisted by Roy Proctor and Ian MacConochie.

Robert Mack and P. F. Walker took coronal photographs and Edwin Davenport used a 4.5-inch refracting telescope for accurate timing of eclipse contacts.

Dr. James D. Lawrence, IRD, and S. L. Ocheltree conducted a laser experiment at Wallops.

Wayne Kitchen, Flight Instrumentation, was project engineer for an optical support group. He was assisted by Sam Sokol, Robert Young, Carl Munday, Charles Stump, Joe Kubalak, and Stan Press.

Andrew R. Wineman, AMPD, was contract monitor for two superschmidt cameras at Wallops and Robert M. Henry and James C. Manning, Dynamic Loads, were in charge of eight meteorological payloads launched from Wallops.

Members of the team which went to Miahuatlan, Mexico, were David McDougal, Mark S. Brumfield, Boyd Williams, and A. Gary Price. Members of their support team at Langley were Dwight McSmith, Gerald Keating, Jack Cooper, and Janice Grow.

Other staff members who were connected with various phases of the eclipse were as follows: R. B. Forrest, Kenneth Cole, C. A. Cottrill, Duane McSmith, H. B. Pate, Carl Baab, John Sundy, Ralph Wagner, Colon McMath, Dr. Frank Hohl, M. B. Seyffert, David Williams, W. L. Simpkins, Al Voitlein, Jack Lewis, Al Bell, John Borowski, Clarence Caldwell, Jerry Nichols, Robert Bourgeois, Ed Zellers, Jerry Wright, Edgar Reeves, James Neal, and Joel Zoeffel.

GOLF TOURNAMENT: The NASA Golf Association will hold its first tournament on Friday, April 17 at the Langley Golf Course. A cook-out will be held at the Activities Building following the tournament. Tee times will be reserved. The one dollar entrance fee should be paid by April 13. Membership fees ($3) for new members should be paid by April 7 and 1969 members should pay their fees ($3) by May 1. All fees should be sent to Lemuel Forrest, M.S. 236. State tee time desired and names of foursome. For further information call Bill McMillan, 3141.

NASA HEADQUARTERS CHANGES HOURS: Effective Monday, March 30, the working hours for employees of NASA Headquarters will be changed to 8 a.m. to 4:30 p.m.

COST REDUCTION SHOPPING LIST: Eliminate unnecessary cleaning requirements; schedule your work to improve efficiency; simplify checkout and test procedures.

SOLAR ECLIPSE SERIES: This series of pictures of the March 7 solar eclipse was taken by Robert W. Herr, Dynamic Loads Division. The pictures in the sequence were taken at 10-minute intervals.

GRIEVANCE PROCEDURES CITED

The Langley Research Center recognizes and endorses the importance of bringing to light and adjusting employee dissatisfaction. The opportunity for consideration of dissatisfaction should normally be a part of the day-to-day relationships between employees and their immediate supervisors. Thus, an employee should first discuss his complaint with his immediate supervisor, within ten (10) workdays of the occurrence of the problem.

In the event the complaint involves the immediate supervisor, the first contact may be with the next level supervisor. A large majority of all complaints should be settled at this informal stage. However, if the employee cannot resolve his complaint informally through oral discussions, or the supervisor has not made a decision within five (5) workdays, the employee may file a written grievance which must contain the identity of the employee, the specific nature of the grievance, and the corrective action desired. The following is a summary of the complaint and grievance procedures:

Informal Stage - Employee discusses problem with immediate supervisor, or the next level supervisor within ten (10) workdays of occurrence of problem. Supervisor gives decision in five (5) workdays. Employee has ten (10) workdays to submit his grievance, in writing, to the first level of decision of the grievance procedure.

First Level of Decision - Appropriate supervisor considers the written grievance, and makes positive effort to settle it. Written decision in ten (10) workdays. Employee has five (5) workdays to submit his grievance, in writing, to the second level of decision of the grievance procedure.

Second Level of Decision - Employee (and his representative, if he has one) makes personal presentation to Grievance Review Officer. Report of findings of fact to Director. Written decision in ten (10) workdays after report of findings. Decision is final. There is no further level of appeal.


COST REDUCTION TIPS: Submit well thought-out employee suggestions and release unneeded office, shop, or storage space.
SOLAR CORONA: The 90-inch length Langley Skywatchers telescope was used by Leonard Weinstein, Aero-Physics, and Sheldon Smith, Ames Research Center, to take this series of pictures of the corona. The picture at the left is an enlarged portion showing a large prominence. The second picture is an inner corona shot showing arches and streamers; the third photo emphasizes the mid-corona; and the fourth picture shows the mid-outer corona.

SOLAR EQUIPMENT: Shown with the Skywatchers telescope in the left photo are (from top): Weinstein, and Milton Henderson and Sheldon Smith, Ames Center. Standing beside the 91/2-inch Cassegrain telescope are Dr. D. E. Billings, University of Colorado, and Frederick Morrell (right), Flight Instrumentation Division.

ECLIPSE PREPARATIONS: Four cameras were installed at the solar test facility at Langley to measure the coronal polarization. Shown with the equipment are (from left): Bill Lee, E. J. Prior, Gerald Keating, J. S. Levine, Brooklyn College; Bob Lee, Jim Mullins, and Bill Parker. Talking over short-wave radio (left) to the research team in Mexico are Dwight McSmith and Gerald Keating. Additional eclipse photographs will be published in the next Researcher issue.
THE YMCA AND YWCA - COMMUNITY ACTION AGENCIES

Probably just about all members of the Center's staff have, at some time in their lives, enjoyed contact with the Young Men's Christian Association or the Young Women's Christian Association. Whether it was to spot the familiar Y triangle emblem as a stranger in a town away from home and take advantage of the hospitality or whether it was by membership participation in a long term Y program, the chances are it was a good contact that each remembers with satisfaction.

Both the YMCA and the YWCA have been serving mankind in this country and abroad for well over a century, and both are chartered for essentially the same purpose - to develop high standards of character through group activity and training. The Y's operate in just about every city and town and their influence is felt strongly in many colleges and high schools throughout the nation. The facilities and programs vary with the size of the community served, but there is always a commonality of purpose and a desire to serve.

On the Virginia Peninsula there is a very active branch of the YMCA and two active branches of the YWCA. The Central YMCA is located at 1803 Kecoughtan Road, which is in the Wythe District of Hampton, and the Phyllis Wheatley Branch is located at 2702 Orcutt Avenue in Newport News. The three organizations are participating members of the United Community Services and share in the allocation of funds raised by that organization to help them carry out their respective programs.

The Y's served men and women of the United States armed forces during World Wars I and II, the Korean War, and today during the Viet Nam conflict. In World War II, the YMCA was one of the six founding members of the United Services Organization, better known as USO, helping to provide recreational programs among U.S. troops. The North American association of both organizations have for a number of years sent trained leadership into numerous countries around the world. Decisions were made in the mid 1950's to expand and intensify these efforts so that the Y organizations in other countries would be better able to meet the growing demands for their services.

YMCA of the Lower Virginia Peninsula

The YMCA for a number of years has operated to provide a well-rounded decentralized program for the youth of the community as well as for adults. It stresses the individual and the family because together they make up today's society.

The programs are designed to provide something of interest to people of all ages, ranging from physical fitness and sports activities to management type programs for the local business executives and executive trainees and activity programs for the retired.

The following are but a few examples of how the YMCA is meeting the challenges of the 1970's and serves the area:

It conducts football and basketball clinics for boys ranging from age 6 through 11. More than 100 boys participated during the past year.

The operation of KIC-O-TAN Day Camp during the summer months for more than 500 boys. The camps provide an opportunity for boys to learn to work together on projects of interest to them, to participate in sports, and to develop an interest in the outdoor life. Camps are held at Gosnold's Park, Hampton, and the Newport News City Recreation Park. The swimming part of both programs is conducted at the YMCA pool located at Fort Monroe.

Junior Hi-Y and Senior Hi-Y Clubs have been formed at the Peninsula high schools with meetings held twice a month under adult sponsorship and assisted by professionals of the YMCA. Current projects include visits to the sick and elderly at local nursing homes and hospitals, working with retarded children of the area, collecting stamps, sewing materials, and other useable hobby items for distribution to patients at Patrick Henry Hospital.

The Peninsula Industrial Management Club has a membership of about 70 and consists of leaders in the field of business management as well as aspirants to this field. The club arranges for the presentation of seminars and talks, featuring national or local speakers in business management. The Peninsula Retired Men's Club meets weekly for a program of fellowship and recreation, and they feature outside speakers or films on topics of current interest to the senior citizens. More than 500 retirees are members.

The big project involving the YMCA in this area during the past year has been the spirited community action on the part of community leaders to bring into being a family YMCA facility, and the results of the past few months indicate this is going to be a reality within the near future.

On the evening of January 22, Edgar M. Corftight, Langley Director, joined a number of Center staff members and other community leaders to kick-off a drive for capital funds to construct this family YMCA on a plot of ground located at Warwick and Mercury Boulevards in Newport News. Total goal for the current CARE/Y drive is $534,150.

Planned in the first phase construction program of this family Y is an indoor swimming pool, a gymnasium, dressing room facilities for both male and female members, an all purpose meeting room, special purpose meeting rooms, and supporting offices.

Center employees currently serving the YMCA through its Board of Directors are Dr. John E. Duberg, Edwin C. Kilgore, and Richard J. Moberg.

Total YMCA membership at present is 1425 members.

MODEL OF NEW YMCA: George C. Karam, Chairman, Building Committee; T. N. Hunnictt III, President of the YMCA, and Earle M. Baker, Executive Director, are shown examining a model of the proposed total new Peninsula YMCA complex. The first phase of the project will start soon.
MARCH DESIGNATED RED CROSS MONTH

There is quoted below the text of a message issued by President Nixon designating March as Red Cross Month. In this message, the President points out the need for increased voluntary action on the part of the American public in support of humanitarian agencies such as the Red Cross, and, in particular, he asks the cooperation of Federal employees in doing what they can to support the American National Red Cross.

The Langley Research Center has over a period of many years supported the local Red Cross Chapter through such activities as the bloodmobile program, first aid program, volunteer gray ladies, by having representation on the local chapter Board of Directors, as well as participation in the annual Community Services Campaign which is conducted at the Center as a part of the Combined Federal Campaign.

The President's message reads as follows:

"At a time when I have asked for increased voluntary action throughout the United States on the part of all as a means of uniting our people to effect changes and improvements that will benefit people everywhere, I ask your cooperation in informing Federal employees and members of the Armed Forces of the many ways in which they can support the American National Red Cross.

"Although many American Red Cross chapters raise funds as members of local united funds and, therefore, participate in the Combined Federal Campaign held in the fall of the year, some chapters raise their funds independently in March. Federal employees and military personnel will want, I am confident, to support any such drives conducted in their localities.

"Because of its extensive disaster relief programs and its services to the men and women of the Armed Forces in Vietnam and 29 other countries, the Red Cross this year will require $134,000,000 to carry on its programs.

"I have designated March 1970 as Red Cross Month. As President of the United States and Honorary Chairman of the American Red Cross, I am asking all civilian employees of the Federal Government and the members of the Armed Forces to make a special effort during this period to lend full support to the many important activities of the Red Cross including its blood donor program. For Federal personnel, the month of March can have particular significance in terms of service which we can render our fellow man through wholehearted support of Red Cross activities."'

COST REDUCTION SHOPPING LIST: Use surplus instead of new materials, reduce the use of electricity and other utilities, substitute satisfactory lower cost items.

IF YOU frequent a doctor's office, out of frustration an operation is apt to follow.--Sabol

YWCA membership on the Peninsula totals almost 900.
All this demonstrates quite well that both the YMCA and the YWCA have been doing a very good job in meeting the needs of a fast growing community. It serves to indicate that the responsible citizens who are giving so much of their free time to guide the destiny of these organizations are making long range plans for the future to insure that the Y's on the Peninsula will meet the challenges of the 1970's and the succeeding decades in the same fashion. The Y's are on the move!
SWAP AND SHOP

LOST
Will the person who borrowed Rider Logic Book Vol. 1, 2, and 3 and RCA Logic Design Book please return them to Ahl, M.S. 494, extension 3551.

Demonstration model of NASA VGH recorder with transparent cover. If found return to Airworthiness Branch, Building 1244, MS 247.

WANTED
Lee ammunition reloaders for 8 mm Mauser (8 x 57) and 12-gauge shot gun. Youngblood, 826-2165.

Used set of Encyclopedia Britannica or Encyclopedia Americana, less than 10 yrs. old. Youngblood, 826-2165.


FOR SALE


1924 $20 gold piece in brilliant uncirculated condition - Cox, 838 5449.

Hurst shifter, 4-speed - $40 or best offer. Salake, 723-5525.


Lot at Horn Harbor in Mathews County - one block from Chesapeake Bay - will consider trading for camper which fits on 8-foot truck and has bed over cab. Wells, P.O. Box 337, Mathews, Va. 23109.

140 X 210-foot wooded lot in Marlbank Farms. Shaw, 877-0444.

Need a work bench for your shop? Have just removed a kitchen counter 12-feet long and 24-inches wide. Fedziuk, PA2-1846.

Honeywell 8 mm movie camera, wide angle lens, pistol grip zoom, carrying case, Bell and Howell projector - $175. Jefferson, 837-2398.

16-foot Glasspar runabout with 85 hp engine, tilt trailer, many accessories - $1300 Dow, 936-1029.

Allstate utility trailer and 10-1/2-foot x 10 1/2-foot Hut-trick tent. Wilson, 877-9560.

1969 Ford Galaxie, 2-door. Belvin, 887-5013 after 5 p.m.


1963 Mercury Meteor, 4-door. Park, 595-0784.

50 used wrap-around batting helmets for youth baseball - $1 each. Nelson, 851-1667.


EUROPEAN TOUR: All available seats have been reserved for the European Tour scheduled August 18 through September 8. Due to lack of interest the November 8 tour has been cancelled.

ICE CAPADES: Ice Capade discount ticket order envelopes are available from your representatives, the cafeterias, and the credit union. Discount prices are in effect for four performances starting April 8 through April 12 at the Hampton Roads Coliseum.

PUTTING WORDS INTO PEOPLES’ MOUTHS

BOOKS FOR SALE
The following books are for sale at the Training Office, Building 587, Room 116, extension 2209:

Introduction to Vector Analysis by Davis

Engineering Mechanics (Vol. II Dynamics) by Shames

Noise and Acoustic Fatigue in Aeronautics by Richards and Mead

Elements of Gas Dynamics by Liepmann and Rosshko

Design of Digital Computers by Gachwind

Modulation, Noise and Spectral Analysis by Panter

Theoretical Acoustics by Ingard and Morse

Linear Algebra by Hoffman and Kunze

Partial Differential Equations of Mathematical Physics by Webster

Elements of Partial Differential Equations by Sneddon

Programming Languages, Information Structures and Machine Organization by Peter Wegner

Elementary Quantum Mechanics by Saxon

Can You Solve This Problem?
Technology is needed with which to develop a conversion kit for operating the diesel engines of transit buses on liquefied natural gas. One constraint to the desired system is that the tank and pump should contain boil-off and limit total to 1 cfm. Refer to SRI/T-33. Contact the Technology Utilization Office, 3281, for the problem abstract.
Apollo 13, the third United States moon landing mission, is scheduled to blast off from Cape Kennedy at 2:13 p.m., Saturday, April 11 on a flight that will last 10 days. Astronauts James A. Lovell Jr. and Fred W. Haise Jr. will spend 34 hours on the lunar surface. They plan two four to five-hour excursions outside their craft, during which they are to set up a nuclear-powered science station, drill nearly 10 feet into the soil and walk two miles on a geology field trip. Astronaut Thomas K. Mattingly will remain in the Apollo 13 command ship, orbiting the moon.

The craggy highlands called Fra Mauro has been selected as the landing site for the lunar craft which will be called Aquarius. The command ship will be called Odyssey. If all goes according to schedule, Aquarius will land on the moon at 9:55 p.m. on Wednesday, April 15.

Scientists hope that the highlands of Fra Mauro may harbor the secret of the origin of the moon. Fra Maruo has unique features from three basic age groups from which geologists date the moon.

The first moon walk will begin at 2:13 a.m. on Thursday and the second walk will start at 9:58 p.m. on Thursday.

Haise and Mattingly will be making their first space trips but they will be led by the world’s most experienced space man. Lovell, a 42-year-old Navy captain who has spent more than 572 hours in space, will be making his fourth space flight and his second trip to the moon. When he returns this time he will have logged a total of more than a month in space.

A color television camera will record the astronauts’ walks on the lunar surface. They will be careful to avoid the burnout problem that ruined Apollo 12’s color TV. In case there is trouble again with this camera, Lovell and Haise will have a spare black and white unit, the same one taken to the moon by Apollo 11 astronauts Neil A. Armstrong and Edwin E. Aldrin Jr.

Quarantine activities for Apollo 13 will be similar to the previous two moon missions.

New developments in cell division theory which may provide the basis for an increased understanding of cancer and new approaches to its control were reported by Clarence D. Cone Jr., head of the Molecular Biophysics Laboratory, IRD, at the Twelfth Annual Science Writers Seminar sponsored by the American Cancer Society in San Antonio, Texas, March 21. The developments were byproducts of NASA basic research on the effects of space radiation on body cells.

In his paper on “Control of Cell Division by the Electrical Voltage of the Surface Membrane,” Cone explained his fundamental new theory which has been developed and experimentally verified in Langley laboratory tests with mammalian cells.

The theory, Cone said, proposes that the cellular ionic concentration pattern -- caused by the electrical voltage which normally exists across the surface membrane of a cell -- acts to exert precise control over division in body cells.

This theory has provided, possibly for the first time, an explanation of the functional connection between the two major pathological features of cancer -- uncontrolled growth of cells and the spread of the disease in the body.

Cone said the theory implies that the basic functional aberrancy -- deviation from normalcy -- producing both of
HAPPENINGS

NEW HEIRESS...Celebrating the arrival of a daughter, Christina Marie, on March 8 is Richard Bullie, Analysis and Computation Division.

BRIDGE CLASSES...The Activities Association is sponsoring a series of eight classes for beginner's bridge. The first class will be held May 6 at 7:30 p.m. in the Activities Building. Classes will last about 1-1/2 to 2 hours each week. A fee of eight dollars will be charged. The class will be limited to 16-20 members so persons interested are urged to register at the Activities Building as soon as possible. Mrs. Ashby Wilson, life master and winner of many bridge tournaments, will be instructor.

IAM MEETING...The NASA Lodge No. 892, International Association of Machinists, will meet April 7 at 7 p.m. at the Central Labor Union Hall.

WINS AWARDS...Jane A. Moore, Aero-Physics Division, won three special awards at the annual show sponsored by the Tidewater Virginia Daffodil Society. Jane's display of 12 miniature daffodils brought her the coveted Roberta C. Watrous Silver Medal, which had been offered by the society five times previously without a winner being selected by the judges. She also was presented the American Daffodil Society Miniature Gold Ribbon and the Mattie D. Moreland Trophy for the best miniature daffodil. Several Center employees and family members were recipients of awards for their daffodil entries, which included standard and miniature varieties. The show was held last week-end at Nachman's Community Room in the Warwick Shopping Center.

CO-OP STUDENTS ON DEAN'S LIST

Five cooperative education students currently working at the Center achieved Dean's List standing for the 1969 fall semester or quarter. These include Russ McKown, an Engineering Physics major from the University of Illinois, currently assigned to the Materials Irradiation Section of AMPD; and Bert Saunders, Physics major from University of South Florida, assigned to the Instrument Physics Research Section of FID. Three students from VPI also earned this recognition: Christopher Dalton, Electrical Engineering, Physical Measurements Section of IRD; Clifford Smith, Aerospace Engineering, Viking Project Office; and Brad Vaughan, Electrical Engineering, Simulator Development Section of ACD.

In addition, two co-op students from North Carolina State University who were assigned to the Center during the 1969 fall semester were inadvertently omitted from a previous article on the Dean's List students. They were Larry Horton, Aerospace Engineering, who was assigned to Applied Aerodynamics Section of FSRA; and John McDermon, Mechanical Engineering, assigned to Spacecraft Research Branch of ASMD.

Can You Solve This Problem?

Air pollution resulting from unburned hydrocarbons produced in cycling domestic oil furnaces may be reduced through the development of a lightweight refractory material for the fire box. Operating temperatures are between 2300 degrees F. and 3000 degrees F. The refractory material should be bondable to metal or machinable. Refer to RTI/ AP-42. Contact the Technology Utilization Office, extension 3281, for the problem statement or if you have a contribution.

HATS-OFF DEPARTMENT

Congratulations to the following persons who have submitted ideas to the T.U. Office toward the solution of biomedical and public sector problems: E. Rind, IRD (potential solutions to two problems); H. H. Hubbard, DLD; S. T. Peterson, IRD; J. C. McFall, AMPD; J. L. Patterson, FID; and W. F. White, FID.

The suggestions have been forwarded to the problem originators for evaluation and use.

DID YOU KNOW? One of the most sensible ways to help in cost reduction is to perform the job on time and reduce overtime.

CAMERA BUGS: Setting up their equipment at Fort Wool for the March 7 eclipse are (from left) Randy Cunningham, Bill Salyer, and Fred Jones, Center photographers. An interesting shot (bottom photo) shows the sun reflected in Don Ward's sunglasses.
FEATURED IN PAPER: Langley members of IAM Local 892 were featured in the March 12 issue of The Machinist, the official weekly publication of the International Association of Machinists and Aerospace Workers. Karl Michaelis, Experimental Machine Shop, was coordinator of the article which included ten photographs of technicians in Langley shops. Four of the photos are shown above. The top pictures were taken in the Experimental Machine Shop. Left - Doug Stroupe (left), apprentice coordinator, briefs Bruce Warburton and Donald Beasley, apprentices, on a balance boring procedure in the DeVlieg jigmill. Right - Gary Maynor operates a numerical control milling machine while working on a NASA-designed airfoil. The two bottom pictures were taken in Instrument Construction Shop. Left - Ed Fleenor (right), explains a process used to isolate cancer cells to Albert Shearin. The process imprints a micro-lagoon pattern in plastic cell culture dishes for study. Right - Harry Walthall and Charles Solomon check a carbon dioxide laser.

TECHNOLOGY UTILIZATION NEWS

Another highly successful T. U. Conference in which Langley participated was the Conference on New Technology, Its Management and Application, held in Raleigh, N.C., March 25-26. Numerous representatives from industry and small businesses of the surrounding states attended.

The conference featured the results of government sponsored research having potentially significant impact on the region’s economy. Co-sponsors included NASA, the Small Business Administration, N.C. Science and Technology Research Center, N.C. Department of Conservation and Development, and the Industrial Extension Service of N.C. State University.

Featured speakers from Langley presented the following pertinent topics: Art Lambiotte - Adhesive Bonding, Tom Pruden and Donald Beasley, apprentices, on a balance boring procedure in the DeVlieg jigmill. Right - Gary Maynor operates a numerical control milling machine while working on a NASA-designed airfoil. The two bottom pictures were taken in Instrument Construction Shop. Left - Ed Fleenor (right), explains a process used to isolate cancer cells to Albert Shearin. The process imprints a micro-lagoon pattern in plastic cell culture dishes for study. Right - Harry Walthall and Charles Solomon check a carbon dioxide laser.

ANOTHER logical cost reduction tip is to conserve materials, equipment, supplies, and manpower.

Kelly - Compression Molding Processes, Mike Jurscaga - De-aerating Castings, Benson Dexter - Advanced Composite Structural Materials, and Bill Reed - Chain Vibration Dampener.

Also featured was a motion picture covering Langley’s work on alleviation of the hazards of tire hydroplaning of airplanes and automobiles.

Such conferences are a direct approach to technology utilization, bringing together the people who generate new technology with those who market it, thus stimulating industry and providing the by products of NASA’s space efforts for the good of all mankind.
MAY HELP UNDERSTAND CANCER

Continued from page 1

these conditions lies in an alteration of the molecular structure of the cell surface.

Cone explained the electrical involvement in cell division control by detailing recent Langley studies concerned with space radiation blockage of cell division.

In this research, he noticed that cells having large negative membrane voltages seldom if ever divide, while cells with small negative electrical potential divide at maximum rates.

This led Cone to propose the theory that the cellular ionic concentrations, which generate electrical voltage, determine whether or not a cell will divide.

A comprehensive experimental test of this theory revealed that transmembrane ionic concentration differences associated with the electrical voltage of normal cells exert a powerful control over cell division.

The Cone theory proposes a central mechanism for control of body cell division which, if it proves to be generally valid, will provide a powerful new basis for research progress on many key biomedical problems, particularly cancer.

"In essence," Cone observed, "it explains the fundamental source of the uncontrolled growth of malignancy, knowledge of which should lead to a number of new approaches to cancer control."

The deadliness of cancer arises from two fundamental aberrancies characteristic of all malignant cells: their uncontrolled proliferation and their ability to metastasize - spread to other parts of the body - and to invade normal surrounding tissues.

Previously, there has been no known relationship between these two characteristics, although they always occur together. Cone's theory and associated experimental observations on the electrical voltage-level control of cell division imply that these two properties of cancer cells are intimately related.

A fundamental implication of Cone's research is that the primary change which occurs when a normal cell becomes transformed to a malignant one consists of a basic functional alteration in the molecular architecture and special characteristics of the cell surface.

This surface aberrancy accounts for both of the primary pathological features of cancer: the decreased adhesiveness of the cells, allowing them to invade and metastasize, while at the same time producing the associated lowering of the electrical voltage level which permits the unrestrained proliferation of malignancy.

The changes in molecular characteristics which accompany malignant transformation produce what may be descriptively termed "molecular amnesia" of the surface; the malignant cells are thus unable to recognize and relate to their environment of normal and/or other malignant cells. The cells seem to "think" molecularly that they are in a semidissociated state approaching that of tissue culture.

In summary, the present theory by Cone proposes that metabolically induced and stabilized surface polymer alterations play the central role in malignancy, these changes causing decreased surface adhesion and lowered electrical voltage levels with attendant metastasis and active proliferation; the lowered voltage level then feeds back to stabilize and sustain the very metabolic pathways which act to produce it.

If the Cone concepts are generally valid, the implications for cancer control are significant, for attention is now focused on a specific component of the cell, the surface complex, and on a particular aspect of metabolism -- that concerned with surface polymer production and assembly.

Cone said the fundamental need is for a greatly increased understanding of the cell surface complex, leading to possible new methods of attack on malignancy.

The scientist suggested a short cut in the complex study of the metabolic pathway alterations which ultimately lead to surface aberrations in malignant cells. By studying cancer viruses which have only four or five genes, it should be possible to determine which genes are producing what surface aberrations and even to map the associated metabolic alterations which take place in the course of malignant transformation.

Once the specific surface aberrations are identified, they can then be looked for in other forms of cancer, and chemical countermeasures to their malfunctional properties developed.

This was Cone's second appearance at an ACS annual writers' seminar in as many years. In 1969, he reported the discovery of intercellular bridges that may help in understanding the behavior of certain types of cancer.

Cone's previous discovery has been serving as the basis for further study by scientists to determine if these cell linkages exist in, and possibly constitute the basic cause of uncontrolled proliferation in, any types of human cancer of primary medical importance.

HIGHER education is not always synonymous with social progress or with common sense. --Sabol
DIAMOND-RING SERIES: This montage showing the solar eclipse of March 7 in various stages of the diamond-ring effect was made by Staff Photographer Bob Nye from eclipse movies taken by the optical support group from FID.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of April 6:

Monday - Chicken-rice soup, pot roast, stuffed shrimp, smoked sausage, grilled cheese. Snack bar - Soup, grilled cheese, hot roast beef, French fries.
Tuesday - Cream of potato soup, corned beef and cabbage, chuckwagon steak, beef pie, western omelette. Snack bar - Soup, ham and egg sandwich, hot corned beef, corn fritters.
Wednesday - Vegetable-beef soup, Swiss steak, smoked ham, broiled fish, franks and beans. Snack bar - Soup, hot dog, steak sandwich, German potato cake.
Thursday - Minestrone soup, braised short ribs of beef, baked lasagna, fried chicken, chili-mac. Snack bar - Soup, hamburger, hot pastrami, French fries.
Friday - Chicken noodle soup, broiled red snapper, grilled pork steak, creamed dried beef on toast, fish cakes. Snack bar - Soup, fish, baked ham, French fries.

The menu for the week of April 13 is as follows:

Monday - Cream of tomato soup, roast beef, stuffed flounder, knockwurst and beans, chili con carne. Snack bar - Soup, hamburger, hot roast beef, French fries.
Tuesday - Puree of bean soup, baked ham, veal cutlet, liver and onions, baked hash. Snack bar - Soup, ham and egg sandwich, veal cutlet, corn fritters.
Wednesday - Vegetable-beef soup, pepper steak, barbecued pork, fried chicken, Spanish omelette. Snack bar - Soup, barbecued pork, steak sandwich, French fries.
Thursday - French-onion soup, hot roast beef sandwich, fried shrimp, sauteed chicken livers, tamale pie. Snack bar - Soup, hot dog, hot roast beef, French fries.
Friday - Manhattan clam chowder, seafood Newburg, Salisbury steak, chicken chow mein, franks and beans. Snack bar - Soup, sea dog, flying saucer, French fries.

ADAM and Eve had many advantages, but the principal one was that they escaped teething. --Mark Twain
COCKRELL RECEIVES ADVANCED DEGREE

C. R. "Bert" Cockrell, Antenna Research Section, Flight Instrumentation Division, has become the first Langley employee to earn his Master of Science degree in the George Washington/NASA-Langley Graduate Program in Engineering. He completed his degree requirements in just three semesters by taking two courses each semester and by transferring two courses from his previous graduate work. Bert's area of study was electrical engineering with a concentration and thesis in field and wave theory. After receiving his B.S. in Electrical Engineering from the University of South Carolina in 1963, he joined the Center staff and continued his studies on a part-time basis. He now plans to pursue a Ph.D. from North Carolina State University.

FORMS ANALYSIS REDUCES PAPERWORK

At least once a day almost every employee handles or uses a form — be it a purchase request, time and attendance form, telephone message, or travel request form. But how many of us take the time to analyze the form as to function versus worth? With forms we use frequently, analysis should be conducted and any suggested improvements should be reported to the Analysis Section, extension 3511. Analysis Section will review the suggestions and hopefully will be able to affect an improvement so that time can be saved, or maybe it will turn out that the form is really unnecessary. During a recent Center-wide effort, a number of Langley forms were improved and some were cancelled as they no longer served a useful purpose. The redesign of certain forms made them more useable for handwriting or for use in an office machine. It has been estimated that the clerical-after-printing cost of a form is $20 for every $1 of printing, so you can see the potential for savings by good forms design is rather attractive.

Forms, like people and functions, keep changing, adopting new methods, or acquiring additional responsibilities. Thus, a good forms review program should be automatic. The cost savings can be a significant contribution to the Center's overall cost reduction goal. Paperwork is overwhelming in the face of current personnel constraints so it is doubly important at this time that each of us do what we can to keep costs down and save time. So, the next time you handle a form — whether processing it or just filling it out — take a closer look at the function; you may be able to improve it.

A DEGENERATE nobleman, or one that is proud of his birth, is like a turnip. There is nothing good of him but that which is underground.

DID YOU KNOW: Langley Researcher has a Polaroid camera which is issued on a loan basis to groups who wish photographic coverage of special functions in Langley Researcher. Scheduling for use of the camera may be made by calling Ruth Verell, Langley Researcher, extension 3116.

APOLLO 13: The Fra Mauro area (top) has been selected as the landing site for Apollo 13 which is expected to be launched from Kennedy Space Center April 11. Prime crew members are Spacecraft Commander James A. Lovell; Command Module Pilot Thomas K. Mattingly; and Lunar Module Pilot Fred W. Haise. Fra Mauro is a flat, vast highland area located about 110 miles east of the Apollo 12 landing point in the Ocean of Storms. The drawing shows the second EVA Astronauts Lovell and Mattingly will make near the Fra Mauro region. The traverse will be 4500 feet out and 4200 feet back. While enroute both out and back during the traverse, the astronauts will be taking panoramas to help locate the exact details of the surface area that they covered after they return.

THERE is nothing wrong with change, if it is in the right direction.

COST REDUCTION TIP: Reduce reproduction requirements, computer printout requirements, and contractor reporting requirements.
ACHIEVEMENT AWARDS: Joe C. Woolsey (top left), Research Support, has received a Special Achievement Award for "his sustained superior performance in analyzing and correcting system malfunctions of two hydraulically actuated fatigue machines by means of a newly invented 'strain-coupled' servo system, and for developing and conducting extremely reliable tests for investigating nonlinear stress-strain behavior on metallic sheet specimens." Odell A. Morris (top right), Full-Scale Research, was cited for "his sustained superior performance in conduct of one of the experimental studies in the development of a highly efficient supersonic-cruise airplane configuration." Lower left - Dr. George Brooks (left), Assistant Director, congratulates Atwood R. Heath, Structures Research, for receiving an award for "imaginative leadership in the development and application of materials, lightweight structures concepts, and instrumentation to solar power systems for use on earth-orbital and planetary spacecraft." Lower right - Percy Crain (left), Chief of Engineering and Technical Services, presents a Special Achievement Award to Charles E. Goad, Research Support, for "his thorough and diligent inspection of the Center's 16-Foot Tunnel blade assembly which permitted timely repair of a severe failure in the cast steel shank of the blade retaining fork and thus prevented potential total destruction of the drive fan blades, down time of the facility, and very costly repairs."

FACTS ABOUT RADIAL TIRES

An airman lost his life in a private motor vehicle accident, and investigation revealed the car was equipped with a radial tire on the right front wheel with conventional tires on the remaining three wheels. This condition was considered a significant accident cause factor. It was suspected that the radial tire held a true track while the conventional tires lost traction and caused the skid that resulted in a head-on collision.

The mixing of radial and conventional tires is a safety hazard! Preferably, radial tires should be installed on all four wheels. If only two radial tires are installed, they

MEN, like pins, are useless when they lose their heads. -Joyle

should always be used on rear wheels. Radials should never be installed on the front wheels with conventional tires on the rear.

The basic design of radial tires is such that when you turn the steering wheel, they immediately take up the new tire heading without the normal side deflection of conventional tires. This would produce a skid in the case of conventional tires on the rear and radial tires on the front. The use of only one radial tire on the front is highly dangerous, even under ideal road conditions. --SAC Safety Bulletin
PUTTING WORDS INTO PEOPLES, MOUTHS

BOAT OWNERS ADVISED AGAINST DDT

The Ecology-Pollution Department of the Division of Applied Marine Science and Ocean Engineering at Virginia Institute of Marine Science continues to receive reports of watermen mixing DDT with copper anti-fouling paint for use on boat bottoms to control scurf, borers (worms) and barnacles. This is an extremely dangerous practice because DDT is one of the most toxic pollutants that can be put in water. Further, its value in protecting boat bottoms has never been proven. It may, in fact, do more harm than good since the addition of DDT may change the characteristics of the paint and cause it to flake off, exposing bare wood to the infestation of worms.

Boat owners should be advised that shellfish, especially oysters, concentrate DDT in their bodies to levels approximately 10,000 times above that found in the water. One pound of DDT is sufficient to contaminate one billion pounds of water to such an extent that well over 100,000 bushels of oysters could contain enough DDT to justify seizure by health authorities.

The Virginia Institute of Marine Science recommends that if the usual “soft” copper anti-fouling paints are not giving the protection required, boat owners should use a better grade of copper rather than going to materials such as DDT. Some of the paints on the market today are formulated for tropical areas where fouling and worm problems are more severe than in Chesapeake Bay. The use of these materials on a properly prepared boat bottom should give the required protection without endangering the seafood products which the boats will harvest.
LANGLEY PARTICIPATES IN SCIENCE FAIRS; LOVELL INTERNATIONAL JUDGE

Powell M. Lovell Jr., head of Research Contracts and Information Office, has been selected to be a judge for the NASA awards program at the International Science Fair May 10-15 in Baltimore.

Lovell will help select seven winners of NASA certificates of outstanding achievement in aeronautics and space-related categories at the annual fair.

In addition to certificates, each NASA winner at the International Science Fair will receive a copy of a NASA Special Publication for himself, a teacher he selects, and his school library.

The ISF will be the climactic event in Langley’s program of participation in science fairs. The Center presented awards at 15 regional and state science fairs held this spring in Virginia, North Carolina, South Carolina, and Kentucky.

NASA awards were presented by Langley at five science fairs in Virginia, including the Tidewater Science Congress, and regional competitions in Arlington, Fairfax, Roanoke, and Wise.

Other certificates were awarded at science fairs in Durham, North Carolina; Charleston, Columbia, Florence, Greenville, and Spartanburg, South Carolina; and Campbellsville, Louisville, Morehead, and Williamsburg, Ky.

(Continued on page 8)

Distinguished Visitor: Dr. Fumio Tamaki (center), Professor of the Institute of Space and Aeronautical Science, University of Tokyo, visited the Center this month for technical discussions with officials and to tour a number of research facilities. Explaining a SHAPE payload in Flight Instrumentation Division are John N. Daniel (left), FID, and H. A. Wilson, Chief of Applied Materials and Physics Division. The payload will be fired this summer from White Sands.

APOLLO 13 HOMEWARD BOUND; SPLASHDOWN SCHEDULED TODAY

As of press time on Wednesday, troubled Apollo 13 with Astronauts James A. Lovell Jr., Fred W. Haise Jr., and John L. Swigert Jr., was heading home after a violent rupture of unknown origin ripped through pressurized fuel tanks Monday and aborted the moon landing mission. If all goes as planned, splashdown will take place at 12:13 p.m. today in the Pacific Ocean.

The power failure, apparently an explosion in one of the Apollo 13’s three electricity-producing fuel cells - hit the command ship shortly after 10 p.m. Monday. In a matter of minutes, the spacecraft exhausted its electrical supply. The command ship is feeding off the lunar module for supplies - mainly oxygen and limited power, during the long flight home.

Tuesday the astronauts fired the lunar module engine 20 seconds to adjust their course slightly to a path that took them around the moon and at 9:18 p.m. Tuesday they again fired the engine which put them in the proper attitude for landing in the Pacific today.

Officials were mainly concerned with the water supply. With a landing set for today, the spaceship had enough water for a margin of 13 hours. To save this margin, the astronauts powered down to minimum electrical power for most of the journey, reducing the average hourly water consumption from five to 2.68 pounds. The water is used for cooling the electronics and cabin oxygen as well as for drinking.

At the same time, the oxygen supply was good for a margin of 50 hours, barring unforeseen events.

Neither the United States nor Russia has a space rescue capability. So the astronauts have to depend on their skill and that of hundreds of experts on the ground to get home.

Following the tank rupture, the astronauts activated the systems of the attached lunar module, which is serving as a lifeboat for the command ship. They opened the connecting tunnel between the two craft so oxygen would flow into the command ship and make it livable.

The cramped LM is difficult to sleep in, so the astronauts rested in the command cabin.

The astronauts remained calm and poised as they wrestled with the many procedures needed to stabilize their craft and to stretch their consumables.

Christopher C. Kraft Jr., Deputy Director of Manned Spacecraft Center, said, “If the situation remains stabilized, there is no question we can bring them back to earth safely.” Kraft also stated that the accident precipitated “the most serious situation we’ve ever had” during the flight of a manned spacecraft.

The LM is built to operate in only airless space and cannot re-enter earth’s atmosphere. Therefore, the astronauts must rely on the command ship to take them the final miles back to earth.
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 26. Daylight Saving Time will be observed for a period of six months. Accordingly, clocks will be moved back one hour at 2 a.m. on Sunday, October 25.

MEDICAL POTENTIAL. . ."Of all the spin-offs from the space program, perhaps none has more potential to justify and dramatize the scientific benefits to society than NASA's announcement...that a space scientist has developed and demonstrated for the first time a theory that helps explain the source of uncontrolled malignant growth of cells and their rapid spread throughout surrounding tissue." This comment in the March 30 Weekly Report to the Electronics Industry by the Electronic Industries Association, Washington, D.C., concerned recent space research by Clarence D. Cone Jr., Head of Langley's Molecular Biophysics Laboratory of IRD. The research discussed in a Cone paper, "Control of Cell Division by the Electrical Voltage of the Surface Membrane," may provide the basis for an increased understanding of cancer and new approaches to its control.

NEW HEIRESS. . .Celebrating the birth of a nine-pound daughter, April Mitchelle, on April 10 is William O. Moore III, Research Support Division.

PAPER SELECTED. . .A paper by three Langley staff members has been selected as one of five to receive the Special Recognition Award presented by the Institute of Electrical and Electronics Engineers. They included C. T. Swift, Flight Instrumentation; P. B. Gooderum, Aero-Physics; and S. L. Castellow Jr., FID. The paper, "Experimental Investigation of a Plasma Covered Axially Slotted Cylinder Antenna,"

HONORED BY CO-WORKERS: The Langley Researcher camera was on hand to photographically record Personnel Division's party in honor of Thayer Sheets who is transferring from the Awards Office to the newly organized Manpower Analysis Office. John Cox (upper left) presents Sheets with a pair of cuff links. Enjoying refreshments are (upper right) Bea Kiefer, Nancy Johnson, Janice Wunder, and Linda Sutherland. Getting in a party mood are (lower left) Mary Carmines, Virginia Lumpkin, Gwen East, Thelma Fowikes, and Marge Simonton. Rupert Bullard who will take over the duties as head of the Awards Office is flanked by Cox and Sheets.

BON VOYAGE: Sara Bullock, who retired April 5, was honored by her fellow workers in Analysis and Computation and again the Researcher camera was on hand to record the events. Sara (upper left) enjoys opening the many gifts she received. Posing with Sara (upper right) are John Shoosmith, Tom Andrews, and Roger Butler. Shown with the honoree (lower left) are front row (from left): Barbara Hixon, Belinda Adams, Miss Bullock, Lona Hawser, Charlotte Craidon, Frances Taylor, and Lillian Boney. Back row - Barbara Weigel, Mac Price, Lee Dason, Joan Pitts, and Bob Smith. Also on hand for the party were Sara's brother and sister-in-law, Mr. and Mrs. Wyatt Bullock, Cuthbert, Georgia.

appeared in the September 1969 issue of AP Transactions, a publication of the IEEE group on antennas and propagation. The IEEE also announced that William F. Crosswell, FID, has been appointed Associate Editor for antennas for AP Transactions. This will include responsibility for the conduct of reviews of papers on antenna theory and practice.

PROFESSORS TO VISIT. . .Dr. Joseph A. Schetz, Dr. Fred R. DeJarnette, Dr. Clark H. Lewis, and Dr. Fred H. Lutze, Department of Aerospace Engineering, Virginia Polytechnic Institute, will visit the Center on Monday, April 20. Employees interested in an interview with the professors should call Training Office, 2517, for an appointment. While at Langley Dr. Lewis will present a lecture on Numerical Solution of Viscous Flows with Chemical Reactions at 10 a.m. in Room 200, Building 1212. (Continued on page 5)
LABOR-MANAGEMENT OFFICIALS NEGOTIATE NEW AGREEMENTS

Committees representing Langley management and the International Association of Machinists and Aerospace Workers and the Pattern Makers' Association of Newport News and vicinity recently completed negotiating agreements covering employees in the Machine and Modelmaking Branches of the Fabrication Division. This is the third such agreement for each that has been negotiated here.

Negotiation of written agreements covering employees in a unit for which a labor organization is the exclusive representative, is one provision of the program for Labor-Management Relations established by Executive Order 10988 and continued, with revisions, by Executive Order 11491 effective January 1.

Executive Order 11491 continues the policy that each employee has the right, freely and without fear of penalty or reprisal, to form, join, and assist a labor organization or to refrain from any such activity, and each employee shall be protected in the exercise of this right.

A booklet "Labor-Management Relations in the Federal Service," recently distributed to supervisors, contains the new Executive Order, a copy of the Report and Recommendations of the members of the President's Study Committee, and a comparative analysis of the provisions of Executive Order 10988 and 11491. Employees desiring a copy of this booklet should call the Personnel Division, extension 3278.

NASA APPEALS SYSTEM CITED

NASA inaugurated an appeal system effective July 1, 1962, for the reconsideration of administrative decisions to take adverse action against employees.

This appeals system is applicable to all employees with the exception of those serving under a temporary appointment or those serving a probationary or trial period.

The types of adverse actions covered are suspension for more than 30 calendar days, furlough without pay, reduction in rank or compensation, and involuntary separation or removal.

Under this system, an employee is entitled to appeal the adverse decision to the Director at any time after the notice of adverse decision but not later than 15 calendar days after the effective date of the action. The employee is entitled to a hearing as part of his appeal. This hearing is conducted by a hearing officer or a committee appointed by the Director for this purpose.

The employee will have the opportunity to call relevant witnesses to testify on his behalf and to cross examine management's witnesses. A decision will be made by the Director after he reviews all of the facts of the case and the findings of fact of the hearing officer or committee.

In presenting his appeal, the employee has the right to be accompanied, represented, and advised by a representative of his own choosing. The appellant, as well as any employee who acts as an appellant's representative, is assured freedom from restraint, interference, coercion, discrimination, or reprisal in connection with his participation in the appeal.

Employees and their representatives are also entitled to a reasonable amount of official time to present the appeal if they are otherwise in an active duty status.

The right to appeal to the Director under the NASA Appeals System is in addition to the employee's right to appeal to the Civil Service Commission.

Questions concerning these regulations should be directed to the Personnel Officer.

A WORD TO THE WISE: Use the less costly of automated versus manual procedures.

THIS WORLD is a comedy to those who think, a tragedy to those who feel. - Horace Walpole

ALL SORTS of allowances are made for the illusions of youth; and none, or almost none, for the disenchantments of age. - Stevenson
There was a time when Tanya, with staring eyes wide open, made everyone wonder. What was she thinking? How was she reacting? What was she seeing?

Today, after two years in a developmental class program at the Sarah Bonwell Hudgins Regional Center, all her senses have gradually developed into an awareness and response to people and things. The epitomy of love and her experimenting with objects have indeed been an inspiration that glitters the precious virtue and wisdom of her young life.

Tanya is one of 16 children currently enrolled in the developmental class at the center. Parents who have searched for hope and had the faith that their struggles for society to become aware of special children like theirs, to be developed to their fullest potential, were finally recognized.

The primitive thinking of many years ago was that these children were so limited in performance and abilities that little consideration was expressed to effect functional developments of training programs. However, Peninsula Association for Retarded Children, Inc., did not share this concept.

The Governing Board members and administrators of the Association asserted “how can we ascertain growth of any individual, if we do not provide them with the atmosphere and exposure to learning experiences and situations?”

When the mother of a six-month old blind, mentally retarded child made inquiries many years ago of Sylvia F. Zucker, Executive Director of PARC, telling her that she had been advised over and over again that Joey would never walk or develop sufficiently to any capacity and to consider institutionalization for her child, she responded, “I absolutely refuse to accept their solution and prognosis, because I have the faith and love in my heart that if Joey just gets a chance to attend a school and training program, he will not be as hopeless as some think.”

Hence, the epitomy of benevolent and generous contributions were received from civic groups and individual PARC Board Members to establish the developmental class that started in September 1967.

Joey, who had grown tall and slender physically and not yet walking, was now five years old. He enrolled along with 15 other little scholars. A therapeutic walker was borrowed from the Cerebral Palsy Center and within six months a bright, happy child developed and was able to take his first steps - alone.

In the 2-1/2 years of the establishment of this program, four children made such tremendous progress that they are now attending more structured programs in the Preschool Training Center at the complex.

The Sarah Bonwell Hudgins Regional Center currently serves five classes of young preschool children with a total enrollment of 65 daily attendance. On the surface the classroom scene is typical of any preschool situation. The one distinction - they are mentally retarded, better known as exceptional children.

The Vocational Training Center for adults of all ages is designed to habilitate and train handicapped individuals to learn some type of semi or skilled kind of work so they can become competent and productive citizens.

VOCATIONAL TRAINING: Adults of all ages are trained to learn some type of semi or skilled kind of work so they can become competent and productive citizens.

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The Vocational Training Center for adults of all ages is designed to habilitate and train handicapped individuals to learn some type of semi or skilled kind of work, so they can become competent and productive for job placement in the community and industry. Currently, the enrollment has reached 84 clients. By virtue of their achievements and growth in skill abilities, approximately 70 have been placed on jobs.

Rufus R. Kennedy, Director of the Vocational Training Center, spirited the reality of innumerable types of work skills to explore individual aptitudes and abilities of the clients who attend the program.

A Summer Day Camp Program is another service of the Association for four weeks during July each year. Children and adults from all areas of the Peninsula region are privileged to attend.

The Peninsula ARC is a member agency of the United Community Services. The unified efforts of an understanding Peninsula community are an inspiration and reflect to the obvious needs of “Special Children” - mentally retarded. PARC is also a member of National ARC and Virginia ARC and these sources contribute to the vast knowledge and revelation of research and State and Federal legislation to benefit our handicapped society.

BOOK SALE: The annual used book sale of the Hampton Branch of AAUW will be held at Brittingham’s Warehouse, 56 W. Queen St., on April 17 (8 a.m. - 8:30 p.m.) and April 18 and 20 (8 a.m. - 5 p.m.) Proceeds are devoted to fellowships.
DR. BRANDT TO SPEAK TO IEEE

Dr. Gerald B. Brandt, Research Engineer, Westinghouse Electric Corporation, will speak on Industrial Applications of Holography at a meeting of the Hampton Roads Section of the Institute of Electrical and Electronics Engineers on April 23 at Eli’s Restaurant, Hampton. Dr. Brandt will display the Westinghouse traveling hologram show which will include a demonstration of a wide angle hologram and a focus hologram, among others. The talk will include applications of hologram vibration analysis to the determination of mode shapes of complex mechanical structures. The principles of holography will be discussed as a background to the applications. Slides of some pictorial holograms will be shown.

A social period will start at 6:30 p.m., followed by a steak dinner at 7:15 and the program at 8. For reservations call Frank Senft, 3461, by noon on Wednesday, April 22. Guests are welcome.

HAPPENINGS
(Continued from page 2)

EARTH DAY... Wednesday, April 22 will be observed as Earth Day and a series of special lectures will be held at Christopher Newport College. The observance is sponsored by the Junior League of Hampton Roads, the AAUW Chapters of Hampton and Newport News, and the Biology Department of Christopher Newport. The event is free and open to the public. Registration will be held at 9 a.m. Lectures and panel discussions will cover such areas as land pollution, air pollution, water pollution, and environment laws.

LANGLEY LIBRARY... In the recent article carried in the Researcher on the improvement of facilities and services at the Langley Library, mention was made of an improved management area, with an attempt being made to procure and make available some of the better management classics, new management books on a wide range of subject areas, and subscriptions to some of the better magazines which carry articles of wide interest to the person who is interested in management principles. If you haven’t dropped by the Library lately to examine this new area of books and magazines, consider this as a special invitation to do so at your convenience. And remember, the Library is open on Tuesday and Thursday evenings until 8:30.

KEEP OFF THE GRASS... While the problem of cars being parked on lawn areas is not as bad as it was a year ago, it is still a shame to see some of the lawn areas at some facilities being degraded by careless parking on the part of personnel and visitors to the Center. It takes a long time to make an attractive lawn area, but spinning wheels or parking on wet turfs can destroy a lawn area in short order. So how about thinking of the Center’s program to keep the place attractive next time you are tempted to violate the lawn areas. Safety considerations make it equally desirable that cars or other vehicles not be parked in designated no parking areas such as driveways or loading ramps.

BASKETBALL CHAMPS: ACD won the NASA Basketball Championship with a record of 15 wins and only 1 loss. Members of the championship team are (from left): Robert Reynolds, Greg Thone, Bill Hagler, Weldon Staton, Jim Harris, Jim Diedonne, Titus Harrison, and Larry Campbell. Absent when the picture was taken were Joe Drozdowski and Jim Ward.

Can You Solve This Problem?

Leukemia, a disease which kills about 15,000 Americans annually, is characterized by a proliferation of white blood cell forming tissue. A method is required for separating the cells according to size or density. Existing methods for this separation include sedimentation and centrifuging. Sedimentation technique produces insufficient cells and centrifuging does not allow sufficiently fine separation of cells. Refer to RTI/NCI-6. Contact the T. U. Office, 3281, for the problem statement or if you have a contribution.

THE GREATEST of faults, I should say, is to be conscious of none.

- Carlyle
BENNETT COMET: Leonard Weinstein, Aero-Physics, and Bob Mack, Full-Scale Research, took this photo of the Bennet comet which has been seen locally for the last few weeks. The photo was made at 4:30 a.m. on April 3 with a 24-inch Aero lens mounted on the Skywatchers Astronomy Club’s 16-inch telescope. A 4-minute exposure using telescope tracking mechanism to compensate for the Earth’s rotation was used.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of April 20:


Tuesday - Cream of mushroom soup, grilled pork steak, stuffed shrimp, spaghetti and meat balls, fish cakes. Snack bar - Soup, barbecue, hot pastrami, French fries.

Wednesday - Vegetable-beef soup, braised beef cubes, pork chopette, baked hash. Snack bar - Soup, hot dogs, flying saucer, French fies.

Thursday - Chicken-rice soup, country steak, barbecued spare ribs, chicken croquettes, macaroni and wiener. Snack bar - Soup, fish sandwich, steak sandwich, German potato cakes.

Friday - Cream of tomato soup, hot turkey sandwich, fish, broiled smoked ham, grilled cheese. Snack bar - Soup, grilled cheese, turkey sandwich, French fries.

The menu for the week of April 27 is as follows:

Monday - Puree of bean soup, simmered corned beef, chuckwagone steak, beef pie, franks and beans. Snack bar - Soup, hot dogs, corned beef, French fries.

Tuesday - French onion soup, hot roast beef sandwich, fried shrimp, chicken livers, tamale pie. Snack bar - Soup, barbecue, hot roast beef, French fries.

Wednesday - Chicken-noodle soup, chicken pie, grilled pork steak, deep-fried liver, chili-mac. Snack bar - Soup, hamburger, chuckwagon steak, German potato cakes.

Thursday - Vegetable-beef soup, roast beef, barbecued pork chunks, stuffed flounder, Spanish omelette. Snack bar - Soup, fish sandwich, steak sandwich, French fries.

Friday - Clam chowder, baked ham, broiled fish, cheese omelette, fried chicken. Snack bar - Soup, cheeseburger, baked ham, French fries.

A PESSIMIST? A man who thinks everybody as nasty as himself, and hates them for it. -George-Bernard Shaw

AIAA GROUP TO HEAR PERKINS

Courtland D. Perkins, Chairman, Department of Aerospace and Mechanical Sciences at Princeton University, will be guest speaker at a meeting of the Hampton Roads Section of the American Institute of Aeronautics and Astronautics on Thursday, April 30 at the Holiday Inn (second floor banquet room).

Perkins will speak on “The Development of Airplane Stability and Control Technology.” He will trace the development of the technology of aircraft stability and control from its origins before man’s first flight. The problems of equilibrium and steering, as solved by the Wright Brothers, are compared to notions of stability as stated by the early applied mathematicians who solved the airplane’s equations of motion and discovered its characteristic modes.

Perkins will discuss how the relationship between the mathematics, the wind-tunnel static curve, and the real world of flying finally were reconciled when the human being as a controller was involved more explicitly and the requirements on flying qualities were developed.

A social hour will be held at 6:30 p.m., folowed by dinner at 7:30 and the meeting at 8:30. For reservations call Bill Woods, 861-5331, or Marty Copp, 838-8926.

ISA PLANS APRIL 22 MEETING

The Instrument Society of America will meet Wednesday, April 22, at the Longhorn Steak House on Mercury Boulevard. Included on the agenda will be the election of officers and a talk by Robert Stevens on Measurement and Control of Air Pollution.

Stevens is associated with the National Air Pollution Control Administration, Division of Chemistry and Physics, Analytical Chemistry Branch, which is part of the Department of Health, Education, and Welfare. He is stationed in Raleigh, North Carolina. His talk will include slides and will emphasize the hardware being developed to measure and control air pollution.

A social period will start at 6:30 p.m., followed by a steak dinner at 7:15 and the meeting at 8. For reservations call Pat Kyle, 3234.

COIN CLUB MEETS APRIL 23

The Langley Research Center Coin Club will meet at the Activities Building on Thursday, April 23 at 7:30 p.m. The program will include: a talk on U.S. Currency by Don Roberts, Virginia Peninsula Coin Club; a raffle of a Story of Silver display set; five BU Mercury dimes (six prizes in all); and an auction. Guests are invited to attend.

The club is in the process of applying for membership in the American Numismatic Association. Another project that the Club intends to initiate in the near future is the purchase of a metal detector for those interested in treasure hunting. There are still five vacancies in the association membership area. Interested persons may contact John Cox, 2678; or Bob Wright, 3234.
WINNING PHOTOS: Shown here are the three top winners in the Langley Camera Club's black and white category contest. Sentinel (above) by Sidney Hall, Research Support, took first place; Tom (top right) by Clyde Hayes, Full-Scale Research, came in second; and Guys and Dolls (right) by Abe Leiss, Scout, was third. How would you have judged them?

EMPLOYEES DONATE BLOOD

The Red Cross Bloodmobile collected a total of 184 pints of blood during a visit to the Center on March 18. The total included donations from 26 marines from Yorktown who were unable to give blood during the scheduled Bloodmobile visit to their facility.

An unusual feature of the visit was a father, mother, and son team who donated blood at the same time. Members of the family team were Margaret, Ward Jr., and Ward Schoonover.

Completing their quota for five gallons were Mike Jurscaga and Harold Stalnaker. Four-gallon donors were W. E. Cox, Robert Miller, A. J. Voitlein, Richard Stall, and Clarence Snyder. James H. Link and William Vonwald were credited with three gallons. Two-gallon donors were Marion Tuck, Miles Lockard, and Ray Haynes.

One-gallon pins were given to William R. Ferguson, Ward Schoonover, Ronald Turner, and Joseph McColskey.

Assisting during the visit were Dr. D. S. Sklof and Dr. S. K. Ashby.

THE PASTURE looks greener on the other side of the fence because it has more weeds. —Sabol

COST REDUCTION TIP: Provide direction to contractors to produce improved or less costly performance.

CAMERA CLUB WINNERS NAMED

The results of the Langley Camera Club’s March contest were as follows:

Black and White Category - First place, Sentinel by Sidney Hall; second, Tom by Clyde Hayes; third, Guys and Dolls by Abe Leiss; fourth, Three’s a Crowd by Leiss; fifth, Watering Old Cliff Hanger by Hayes; and sixth, Locked Out by William Conkling.

Color Slide Contest - First, Swans by Capt. Dewitte Cage; second, Dogwood by Conkling; third, Windjammer by Leiss; fourth, Linda by Cage; fifth, A Funny Thing Happened on the Way to the Forum by Leiss; and sixth, Branch by Conkling.

Special People Slide Contest - First, Wash Day by Cage and Which One by Leiss.

The next meeting will be held April 16 at 7:30 p.m. at the Langley Service Club. For additional information contact Leiss, 877-2939.
SWAP AND SHOP

HOUSING NEEDED. The Center is expecting about 80 college professors to be working here this summer and furnished apartments or houses are needed for the visiting professors and their families. Persons knowing of available housing are requested to call Dick Cole, 2317.

WANTED

Passengers from Stuart Gardens, Boulevard, and Wythe vicinity to W.A. on 8 shift. Schmidt, 3870.

Men to sing in barbershop quartet and chorus that meets every Tuesday at West Hampton Baptist Church. Call Bill Tennis, 723-7528, or Sonny Eecho, 396-3382.

Home for kittens. Young, 826-1382.

FOR SALE

1968 A. H. Sprite - $1580; RCA 8-inch portable TV - $60; GE portable TV - $25; Layfette 5-band radio. Harvey, 723-8235.


Ligustrum plants; dinette table and 4 chairs. Magnus, 898-7464.

12-foot diameter x 30-inch deep pool with pump, filter, and accessories. Leffler, 826-4106.

Decca Hi-Fi, mahogany on brass legs. Pease, 851-0181.


4 waterfront lots on 170 acre lake resort near Richmond - $1500 to $1995 each. Fuller, 596-7548.

6-foot truck camper wired for electrical hookup or 12-batt battery, sleeps 2 - $300. Wells, 2 E. Lamington Rd., Hampton.

17-foot Sailstar Explorer with trailer. Melfi, 877-7986.


Traditional sofa and chair, light green. Hughes, 595-2832.


1965 Cox camper, boat top carrier, LP gas. Ahl, 723-2074.

Craftsman riding lawn mower - $125. Ostroff, 877-9455.

Waterfront lot on Chisman Creek. Bright, 868-6530.

McGraw Edison air conditioner, 8600 btu, 1½ volt, 12 amp., thermostat - $75. Cooper, 898-6994 after 5 p.m.

LANGLEY ACTIVE IN SCIENCE FAIRs

(Continued from page 1)

A number of Center employees served as judges at science fairs. Langley personnel who were judges for the NASA awards at the recent Tidewater Science Congress included Robert N. Parker, Dr. Hans Juergen C. Blume, Franklin H. Farmer, and Leonard P. Kopia, all of the Flight Instrumentation Division.

Mark Randall Chambers of Ferguson High School in Newport News, son of Dr. Randall M. Chambers, Dynamic Loads Division, was one of the NASA award winners at the Tidewater Science Congress. His project was entitled, "The Effects of Rotation on Responses of Turtles, Fish and Humans."

Langley and other NASA centers participate in the science program as a means of increasing the interest of young students in science and engineering.

Langley's participation in the science fair program is coordinated by the Office of Public Affairs.

PUTTING WORDS INTO PEOPLES' MOUTHS

PERSONNEL NOTES

The Civil Service Commission regulations require that a written record of the basic duties and responsibilities assigned to a position must be prepared and classified before an employee can be hired or reassigned. The Commission's regulations further state that a well-designed position has clearly defined operations, tasks, duties, authorities, and responsibilities, as well as provision for supervisory control and supervisory requirements.

These duties and responsibilities must be recorded on NASA Form 692 (Position Record); which, when classified, provides a proper document indicative of the qualification, grade, salary, and classification of the position, in support of recruitment or reassignment. It is the responsibility of the supervisor to assure these requirements are met either before, or at the time, recruitment or reassignment is contemplated.

(Detailed instructions are outlined in Federal Personnel Manual, Chapter 312, Subchapter 5, and NASA FPM Supplement No. 33.)

TRAINING is everything. The peach was once a bitter almond; cauliflower is nothing but cabbage with a college education.

--Mark Twain
WILLIAM LAWSON HEADS CENTER’S ANNUAL SAVINGS BOND CAMPAIGN

William F. Lawson, head of the Administrative Support Branch, Administrative Services Division, has been appointed by Edgar M. Cortright, Director, to head the Center’s 1970 U.S. Savings Bond drive.

The drive will be conducted through June 19. Each employee will be contacted by a representative from his division.

The theme of this year’s campaign is TAKE STOCK IN AMERICA and affords each employee an opportunity to purchase U.S. Series E Savings Bonds through the Payroll Savings Plan. Series E Savings Bonds now pay 5% when held to maturity of 5 years, 10 months (4% for first year; thereafter 5.20% to maturity).

Lawson stated that the Center’s goal this year is 90 per cent participation or better. If the staff reaches the 90 per cent mark, the Center will receive the Treasury Department’s coveted Minuteman Flag. The Center’s current percentage of participation is 80.

Lawson pointed out that traditionally Langley has led the NASA in bond participation but its first place position has now been taken over by another Center. In order to regain the leadership, an additional 10% of the staff will have to subscribe to bonds.

Lawson is a native of Poquoson. He received his B.A. degree in Economics from Randolph-Macon College and joined the Center staff in 1961.

ENGINEERS’ CLUB TO HEAR SPONG

William B. Spong Jr., U.S. Senator from Virginia, will be guest speaker at a meeting of the Engineers’ Club of the Virginia Peninsula on May 14 at Mariners Museum.

Spong will speak on “Improving Our Environment.” Those who have heard Senator Spong speak on the subject agree that his frank discussion demonstrates his in-depth knowledge of this important field in which he is regarded by many as an expert. Time will be reserved for questions from the audience.

Spong is a native of Portsmouth. He was educated in the public schools of Portsmouth, at Hampden-Sydney College, the Law School of the University of Virginia, and the University of Edinburgh, Scotland.

(Continued on page 7)

CORTRIGHT NAMED CHAIRMAN OF APOLLO 13 REVIEW BOARD

Edgar M. Cortright, Langley Research Center Director, was named Review Board Chairman by Dr. Thomas O. Paine, NASA Administrator, after an explosion April 13 in the service module forced NASA to terminate the third lunar landing mission.

Astronaut Neil A. Armstrong, the first man to step on the moon, and six top-ranked space officials were named to the review board to determine the cause of the Apollo 13 failure.

Announcement of the review board members came a few hours before Astronauts James A. Lovell Jr., Fred W. Haise Jr., and John L. Swigert Jr. went on national television to describe publicly for the first time how they survived the most serious in-flight emergency in the NASA’s history.

Apollo 13, launched at Kennedy Space Center on April 11, splashed down in the Pacific Ocean April 17.

Others named to the review board were: Robert F. Allnutt, Assistant to NASA Administrator Paine; John F. Clark, Goddard Space Flight Center Director; Brig. Gen. Walter R. Hedrick Jr., Director of Space, Headquarters, United States Air Force; Vincent L. Johnson, Deputy Assistant NASA Administrator for Engineering, Office of Space Science and Applications; Milton Klein, Manager, AEC-NASA Space Nuclear Propulsion Office; and Dr. Hans Mark, Ames Research Center Director.

HEADS BOARD: Edgar M. Cortright, Center Director, has been named chairman of a review board to determine the cause of the Apollo 13 failure. Serving on the committee is Astronaut Neil A. Armstrong (left), the first man to step on the moon. Armstrong visited the Center in January when a moon rock was on display in the Activities Building.
**HAPPENINGS**

**WEDDING BELLS.** Cheryl Nuttall, Administrative Services, changed the Miss to Mrs. when she took her final vows with Allen Green, Macon, Georgia, on April 17 at the Wythe Presbyterian Church.

**ELECTION.** The Activities Association will conduct an election on Thursday, May 14, to elect delegates and alternates to the General Assembly of the Activities Association. Employees on leave for the day will lose their right to vote.

**SOFTBALL LEAGUE.** Anyone interested in entering a team in the NASA Softball League is requested to contact Jim Gardner, extension 3835.

**ELECTED FELLOW.** Congratulations to Dr. Randall M. Chambers, Staff Scientist, Dynamic Loads Division, on being elected a Fellow of the American Association for the Advancement of Science. Founded in 1848, the prime aim of the association is to further the work and cooperation among scientists and to improve the effectiveness of science in promoting human welfare and human progress. The association encompasses all of the sciences and is considered the spokesman for all sciences in America. The association publishes "Science," which is a weekly journal, and "Scientific Monthly." In 1968 Dr. Chambers was awarded the Arnold D. Tuttle Award by the Aerospace Medical Association "in recognition of his outstanding research achievements in aerospace medicine."

**BRIDGE CLASSES.** The bridge classes for beginners will start as scheduled on Wednesday, May 6 at 7:30 p.m. in the Activities Building. Eight classes will be held and Mrs. Ashby Wilson, life master, will be instructor.

**ELECTED CHAIRMAN.** T. Melvin Butler, Assistant Director for Administration, was elected Chairman of the Interagency Board of U.S. Civil Service Examiners at a meeting of the group held recently at Fort Monroe. Lewis Eisen, General Supply Center, was elected Vice Chairman. Also representing the Center at the meeting was J. Norwood Evans, Assistant Personnel Officer.

**NEW ARRIVALS.** Celebrating the birth of a six-pound eight-ounce daughter, Rachael Marie, on April 15 are Jimette, formerly of Analysis and Computation, and Carl Trexler, Aero-Physics. Weighing in at eight pounds, three ounces on April 19 was Gregory Douglas, son of John Rollins, Analysis and Computation.

**ROD AND GUN CLUB.** The Langley Rod and Gun Club will hold its annual membership meeting on May 18 at 7:30 p.m. in the club house. For further information contact H. D. Hendricks, 3418.

**CHORAL SOCIETY.** The Peninsula Choral Society will present its spring concert on Monday May 4, at 8:15 p.m. at Warwick High School. Featured works are "The Death of the Bishop of Brindisi" by Gian Carlo Menotti, and Ralph Vaughan Williams's "Five Mystical Songs." Soloists are Mary Deppe and Charles Lowry. Assisting with the Menotti work will be the 40-voice boys choir from St. Andrews Episcopal Church. Regular admission is $1.50 with student tickets 50 cents. Tickets may be purchased at the door or from the following Center employees who are members of the chorus: Don Hewes, ASMD; Mary Catlett, APD; and Stanley Pearson, IRD.

**BRIDGE GAME.** An admission free, novice duplicate bridge game will be held at the Activities Building at 7 p.m. on Tuesday, May 5. There will be approximately one hour of instruction and discussion concerning the mechanics of duplicate bridge followed by a short game. Persons interested are requested to call Bill Jones, 3234. (Continued on page 3)
VIKING REVIEW: A two-day Viking Science Review was held at the Center April 13-14. Eugene C. Draley (top left), Langley Assistant Director, greets Dr. Al Nier, University of Minnesota. Dr. Nier was leader of the entry science team. Shown during a work session (top right) are: William F. Cuddihy, Viking; Dr. Marion Grossi, Raytheon Corporation; and Dr. William H. Michael, Aeronautical and Space Mechanics Division. Discussing some of the latest developments in the Viking program are (lower left): Lloyd Keaffer; Viking; Dr. Joachim Kuettner, ESSA; and Dr. Seymour Hess, Florida State University. Taking time out for refreshments are Dr. Tim Mutch, Brown University; James S. Martin, Manager of Viking Project Office; and Dr. Gerald A. Soffen, Project Scientist, Viking Project Office.

HAPPENINGS
(Continued from page 1)

TENNIS CLUB... Staff members are invited to participate in the NASA Tennis Club activities. Membership dues are one dollar per year. Further information on club activities and membership may be obtained from Tony Parrott, 3691, or Barbara Hixon, 2429. A tournament to determine the standings on the tennis ladder is scheduled for May 16-17.

IAM MEETING: The NASA Lodge No. 892, International Association of Machinists, will meet May 5 at 7 p.m. at the Central Labor Union Hall.

YOU CAN tell the ideals of a nation by its advertisements. --Douglas

OLD MEN are fond of giving good advice, to console themselves for being no longer in a position to give bad examples. --La Rochefoucauld

Can You Solve This Problem?
Law enforcement and fire department officers have need of better tools for use in removing persons trapped in vehicles following automobile accidents. Tools sought should be capable of spreading or separating materials that are about one or two inches apart and as wide apart as one foot. Refer to LE-9. Contact the Technology Utilization Office, 3281, for the problem statement or if you have a contribution.

EMPLOYMENT NOTICE: Persons who are eligible for reinstatement and interested in temporary employment are requested to contact Jane Swartzwelder, extension 2253.

THERE ARE times when one would like to hang the whole human race, and finish the farce. --Mark Twain

GOOD MANNERS is the art of making those people easy with whom we converse. Whoever makes the fewest persons uneasy, is the best bred in the company. --Swift
RECOGNITION FOR EEO ACHIEVEMENTS

In an effort to encourage and recognize outstanding performance in fostering equal employment opportunity in the Federal Government, provisions have been made for recognition under the Federal Incentive Awards Program.

Awards will be given to persons who have achieved outstanding results through unusually effective leadership, skill, imagination, innovation, and perseverance in extending equal employment opportunities to Federal employees.

The purpose of the awards is:

1. To emphasize the policy of the U.S. Government to provide equality of opportunity for all citizens in Federal employment as reaffirmed and strengthened by Executive Order 11478 of August 8, 1969.
2. To demonstrate the value which management places upon employees, supervisors, and managers who actively and effectively contribute to equal employment opportunity.
3. To give due and proper honor and distinction to those who, recognizing the right of equal opportunity for all, excel in providing this opportunity to others seeking employment or already within the Federal service.
4. To effectively give impetus to the equal employment opportunity program by publicizing the superior accomplishments of the award recipients and the impact and positive effect these accomplishments have had upon others seeking equal opportunity.

Persons at all levels of supervision and management who clearly excel in promoting equal employment opportunity within their organization are eligible for consideration.

Recognition for superior accomplishments in equal employment opportunity must be based on objective evidence which indicates that the supervisor has excelled in such job factors as (1) motivating employees through direct encouragement and assistance to develop their full potential and utilize their skills to the maximum extent; (2) achieving effective employee utilization; and (3) demonstrating sensitive treatment of all employees.

Persons would also be eligible for such awards whose work is not specifically in equal employment opportunity, but who through superior accomplishments in training, recruitment, or other activities advance equal employment opportunity in the Federal Government.

Awards may also be made to employees for excellence in fostering the Government's equal employment opportunity program through non-Federal activities.

Recognition for superior accomplishments in equal employment opportunity should be made an integral part of the agency's incentive awards program, according to the Equal Employment Opportunity Commission.

The Center's Equal Employment Opportunity Committee will serve as the focal point for awards in this area.

NEW COMMITTEE MEETS: The first meeting of the Flight Mechanics Committee under the recently authorized JANNAF (Joint Army-Navy-NASA-Air Force) Plum Technology working group met April 14-15 at the Center. This is one of four technical committees approved by the working group. Attending the meeting were front row (from left): Ron Hoffman, Mac-Connell-Douglas; Ken Pierpont, LRC; Fred Etheridge, North American-Rockwell; Ivy Fossier, Manned Spacecraft Center; and Dr. Steve Smith, Army Missile Command. Second row - Dr. Al Monson, Martin; Dr. Tom Adamson, University of Michigan; Lowell Ruby, Pratt and Whitney; Dr. Herman Mark, Lewis Center; Dr. Jack Hill, Mithras; and Jack Hyde, Rocketdyne. Third row - Bob McGhee, LRC; Cal Wilkinson, Boeing; John Benefield, Lockheed; Dr. Bill Sheeran, Cornell Laboratory; Bill Strike, Arnold Engineering Development Corporation; John Rausch, General Dynamics; Larry Fidler, Martin; Trevor Moulden, University of Tenn.; Dr. Vic Ransom, Aerojet; and Carl Ehrlich, Lockheed.

REPORT ON WOMEN AS WORKERS

A report recently published by the Women's Bureau summarizes the latest available data on certain factors that affect labor costs -- absenteeism, labor turnover, job tenure, and labor mobility. According to the report, cost differences in employing men and women are not significant. In 1967, worktime lost because of illness or injury averaged 5.6 days for women and 5.3 days for men.

The report states that women workers have favorable records of attendance and job retention when compared with men employed at similar job levels and under similar circumstances.

Detailed analyses indicate that the skill level of the job, the marital status and age of the worker, length of service, and record of job stability provide better clues to differences in work performance than does the mere fact that the worker is a man or a woman. Turnover studies show that overall job-changing rates are about the same for women and men. In 1968, 2.6 percent of women workers and 2.2 percent of men workers quit their jobs voluntarily.

However, men are more frequent occupation changers than women. Only 7 percent of the women but 10 percent of the men held a different occupation in January 1966, than in January 1965.

WRITERS seldom write the things they think. They simply write the things they think other folks think they think.

- Elbert Hubbard
TECHNOLOGY UTILIZATION NEWS

Highway accidents now rank fourth among the principal causes of death in America, just behind cancer, apoplexy and heart attacks. More than 50,000 persons, particularly the young, die on our highways each year. This constitutes a problem of the greatest national importance. Many of these are attributable to vehicles which skid uncontrollably on rain drenched roads. NASA can take pride in the fact that Langley-generated technology has contributed greatly toward reducing accidents caused by the loss of tire traction on wet and icy roads. (tire "hydroplaning").

Tire hydroplaning studies were initiated at Langley when it was first recognized as a serious but little understood operational problem for aircraft landing on wet runways. Engineers at the Landing Loads Track, DLD, deserve much credit for their perseverance in developing the ways to understand and cope with this dangerous phenomena. The results of this research can be measured in terms of great savings in lives, property, and insurance.

The latest Langley Tech Brief, TB 70-10103, by Q. C. Davis, Fabrication Division, describes a most useful and ingenious tool for accurately and quickly measuring the water depth on runways or highways during heavy rains.

Technology Utilization film reports, such as "Automobile Tire Hydroplaning. . . What Happens?" are available to schools or civic groups for the asking. In case one of your local civic groups has not seen any of the latest film coverage on this important subject and wants a good program, contact the T. U. Office, 3281, for details.

GODDARD ESSAY COMPETITION

The National Space Club announces the opening of the Robert H. Goddard Historical Essay Award competition for 1970. This annual nationwide competition, with a $500 prize, is open to any U.S. citizen.

The contest is named in honor of the world rocket pioneer, Dr. Robert H. Goddard, whose scientific and technological contributions -- although belatedly recognized in the United States -- helped open the door to space.

Essays may treat any significant aspects of the historical development of rocketry and astronautics and will be judged on their originality and scholarship. They may bring new information to light or may cast a new and different light upon events or individuals influencing rocketry and astronautics in the United States.

Entries should be submitted by November 1 to the Goddard Historical Essay Contest, c/o National Space Club, 1629 K Street, N.W., Washington, D.C. 20006.

The winner will be announced at the Dr. Robert H. Goddard Memorial Dinner in March 1971. Judging is now in process on the 1969 Goddard Historical Essay Competition.

The Robert H. Goddard Historical Essay Award was the first literary competition devoted to historical affairs in the field of rocketry. Members of the NSC's Committee for the History of Rocketry and Astronautics serve as judges for the contest. They include Dr. Eugene M. Emme, NASA Historian, chairman.

Rules for the contest may be obtained from the Langley Researcher Office, extension 3116.

EVERY accident is a notice that something is wrong with men, methods, or materials.

TO AID in cost reduction implement a new or unique method.

GOLF WINNERS: Clyde Cottrill (third from left) was the NASA Golf Association Champion for 1969 with an 87-23-64. Fuller Arnn, Chairman of the Activities Committee of the Activities Association, is shown presenting him with the trophy. Other winners are (from left): Ray Leatherman, winner of the blind bogey; Herb Pelton, winner in the second flight; Reid Hall, fourth flight winner; and Bob Turner, first flight winner and tournament chairman.

GOLF TOURNEY WINNERS NAMED

The NASA Golf Association held its first tournament of the 1970 season on Friday, April 17 at the Langley Golf Course. Seventy players teed-off for the NASA Golf Association Champion for 1969 and for $100 in prizes.

Clyde Cottrill with an 87-23-64 won the trophy without too much competition. Bernie Garrett won low gross with a 77 and Ray Leatherman won the blind bogey prize of six golf balls.

In the flights first place paid nine golf balls; second was six golf balls, third took three golf balls, fourth received two golf balls, and fifth and sixth won one golf ball each.

Free eats and refreshments were served and prizes were awarded at the Activities Building after play. Watch the Researcher for future tournaments and meetings.

Members who have not paid their three dollar membership dues for 1970 are requested to do so today. Any NASA employee is eligible to join the association. Send dues to Gene Naumann, MS 244.

Officers for 1970 are: President - Bill McMillan, Vice President - Ray Goodman, and Secretary-Treasurer - Gene Naumann.

Tournament results according to flights were as follows:

First flight - Turner 78-8-68, Test 86-14-72, Howell 81-8-73, T. Hall 88-14-74, Gula 88-13-75, Goodman 90-14-76.


Third flight - Cottrill 87-23-64, Hickman 95-21-74, Luedbetter 96-21-75, H. Mann 96-21-75, Cleary 96-20-76, Ballentine 95-19-76.

SAFE SPRING CLEANUP HINTS

Safeguard your precious eyesight during the spring clean-up season, advises the National Society for the Prevention of Blindness, Inc., concerned with the mounting toll of home eye accidents.

Be alert when discarding trash. Don’t place old bottles or cans on rubbish fires. Heat may cause them to explode, showering potentially-blinding fragments of glass or metal all over the area; the danger is greater if the containers still hold some combustible liquid or powder. Disposing of used radio or flashlight batteries in the fire is risky. Exposure to heat may cause them to explode violently. Don’t gamble with your eyesight.

For home gardeners NSPB has a special warning. Fertilizers, plant sprays and insecticides can cause chemical burns, resulting in visual impairment or even blindness if they get into the eyes.

An eye burn, whether caused by flame or chemicals, should be flooded with water immediately for approximately fifteen minutes. Hold the face under a faucet or pour cool water into the eye from a glass, pot or kettle. Do not use an eye cup. Burns, especially those from chemicals, should be examined by a doctor as soon as possible.

The spring clean-up may uncover old golf balls. Curious children often cut away the elastic in these and penetrate the liquid-filled core. Sulfuric acid, barium salts, zinc chloride and caustic soda have all been used at times in these cores and any penetration releases the liquid with explosive force. Dangers to the eyes are obvious and ill-effects may be long lasting.

Assure yourself of safe sight. Check your local optical equipment centers for a pair of all-purpose safety goggles. A small investment will provide a lifetime of priceless protection.

COST REDUCTION SHOPPING LIST: Standardize where possible, eliminate or reduce graphics requirements, and use less costly methods and materials.

ROTATING ENVIRONMENT STUDIED

The effects of a rotating environment on men living and working in future space stations will be studied by North American Rockwell Corporation’s (NR) Space Division under contract from the Langley Research Center.

Work on the 10-month, $225,000 study will support an in-progress NASA conceptual design study of a 12-man, Earth-orbital space station planned for operation in the late 1970’s. The station is the predecessor of a larger space base planned for the early 1980’s.

Playing an important part in the new study will be Space Division’s giant rotational test device, the largest known in the world. Four men can occupy the facility, which is half as long as a football field, for up to 30 days without resupply.

Primary goals of the study will be to develop space station design and crew procedures that will help men adjust to living in a rotating environment.

Specific areas of investigation will include assessing means of crew movement and cargo transfer within the station, and evaluating hand-eye-foot-body coordination and dexterity as related to man’s ability to operate and adjust sensitive controls and instruments in a rotating environment.

Where today’s astronauts float in a weightless condition during most of their missions -- due to the absence of gravity -- crewmen in future space vehicles will be able to live and work in a more Earth-like environment with the assistance of artificial gravity. This gravity will be produced by rotating portions of the spacecraft about a central axis or hub.

The movement of man, or a mass, in a rotating environment produces an additional effect known as coriolis forces. These forces, when produced by the rotation of the Earth, cause water to spiral down the drain in a counter-clockwise direction in the Northern Hemisphere, and clockwise in the Southern Hemisphere.

Because of the large radius of the Earth, the coriolis forces do not significantly affect man’s balance and equilibrium. However, the shorter radius and rotational speeds that will be used in future space vehicles will have more impact on man’s orientation and balance.

Another major area of interest in the study will be how these various forces and the interaction of man’s nervous system will affect his performance and ability to work in a continuously rotating environment for up to months at a time.

SPACE SPINNER: Giant rotational facility, largest known in world, will be used to study how men will be affected by the rotating environment in space stations of the future. Ten-month, $225,000 study will be done by North American Rockwell Corporation’s (NR) Space Division for the Langley Research Center.
CAFETERIA MENU

The following menu will be served in the cafeterias during the week of May 4:

Monday - Cream of tomato soup, roast veal, fried shrimp, creamed dried beef on toast, macaroni and wiener. Snack bar - Soup, hot dog, corned beef on rye.

Tuesday - Vegetable-beef soup, pot roast of beef, baked lasagna, smoked pork sausage, fish cakes. Snack bar - Soup, fish sandwich, hot roast beef.

Wednesday - Split green pea soup, roast pork, breaded veal cutlet, broiled fish, wiener and sauerkraut. Snack bar - Soup, barbecue, veal cutlet, French fries.

Thursday - Chicken-rice soup, chicken and dumplings, meat loaf, fried fish, tamale pie. Snack bar - Soup, hamburger, hot pastrami.

Friday - Cream of celery soup, broiled red snapper, baked hash, Salisbury steak, chicken croquettes. Snack bar - Soup, sea dog, flying saucer, French fries.

The menu for the week of May 11 is as follows:

Monday - Puree of bean soup, roast beef, grilled smoked ham, chicken chow mein, beef ravioli. Snack bar - Soup, ham and egg sandwich, hot roast beef.

Tuesday - Consomme julienne soup, beef stroganoff, liver and onions, fried oysters, franks and beans. Snack bar - Soup, hot dog, hot corned beef, French fries.

Wednesday - Chicken-rice soup, chopped steak, broiled fish, fried chicken, chili con carne. Snack bar - Soup, hamburger, French fries, Lou's satellite special.

Thursday - Vegetable-beef soup, Spanish pot roast, grilled pork steak, stuffed shrimp, grilled cheese. Snack bar - Soup, grilled cheese, steak sandwich.

Friday - Manhattan clam chowder, chicken pie, fried fish, boiled ham, baked hash. Snack bar - Soup, fish, baked ham, French fries.

LOCAL CLUB TO HEAR SPONG

(Continued from page 1)

In 1954 he was elected to the Virginia House of Delegates and two years later to the State Senate where he served until his election to the United States Senate in 1966. He was Chairman of the Virginia Commission on Public Education (The Spong Commission) throughout its four-year existence. His committee assignments as a member of the committees on Commerce, Public Works and the District of Columbia have given him full exposure to the wide range of contemporary problems. These include air and water pollution, mass transportation, highways, aviation, communications, disaster relief, consumer protection, and oceanography. Three of the subcommittees on which Senator Spong serves are dealing with environmental problems. Another special subcommittee is presently writing legislation for natural disaster relief.

Senator Spong has frequently traveled throughout Virginia to learn the attitudes of our citizens about legislation before Congress. Each year, he has made public disclosure of his assets and liabilities. He is a strong advocate of legislation requiring such disclosure, as well as of public reporting of the sources of campaign financing.

The meeting will be preceded by a social hour at 6 p.m., followed by a steak dinner at 7. Reservations may be made by calling 838-6161 between the hours of 8 a.m. and 5 p.m., and 826-3303 after 5 p.m.

CENTER VISITORS: Oran W. Nicks, NASA Acting Associate Administrator for the Office of Advanced Research and Technology (OART), and Albert J. Evans, Aeronautical Vehicles Division Director (OART), visited the Center last week to discuss aeronautical programs at Langley. Shown during a visit to Unitary Wind Tunnel (top photo) are (from left): Laurence K. Loftin Jr., Assistant Director; Evans; Dr. Richard T. Whitcomb, Head of 8-Foot Tunnels Branch; and Nicks. In the bottom photograph, Donald D. Baals, Assistant Chief of Full-Scale Research Division, shows a model of a supersonic transport to Loftin and Nicks.

WANTED: Choir director for small methodist church. Howe, 838-0254.


IT IS LITTLE known to oneself that his ego starves more often than his stomach.

- Sabol

THE MAN who makes no mistakes does not usually make anything.

- Edward J. Phelps

IMAGINATION is more important than knowledge.

- Einstein
NEW FEATURE STARTS MAY 15

A new column entitled “Questions and Answers” will be featured in Langley Researcher starting with the May 15 issue. The Langley Researcher Advisory Committee recommended that such a column be adopted by the Researcher to allow employees to ask questions concerning the activities and policies at LRC.

Question content may cover any of the regulations, activities, policies, or procedures at LRC. However, no questions which are either embarrassing or derogatory to the Center, any individual or group will be published. Questions dealing with personalities will also be considered unacceptable for publication. The Researcher will publish those questions and answers the Advisory Committee considers to be of interest or benefit to the largest number of Langley employees.

The Advisory Committee will screen all questions and forward those considered appropriate for publication to Langley management for answers.

The names of persons submitting questions to the column will neither be published nor divulged; therefore, it is not necessary that the questions be signed.

The Researcher intends to publish from three to five questions per issue, depending on the length of the questions and answers.

All questions must be in writing and they may be submitted to the Langley Researcher Office, MS 154, or to one of the following committee members: Elizabeth Buchan, Rita Southall, Jack Antinori, Marvin Waller, Rupert Buillard, Wayne Goff, Jim Osborn, or Larry Rowell.

SWAP AND SHOP

WANTED

Driving combination from Colony Road area to W.A. on 8 shift. Murphy, 3614.

Driving combination from Village Green to W.A. on 8 shift. Wiggs, 3619.


Ride from 36th St., Newport News, to W.A. on 8 shift. Pope, 3042.

FOR SALE

1/4-acre wooded lot in Colington Harbor. Phillips, 393-1556 (Portsmouth).


1968 Lil Indian minibike, 5 hp engine - $100. Firman, 868-9249.

5-year-old mare, healthy, thoroughbred and quarterhorse, has been shown with good results, also 1958 Ford V-8, 2-door, Childs, 898-6719.


61-inch vertical venetian blind - $60; coppertone portable dishwasher - $90; 6-gallon Mercury gas tank with gage for outboard motor - $16. Lockett, 588-6356.

5-foot x 36-inch formica top tables; 3 rush square rugs - sizes. 8 x 10 feet - $2, 12 x 15 feet - $8, and 15 x 18 feet - $12. Barricklow, 596-5108.


12-foot ski boat with 40 hp electric start Mercury outboard and Cox trailer - $375. Spencer, 851-0956.

Wrought iron glass top table and 4 chairs - $95; roll-away bed - $15. Shearin, 838-0341 after 5 p.m.

Hampton One Design #589 - an 18-foot centerboard sloop complete with trailer. Witherspoon, 851-0552.

Two Seal Point Siamese kittens - females - 7 weeks old - $10 each. Peters, 877-5742.

3-bedroom, 2-bath, airconditioned house on canal in Tide-mill Farms - $6000 down and assume 5-1/4% loan of $133 per month. Sharp, 838-2067.

AKC registered Toy Poodles - white and apricot - $90. Harvey, 826 2556.


1955 Ford Fairlane, 4-door, body in good condition - $25. Wagner, 851-1328.


Red Point Siamese kittens, registered, with shots - $50. Huffman, 723-7008.

BOND DRIVE GETS UNDERWAY; GROUP COORDINATORS NAMED

William F. Lawson, Chairman of the Center's 1970 U.S. Savings Bond drive, announced that the drive will be conducted through June 19. During the campaign, each employee will be contacted by a representative from his division and given an opportunity to start savings - or increase his current savings - through payroll deductions for U.S. Savings Bonds.

Lawson announced that the major organizational coordinators are as follows:

- Floyd Jennings, Viking; Bud English, Scout; Ann Timberlake, Space Vehicle Design Criteria; Louis A. Teichman, AMPD; Bill Piland, ASMD; Elmer Smith, ACD; Harold Youngblood, FID; Howard B. Edwards, IRD; Homer Morgan, DLD; Dick Weinstein, SSRD; Roger Peters, SRD; Lindsey L. Turner, APD; Peter Boisseau, FMTD; Eugene Guryansky, FSRD; Herbert Roehm, Fabrication; James Mayo, FVSD; John E. Doyle, RMFD; Carl Baab, RSID; William Lawson, ASD; Walter Wolberg, Fiscal; John Witherspoon, Personnel; John Craigs, Procurement; and Paul Kurbjun, TIUD.

Lawson stated that the Center's goal this year is 90 percent participation or better. If the staff reaches the 90 percent mark, the Center will receive the Treasury Department's coveted Minuteman Flag. The Center's current percentage of participation is 80.

AREA WAGE SURVEY BRINGS NEW COORDINATED FEDERAL SYSTEM

A full-scale wage survey will be made of the Peninsula area beginning on or about May 11. The wage survey will cover positions in the Trades and Labor categories only. The Department of Defense will direct the survey and the Norfolk Naval Shipyard will serve as the host installation. The survey will be conducted under the regulations and procedures prescribed by the new Coordinated Federal Wage System (CFWS).

The new Coordinated Federal Wage System brings many new and beneficial features not found in the former Wage Board system. The new system was established by Presidential order which directed the Civil Service Commission to develop a uniform system of pay administration for use by all Federal agencies. The CFWS was developed by top Civil Service and Labor-Management classification and pay experts and approved by the President in December 1967, to be effective throughout the various national wage areas upon completion of the first full-scale wage survey of those areas. It is expected that the CFWS will go into effect at Langley Research Center in July.

Briefly, some of the key features of the new system include:

- A uniform system of wage administration for all agencies.
- Uniform policies, procedures and job-grading standards developed and administered by the Civil Service Commission.
- Uniform grade structures and wage schedules.
- Provides for union participation and involvement in wage matters.
- Former Wage Board positions will be known as Trades and Labor Occupations.
- Grade designations change from WB to WG (Wage Grade), WA (Wage Supervisor) and WL (Wage Leader) designations remain unchanged.
- Agencies will continue to grade jobs and fix pay.
- Employees will incur no loss of pay in converting from present Wage Board to the Coordinated Federal Wage System.
- Automatic step increases.
- Saved pay and future pay increase provisions.
- More liberal appeals provisions.

Conversion to the Coordinated Federal Wage System will be effected in three basic steps:

1. Mechanical Conversion - a purely mechanical conversion from the previous wage structure to the CFWS wage structure.
2. Implementation of Job Grading System - application of all available job grading standards to trades and labor positions to establish proper wage grade and classification (to be accomplished within one year of Mechanical Conversion - step 1 above).

APOLLO 13: Apollo 13 Astronauts John L. Swigert, Fred W. Haise, and James A. Lovell are greeted by President Richard Nixon, after their arrival at Honolulu International Airport. The President, NASA Administrator Dr. Thomas O. Paine, the astronauts' wives, and Dr. and Mrs. J. L. Swigert flew from Houston to meet the astronauts arriving from Pago Pago, Samoa, after their successful splashdown April 17.

(Continued on page 3)
**HAPPENINGS**

**WINS HONOR.** Roy M. Fleming, a co-op student at North Carolina State University at Raleigh, won first place at the Regional Student Conference of the American Society of Mechanical Engineers with his paper on “Space Environment Effects on Thermal Conductivity.” The competition was held April 10 at Virginia Polytechnic Institute and included students from Virginia, North Carolina, South Carolina, and Tennessee. Fleming was awarded $100 and an all-expense trip to the Winter Annual Meeting of the ASME and an opportunity to compete on a national basis. He reported on research he performed while assigned as a co-op in the Space Vacuum Laboratory, AMPD. He joined the Center’s co-op program in June 1967 and will receive his degree in Dec.

**TELEPHONE REMINDER.** Employees are reminded of their responsibility to report all long distance telephone toll calls (other than FTS) that they incur through incoming collect, outgoing commercial, or credit card on Langley Form No. 6. General Accounting Office requires that Langley have documentation of each commercial telephone call.

**LECTURE PLANNED.** Dr. Frederick H. Lutze, Aerospace Engineering Department, VPI, will present a lecture on “Rotational Locks of Satellites” on Wednesday, May 22 at 10 a.m. in Room 120, Building 586. Interested staff members are invited to attend.

**ROSES ARE BLOOMING.** The Virginia Peninsula Rose Society, which includes a number of Center employees as members, is presenting its annual rose show on May 23 and 24 at Warwick Recreation Center (old Warwick High School gym). The show will be open on Saturday from 3 p.m. to 10 p.m. and on Sunday from 1 p.m. to 5 p.m. T. Ralph Turner, FSRD, and William R. Deshazor, Viking Project Office, are president and vice president, respectively, of the group. Several Langley employees exhibit beautiful roses in the show each year. Non-members are also invited to enter the event. Entries will be received Saturday, May 23 from 8 to 11 a.m.

**COMMENDATION MEDAL.** Word has been received at the Center that Kenneth S. Bates, former staff member, recently received his second Navy Commendation Medal for heroic achievement as a pilot of jet aircraft while attached to Flight Squadron ONE NINETY FOUR embarked in USS Oriskany. His parents are Mary Lou, AMPD, and Kenneth S. Bates, ACD. According to Commander W. I. Parrish, “On July 27, 1969, Kenneth was escort for a photo mission in the area of the Republic of Vietnam. While rendezvousing with the photo aircraft, he experienced a failure in the turbine section of his engine. Normal procedure would have been to eject; however, he decided to try to save the aircraft by landing at Danang, sixty miles away. Displaying outstanding airmanship and superb judgment, Kenneth was able to make a precision one-time approach and effect a safe landing, thereby saving a valuable aircraft.”

**MENTAL HEALTH SEMINAR.** A Spring Seminar on Mental Health will be held May 27 at Christopher Newport College with registration starting at 9 a.m. at 9:30 Dr. Rudolph Wagner, Chief Psychologist, Richmond Public Schools, will discuss “The Breakdown of Discipline in the Home, School and Society.” Group discussions are scheduled for 10:30 and

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**FAREWELL PARTY:** Members of Personnel Division gathered last week to bid farewell to Dianne Mason who left the Center to become a full-time housewife. Holding her gift of a stuffed skunk (upper left) the guest of honor is surrounded by Virginia Lumpkin, Grace Gardner, Phyllis Barrage, Margaret Barricklow, and Janice Wunder. The women (top right) do the honors. Shooting the bull (lower left) are Dick Cole, Charles Barnett, and Bill Williams. Pat Clark (lower right) serves the honoree.

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**COOKOUT.** The Hampton Roads Chapter of Tau Beta Pi will hold a cookout for its members and their families on Saturday, May 23, starting at 1 p.m. The event will be held in Shelter 4 of the Newport News City Park on Jefferson Ave. near Highway 105. For details contact Bob Boughner, 3271.

(Continued on page 4)
NEW FEDERAL WAGE SYSTEM

(Continued from page 1)


The effect of the step-phased conversion process means that all trades and labor positions must be graded and classified through application of job-grading standards by Oct. 1971.

The Civil Service Commission has already established and promulgated job-grading standards for a considerable number of trades and labor positions and will continue to develop standards until all positions have been covered.

The basic elements of the job grading system include:

- Study of the job being graded, including its purpose and relationship to other jobs; analysis of the work done and its requirements; determination of the correct grade by comparison with appropriate CSC job grading standards; and consideration of existing physical aspects of the job.

- The job grading method is essentially no different from the present method except that the standard by which the job will be graded will be one developed and approved by CSC.

- New grade structures are - regular non-supervisory schedule, 15 grades (3 steps); regular leader schedule, 15 grades (3 steps); and regular supervisory schedule, 19 grades (5 steps).

- Conversion of present non-supervisory WB grades to the new structure will be: WB-1 to WG-1; WB-2 to WG-2; WB-3 to WG-3 and WG-4; WB-4 to WG-5; WB-5 to WG-6; WB-6 to WG-7; WB-7 to WG-8; WB-8 to WG-9; WB-9 to WG-10; WB-10 to WG-11; WB-11 to WG-12; WB-12 to WG-13; and WB-13 to WG-14 and WG-15.

- Similar conversion tables of WS and WL grades to the new CFW structure have also been established.

- Step increases for non-supervisory and leader employees:

  Step 1 to Step 2 - Automatic advancement to second step after 26 weeks of satisfactory and creditable service in step 1.

  Step 2 to Step 3 - Automatic advancement to third step after 78 weeks of satisfactory and creditable service in step 2.

- Supervisory employees, with satisfactory work performance, automatically advance in steps as follows:

  Step 1 to Step 2 - 52 weeks of service in step 1; Step 2 to Step 3 - 52 weeks of service in step 2; Step 3 to Step 4 - 104 weeks of service in step 3; and Step 4 to Step 5 - 104 weeks of service in step 4.

- Detailed coverage of the new wage system is contained in Federal Personnel Manual Supplement 532-1 'Coordinated Federal Wage System,' Subchapter S-8, 'Pay Administration' and Subchapter S-10, 'Conversion to Coordinated Federal Wage System.' A copy of these regulations are on file in the Classification and Organization Branch and are available to wage schedule employees for review.

- Employees affected by the new Coordinated Federal Wage System will receive Official Personnel Action notices regarding their conversion (wage grade, pay rate, classification, etc.) soon after the completion of the wage survey and implementation of the new system in July. At that time, employees may refer questions regarding their individual conversion to the Classification and Organization Branch.

A GOOD husband should be deaf and a good wife blind.  - French Proverb

FLEXIBLE WINGS: Francis M. Rogallo is surrounded by models of the flexible wing, a concept which has been the subject of extensive aeronautical and space research at Langley. He discussed the Center's flexible wing research during his participation the past year in the Distinguished Lecture Series of the American Institute of Aeronautics and Astronautics.

ROGALLO DISTINGUISHED LECTURER

Francis M. Rogallo, Head of the Low-Speed Vehicles Branch of the Full Scale Research Division, is completing a year of participation in the Distinguished Lecture Series sponsored by the American Institute of Aeronautics and Astronautics.

The program, instituted in 1968, is designed to provide a group of outstanding speakers who make themselves available for one year to appear at AIAA sections throughout the United States. The current lecture season extends from September through this month.

Rogallo, an AIAA Fellow, lectured on the subject of flexible wings. AIAA Headquarters in New York City arranged the schedule for the Distinguished Lecture Series and invited Rogallo to lecture at section meetings in Columbus, Ohio, in October; Buffalo, N.Y., in November; and Sacramento, Calif., last month.

At each of the places he spoke, Rogallo also visited government agencies and industries engaged in aeronautical and space activities.

Rogallo and his wife, Gertrude, conceived and developed flexible wings during the late 1940's through their interest in aeronautics. The various flexible wing concepts grew out of their hobby of kite flying.

Government and industry became interested in flexible wings, and in July 1963 the Rogallos were presented what at that time was the largest cash award ever made by NASA for a scientific contribution.

Langley has been investigating flexible wings for the past several years, conducting a variety of laboratory and flight research - using both aeronautical and space versions of the concept. Rogallo illustrated his lecture with motion pictures of Langley's flexible wing research and development efforts.

COST REDUCTION TIP: Substitute less costly alternatives.

TV DRAMAS put the viewer through a washer-wringer-dryer cycle.  - Sabol
AIAA PLANS DINNER-DANCE

Oscar Bakke, Associate Administrator for Plans for the Federal Aviation Administration, will be guest speaker at the annual dinner-dance meeting of the Hampton Roads Section of the American Institute of Aeronautics and Astronautics on Thursday, May 21 at the Nineteenth Hole Country Club on Tide Mill Lane.

Bakke will speak on 'The Airport as Part of the Transportation System.' In his position as Associate Administrator for Plans, Bakke heads a group within FAA assigned to develop a blueprint for a comprehensive program which will enable the agency to meet the projected demands of aviation growth during the next decade and beyond.

A social hour will be held at 6:30 p.m., followed by a buffet dinner at 7:30 p.m. and the meeting at 8:30. Following the meeting, members and guests will dance to the music of Charley Johnson and his band. For reservations call Bill Woods, 851-5331; Marty Copp, 838-8926; or Gil Freedman, 838-3037. Price is $3.50 per person.

FLY THE CREDIT UNION FLAG

Once again, it is decal time. But this year it will be even easier to win a prize. Young ladies will be stationed on the Credit Union parking lot for two weeks beginning May 18. They will affix the qualifying, removable flag to the rear bumper of automobiles belonging to members who wish to participate. Unless, of course, one is already there.

With the decal in place, members are eligible to receive any of the prizes being given away in the current contest. Six account numbers will be drawn at random every two weeks and listed in the Researcher and the Daily Bulletin every other Friday beginning June 12. The first five numbers entitle the associated, qualified members to $10 cash awards. The sixth is a bonus jackpot. It entitles the associated member, if qualified, to $10 cash PLUS one month's payment on his car loan provided it is financed with the Credit Union. If once financed but the loan has been paid-off, he receives $50 cash. Contest ends when a grand total of $500 in prize money has been distributed.

So, fly-the-flag! Stop by and be sure you develop for an award. Someone has to win and it might as well be you.

GOLF TOURNAMENTS PLANNED

The NASA Golf Association has set dates of June 8 and June 24 for the next two tournaments at the Langley course. The June 8 tournament will be a four-man team, best ball event in which foursomes will be assigned by handicap. The June 24 match will be against the Norfolk Naval Shipyard golf team.

Members who have not paid their three-dollar membership dues, are urged to do so immediately. Send dues to Gene Naumann, M.S. 244.

Squad leaders will contact members for entrance fees and tee times. Tee times will be from 1 p.m. to 3 p.m.

EMPLOYEES RECEIVE AWARDS

A number of staff members, pictured at right with their supervisors, recently received cash awards for suggestions under the Incentive Awards Program.

The recipients and their suggestions are as follows:

George S. McConnell, Fabrication - suggesting the use of a navy nozzle for cleaning quench oil from material in a heat-treating process, thus preventing explosions inside the furnace.

James R. Maley, Research Support - for suggesting a firewall equipment-status monthly report which will show whether or not the equipment is in good working order.

Harry E. Johns, Fabrication - for suggesting the use of magnetic right-angle blocks which can be easily secured anywhere on a metal layout table, thus facilitating the work.

Rodney C. Wyatt, Research Support - for the addition of hinges to manhole covers for heat exchanger which increases safety.

Marvin G. Taylor, Research Support - for the installation of a motorized beam tube positioner for an electron gun resulting in reduced man-hours and increased research data.

Benjamin W. Lankford, Research Support - for the redesign of a probe actuator which significantly improves pilot and static data acquisition and reliability.

Charles A. Sweet, Research Support - for the addition of new circuitry to give Beckman data system automatic time reset capabilities, thus increasing the amount and the reliability of research data.

Richard W. Bennett, Fabrication - for an improved method of holding magnaflux cable during nondestructive testing, thus improving the quality of the tests.

Joseph Sleigher, Research Support - for the relocation of vacuum pumps to eliminate safety hazards and improve inspection and maintenance procedures.

E. Carson Yates, Dynamic Loads - for the replacement of office-type copying machines with improved machines in order to increase the usable production of the machines.

Marvin L. Leffel, IRD - for the installation of a direct introduction heater probe in the Bendix Time of Flight Mass Spectrometer which will provide more meaningful research data.

Thomas W. Howard, Research Support - for the design of a specimen alignment device for joining epoxy-coated aluminum tabs.

HAPPENINGS (Continued from page 2)

PROFESSORS TO VISIT...Dr. Joseph A. Schetz, Dr. Fred R. DeJarnette, Dr. Fred H. Lutze, and Dr. Warren D. Smith, Aerospace Engineering Department, VPI, will visit the Center on May 22. Employees interested in an interview with one of the professors may call Training Office, 2517, for an appointment.

NOVICE BRIDGE: There will be a novice bridge game at the Activities Building at 7:30 p.m. on Tuesday, May 19. It is not necessary to come with a partner.

REGISTRATION SET FOR MAY 21

Registration for the George Washington University summer session in Administration will be held in Room 120, Building 586, on Thursday, May 21 from 9 a.m. to 12 noon. Employees wishing to enroll in courses should submit their applications for Langley approval prior to this date.
BOYS' CLUBS OF VIRGINIA PENINSULA - BOY GUIDANCE ORGANIZATIONS

The Boys' Club operation on the Virginia Peninsula goes back more than 24 years and has been effectively serving the youth of the area since that time. Currently, there are three branches of the Boys' Club working to provide through professional, full-time staff members, programs designed to develop the social, educational, vocational, and character building attributes of boys.

Locations of the Boys' Clubs and their directors are as follows:

Hampton Roads Boys' Club, 629 Hampton Ave., Newport News - Calvin Hobson, Director.

All of these clubs are supported by the United Community Services.

With the great growth in available services to youth during the past 20 years, the question is often asked, "How does a Boys' Club differ from our other youth-serving organizations in the community?" Boys' Clubs are different. Their difference from other youth services is not ascertained merely by looking at facilities or activities but primarily in their philosophy, purposes, and goals and in their program approaches. They are for boys. They have an all-boy membership and as such satisfy an age-old desire of boys to have a club of their own. Their members, therefore, have a real sense of belonging, and their use of the clubs is not interfered with by other groups or individuals.

They have full-time professional leadership, supplemented by part-time workers and volunteers. No proof of good character or pledge is required. Membership is not limited to boys of good character only. They also help and guide boys who may be in danger of acquiring, or have had bad habits and who misbelieve.

Any boy can afford to belong. Boys of all races, religions, and color are eligible for membership. Dues are kept low so that the poorest, as well as the least interested, boy can afford to belong on an equal basis with all other boys.

BOYS' CLUBS: Three Boys Clubs on the Virginia Peninsula offer guidance to a membership of over 3,000 boys. A group of boys are shown here at the club at 5900 Jefferson Ave.

VOCATIONAL TRAINING: Professional workers offer guidance to interested boys in woodshop as well as such other areas as electricity and photography. The local clubs average 700 boys a day in attendance.

Activities in the clubs are carried on in the warm, friendly atmosphere of the buildings designed especially for the conduct of Boys' Club programs. They have varied and diversified programs planned to meet the needs and interests of boys and utilize three basic approaches -- individual services, organized small group activities, drop-in and large group activities.

The clubs are guidance-oriented, emphasizing the values inherent in the relationship between the boy and his peers and the boy and adult leaders. The Boys' Clubs help boys make appropriate and satisfying adjustments in their physical, educational, personal, social, emotional, vocational, and spiritual life. Staff members are concerned with meeting the needs of boys and helping them to develop the skills, attitudes, and aptitudes necessary to bring about this adjustment.

The Boys' Clubs of the Virginia Peninsula are "boy-centered" rather than "activity-centered." They use activities and programs as a tool to help boys grow into responsible citizens. The clubs staff believe that program, as it affects boys, is their main reason for existence, and they base their programs on the needs and interests of boys they serve.

Included in the wide variety of adult supervised activities offered by the Boys' Clubs are the following:

Athletics - basketball, football, track, tennis, hockey, and kickball.
Physical Fitness - weight lifting, wrestling, parallel bars, and tumbling.
Group Clubs - glee club, archery, drama, band, and junior air rifle.
Vocational - woodshop, electricity, and photography.
Summer day camps.
The Boys' Clubs are open 50 weeks a year during the hours when boys are out of school. The local clubs average 700 boys a day in attendance and have a total membership in excess of 300 boys.
ASME GROUP TO HEAR PHILIPS

Ronald J. Philips, Director of the Technology Utilization Division, NASA Headquarters, will be guest speaker at the meeting of the Eastern Virginia Chapter of the American Society of Mechanical Engineers on Thursday, May 21 at Giant Open Air Market's Banquet Room, Mercury Boulevard.

"NASA's Technology Utilization Program" will be the subject of Philips' speech.

A native of Bertrand, Neb., Philips received his B.S. degree from Wesleyan University; a Master of Arts degree from Arizona State University, and has done work toward a Doctorate in Political Science at the University of Texas and at George Washington University.

Philips joined NASA as a Management Intern in 1964 at the Manned Spacecraft Center. He was appointed Principal Staff Assistant to NASA Administrator James E. Webb in 1966, and was Executive Assistant to the Associate Administrator for Organization and Management from Nov. 1967 until his appointment to his present position in Oct. 1966.

A social period will start at 6:30 p.m., followed by dinner at 7 and the meeting at 8.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of May 18:

Monday - Cream of tomato soup, Swiss steak, stuffed shrimp, knockwurst and beans, western omelette. Snack bar - Soup, ham and egg sandwich, hot pastrami.

Tuesday - French onion soup, barbecued spareribs, veal cutlet, minute steak, Austrian ravioli. Snack bar - Soup, hot dogs, veal cutlet, German potato cakes.

Wednesday - Minestrone soup, seafood newburg, spaghetti and meat sauce, fried chicken, tamale pie. Snack bar - Soup, barbecued pork, flying saucer, French fries.

Thursday - Vegetable-beef soup, pot roast, creamed chipped beef on toast, fish cakes. Snack bar - Soup, hamburgers, hot roast beef.

Friday - Chicken-rice soup, chicken and dumplings, broiled halibut steak, Polish sausage, baked hash. Snack bar - Soup, fish sandwich, hot corned beef.

The menu for the week of May 25 is as follows:

Monday - Cream of celery soup, roast ribs of beef, fried shrimp, smoked pork sausage, Spanish omelette. Snack bar - Soup, barbecued pork sausage, steak sandwich.

Tuesday - Puree of bean soup, grilled pork chops, meat loaf, fried fish, wiener and macaroni. Snack bar - Soup, hot dogs, flying saucer, French fries.

Wednesday - Vegetable-beef soup, country-style steak, salmon loaf, sauteed chicken livers, chili con carne. Snack bar - Soup, tea, baked ham, German potato cakes.

Thursday - Chicken-vegetable soup, Hungarian goulash, grilled pork steak, fried chicken, baked hash. Snack bar - Soup, hamburgers, hot corned beef, French fries.

Friday - H O L I D A Y

NASA TEAM IN LOCAL LEAGUE

Eighteen employees responded to a recent call for ball players to try-out for a NASA slow-pitch softball team to participate in a Newport News city league. After several practice workouts, the players participated in the preseason grapefruit league composed of all 47 slow-pitch teams in the Newport News Softball Association. As a result of these games, the NASA team was placed in the Recreation League which is formed from the best eight teams in the Softball Association.

This is the first year that a NASA-sponsored team has competed in community competitive sports. The Activities Association in supporting this venture has absorbed a sizable portion of the team expenses.

All positions have not been finalized, and anyone desiring to try-out for the team may contact Tom Moore, 2528, or Thayer Sheets, 2741. The league opens on May 18 and extends until August 4.

Employees and their families, friends, and guests are invited to attend these games which will be held at the field adjoining Warwick High School.

The schedule for the NASA team is as follows:

May 18, 8:15 p.m., Nurney and Cox; May 20, 8:15 p.m., Shematek; May 25, 8:15, Hilton Country Club; May 28, 7 p.m., Messick.

June 3, 7 p.m., Bryant and King; June 8, 7 p.m., Hutchens Chevrolet; June 10, 7 p.m., Marva Maid; June 15, 7 p.m., Nurney and Cox; June 17, 7 p.m., Shematek; June 22, 7 p.m., Hilton Country Club; June 25, 8:15 p.m., Messick; June 30, 8:15 p.m., Bryant and King.

July 2, 8:15 p.m., Hutchens Chevrolet; July 8, 8:15 p.m., Marva Maid; July 13, 8:15 p.m., Nurney and Cox; July 15, 8:15 p.m., Shematek; July 20, 7 p.m., Hilton Country Club; July 23, 8:15 p.m., Messick; July 28, 7 p.m., Bryant and King; July 30, 7 p.m., Hutchens Chevrolet.

August 4, 7 p.m., Marva Maid.

GRADUATE PROGRAM OFFERED

The College of William and Mary is offering a graduate program in Applied Science. The Applied Science is an interdisciplinary graduate program which leads to a M.S. degree. The program is offered cooperatively by participating faculty from the departments of chemistry, mathematics, and physics.

A group of representatives, headed by Dr. Arden Sher, Director of Applied Science, will visit the Center on May 21 at 2 p.m. to explain the program in more detail.

Langley personnel interested in this program are invited to attend the meeting which will be held in Room 219, Building 587.

COIN CLUB MEETS MAY 21

The Langley Research Center Coin Club will meet at 7 p.m. on Thursday, May 21 at the Activities Building. They will be a talk, with slides, on Confederate Tokens by I. Robert Blum.

The raffle items will be a BU Indian head cent and the second prize will be a BU 1955 Franklin half-dollar. There will have 23 lots.

There are still several associate memberships available to NASA contract personnel. Interested persons should contact Bob Wright, 3234; John Cox, 2678; or Thayer Sheets, 2741.
PUTTING WORDS INTO PEOPLES' MOUTHS

SWAP AND SHOP

WANTED

Ride from Seaford Rd., Rt. 173 or 17 Grafton, to W.A. on 8 shift. Perrin, 2542 or 898-5122.


Lot in Kill Devil Hills or Alvalon Beach area. wood, 596-3445.

FOR SALE

Lot 23 on canal at Chickahominy Haven, also surfboard. Rogallo, 596-1916.

Five 4-ply Goodyear Polyglass D-70 tires - only 12 miles on ground. Daniels, 851-0857.


Alcort fiberglas sailfish. Czarnecki, 596-0645.

AGFA IV 35 mm SLR camera, behind the lens shutter fully synchronized - $90. McSmith, 722-8468.

Mobjack sailboat with racing gear, outboard, and trailer. Sandahl, 596-2392 after 5:15 p.m.

Lot on Piankatank River, Gloucester. Fontana, Gloucester 393-3826.

16-foot Dory with motor well and 1.8 hp motor - $140 or best offer. Parker, 851-0176.

Complete sound home movie outfit, has super 8 mm camera with zoom lens, tape recorder, movie light, tripod, screen, projector and carrying case. Hunt, 838-3952.


Sturdy formica-toptables - may be used for picnics, study or workshop - $5 each. Barricklow, 596-5108.


QUESTIONS AND ANSWERS

This is the first in a series of Questions and Answers which will be featured in Langley Researcher. Staff members having questions are reminded that all questions must be in writing and they may be submitted to the Langley Researcher Office, MS154, or to one of the Langley Researcher Advisory Committee members.

Q. Can only one woman employee work with one or more male employees on a special project after hours or on weekends or is there a requirement that at least two female employees must be working on the project? What is the existing policy with regard to employees (male and female) working together overtime?

A. Aside from the rule concerning employees working solitary shifts, there is nothing in Langley regulations concerning the selection of employees for duty beyond the normal working hours. It is the responsibility of the appropriate supervisor to make such selections based on the requirements of the job to be done and not on the basis of sex. It should be pointed out that while a supervisor cannot exclude an employee from a particular assignment on the basis of sex, neither may an employee use his or her sex as an excuse for refusing an assignment. Langley Management Instruction 3600.2 contains information concerning hours of duty for Langley employees.

Q. What are the possibilities of the Activities Association building a handball court for use by interested Center employees?

A. Limited funds must be used for other things such as replacement of kitchen equipment, therefore, it is not financially possible at this time.

Q. If no official function has been scheduled for the Activities Building, why can't employees use the Activities Building during working hours? For example, why can't employees who are on leave use the building facilities for such activities as practicing basketball shots, meeting with friends for special discussions, playing cards, watching TV, etc.?

A. The Activities Building is used for both official and recreational functions some of which require a great deal of advance preparation. Traditionally, the recreational functions have been held during nonduty hours. It is not improper for employees to use the facilities during working hours while in an appropriate leave status. However, the current facilities are not adequate to handle the uses mentioned in the question and also provide time to prepare for and clean up after scheduled meetings, parties, etc. The outside facilities are available at all times provided employees are in a leave or other nonduty status.

Q. What are the names and addresses of our representatives in the U.S. House and Senate?

STAFF MEMBERS PRESENT PAPERS AT COSPAR MEETING

William H. Kinard and Gerald M. Keating, both of Applied Materials and Physics Division, are among the 32 NASA scientists and officials attending an international scientific space conference in Leningrad, USSR. The conference started May 20 and continues through tomorrow.

The conference is the thirteenth annual meeting of the Committee on Space Research (COSPAR) of the International Council of Scientific Unions (ICSU). The U.S. member of ICSU is the National Academy of Sciences.

COSPAR is the leading international non-governmental body concerned with space research. This year’s meeting is the first to include presentations on the scientific results of the Apollo manned lunar landing program.

Kinard presented a paper on “The Cosmic Dust Environment as Indicated by Satellite Penetration Data” and Keating spoke on “Simultaneous Measurements of Exospheric Densities Near Opposite Poles.”

NASA representatives from the Manned Spacecraft Center, Jet Propulsion Laboratory, Goddard Space Flight Center, Langley, Ames Research Center, and NASA Headquarters presented papers concerned with the Sun, the Moon, the magnetosphere and upper atmosphere physics.

Included among the NASA scientists were NASA Deputy Administrator George M. Low, Astronaut Neil A. Armstrong, Associate Administrator for Tracking and Data Acquisition Gerald M. Truszynski.

FRA MAURO SELECTED LANDING SITE FOR APOLLO 14 MISSION

The Fra Mauro region of the moon has been selected as the landing site for the Apollo 14 mission.

The choice was made by Dr. Thomas O. Paine, NASA Administrator, following the recommendation of the Apollo Program Site Selection Committee.

Fra Mauro was the intended landing site of last month’s unsuccessful Apollo 13 mission.

Dr. Paine said information so far developed by the Apollo 13 Review Board indicates that Apollo 14 cannot be launched before December 3.

“Our present assessment is that the modifications to the oxygen tanks in the Service Module that have already been identified will require several months and that Apollo 14 cannot be launched before the December 3 launch window,” said Dr. Paine.

“We will take whatever time is necessary and not commit to a specific launch date until the Apollo 13 Review Board completes its work and makes its findings and recommendations,” he added.

The flight crew for Apollo 14 will be Alan B. Shepard, (Continued on page 5)

APOLLO INVESTIGATION: Edgar M. Cortright, Langley Director, listens to a discussion during a recent session of the Apollo 13 Review Board and a group of observers at the NASA Manned Spacecraft Center in Houston. Cortright (seated at table with cup in hand) is Chairman of the Board. Vincent L. Johnson, Deputy Associate Administrator-Engineering, NASA Office of Space Science and Applications, a member of the Board, is talking to the group. Astronaut Neil A. Armstrong, a Board member who was recently appointed as Deputy Associate Administrator-Aeronautics in the NASA Office of Advanced Research and Technology, is seated next to Johnson. Observers at the session include James B. Whitten, Assistant Chief of Langley’s Aeronautical and Space Mechanics Division (seated next to Armstrong), and Edwin C. Kilgore, Deputy Chief of the Center’s Office of Engineering and Technical Services (seated near center of blackboard). George T. Malley, Langley’s Chief Counsel, is serving as Counsel to the Board. A number of other Langley staff members have been providing administrative and technical assistance to the Board.

HL-10 BEGINS POWERED LANDINGS IN NEW SERIES OF FLIGHT TESTS

A new series of flight tests started last week to study the powered approach and landing of lifting-body vehicles. The work will contribute to NASA shuttle studies.

The single 8,000-pound thrust rocket engine in NASA’s HL-10 lifting-body, which has propelled the wingless research craft to a maximum speed of 1,227 mph and altitudes of 90,303 feet, has been replaced with three 500-pound-thrust rocket engines.

The HL-10 is a concept of the Langley Research Center. The engines will be operated by the HL-10 pilot during the landing approach to more nearly simulate the shallow landing approach made by conventional aircraft.

Standard unpowered landings previously made by the HL-10 pilots at NASA’s Flight Research Center, Edwards, California, required relatively steep approach paths (approximately 22 degrees upward from horizontal).

The HL-10 will be air launched from a United States Air Force B-52 flying at 45,000 feet.
HAPPENINGS

NEWLYWEDS. . .Wedding bells rang on May 16 when Sybil Coleman and Charles W. ‘‘Skip’’ Watson, both of Technical Information and Utilization Division, took their final vows at Saint John’s Episcopal Church in Hampton. Mercedes Hobbs, TIUD, was mistress-of-ceremonies.

AERO CLUB. . .The Langley Aero Club will hold a safety meeting tonight at 7 o’clock in Building 752E. This is the last meeting for the month of May and it is mandatory that flying members attend.

NEW HEIRESS. . .Weighing in at seven pounds, thirteen ounces on April 27 was Sherry Ann, daughter of J. Russell ‘‘Rusty’’ McHatton, Research Support Division.

IAM MEETING. . .The NASA Lodge No. 892, International Association of Machinists, will meet June 2 at 7 p.m. at the Central Labor Union Hall.

MULTIPLE SCLEROSIS THEATER. . .‘‘With Six You Get Egg Roll,’’ starring Doris Day and Brian Keith, will be shown June 18 at the Newmarket Theater for the benefit of the local Multiple Sclerosis Society. This is a family type comedy and ticket donations are $1.50 for adults and one dollar for children under 12. A special feature of this benefit will be the music of the Hampton Jug Band under the direction of Waverly Wornom. The Jug Band will perform before the showing of the film. Executive Director of the local MS chapter is Gerry Sommers, wife of Robert Sommers of Research Models and Facilities Division. Board of Trustees secretary is Gloria Alto, Space Systems Research Division. Tickets will be available from board members and at any Wornom’s Drug Store.

EDUCATIONAL OPPORTUNITIES. . .Do you need information about training and educational opportunities available in the area? The Training and Educational Services Branch regularly has brochures, pamphlets, and other descriptive literature on courses offered by many types of institutions. Under some circumstances fees for job-related courses may be paid by the government. Fees for non-job-related courses are always at the expense of the employee. Any employee interested in improving his job skills, acquiring new job skills, or in cultural improvement is welcome to browse through the descriptive literature available in the Training Office located in Building 587, and to consult members of the training staff for advice and assistance. Further information may be obtained from the Training Office, 2611.

GIRLS CLUB. . .The Center is well represented at the Girls Club of the Virginia Peninsula, Inc. by the daughters of two Center employees. Mary, daughter of Virginia LaPrade of Technical Information and Utilization Division, recently won the Club’s Region III Junior Cooking Award. Mary is 13 and attends Ferguson High School. Nancy, daughter of Cora LaPrade of Fiscal Division, is winner of the National Girls Clubs of America Cooking Award of $400, the Regional Career Key Scholarship of $500, and the Regional Citizenship Award. Nancy is 17 and graduates from Ferguson High School in June. The Peninsula Girls Club, which is located at 338 50th Street, Newport News, has a well equipped club house which is open daily for all girls from the first grade through high school. Program activities are planned to meet the needs of the individual girl and to develop her skills, talents and interests. The membership fee is two dollars per year for the first girl in a family and one dollar for each additional girl in the same family.


CAMERA CLUB OFFICERS. . .At a recent meeting of the Langley Camera Club officers were elected for 1970. The new officers are: Capt. Dewitte Cage, USAF, president; William C. Conkling, Fabrication Division, vice president; Stanley W. Rau, Procurement, secretary; and Abraham Leiss, Scout Project Office, treasurer.

PARENTS are people who bear infants, bore teenagers, and board newlyweds.

COOL CAT SAYS:

WHEN YOU INVEST IN UNITED STATES SAVINGS BONDS THE OL’ LOOT PILES UP LIKE IT WON’T QUIT!!

COOL MAN, COOL!

U.S. SAVINGS BOND

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.
QUESTIONS AND ANSWERS

Q. Who or what group has overall management responsibility for the NASA cafeterias? Where is this documented?
A. The NASA Exchange Council is responsible for the overall management of the NASA cafeterias. The Council is composed of the following members: T. Melvin Butler, chairman; Walter Hixon, treasurer; Jess Ross, secretary; Percy Crain, Marion Seyffert, and Charles Barnett. The Exchange operates under regulations issued by NACA Headquarters effective on Jan. 1, 1953. The Public Law 85-568, National Aeronautics and Space Act of 1958, Functions of the Administration, states: "In the performance of its functions the Administration is authorized...to provide by contract or otherwise for cafeterias and other necessary facilities for the welfare of employees of the administration at its installations...".

Q. Why doesn’t the Center help pay the tuition of courses that employees take as part-time students? That is if the course is passed. This is the policy of most major concerns because of the importance that is placed on education. (This question refers to undergraduate courses.)
A. It is the policy of the Langley Research Center to reimburse any employee for successful completion of job-related courses, provided funds are available. Prior approval from the supervisor should be obtained before enrollment.

Q. How many meetings did the Activities Association’s General Assembly hold last year?
A. Three. According to the constitution of the Activities Association, "The General Assembly shall convene in ordinary session three times per annum...Extraordinary sessions of the General Assembly...may be called by the president...In the event that it is deemed necessary to call more than a total of five ordinary and extraordinary sessions of the General Assembly during an Association year, the President of the Executive Board shall obtain advance approval from the Assistant Director for Administration for each additional meeting."

MORE ON CREDIT UNION CONTEST

Everybody may not win, but almost everyone will be eligible if the efforts put forth in the past two weeks by the young ladies of the staff mean anything. Truly, they have done a tremendous job of decorating the rear bumper of almost every automobile that entered the parking lot.

Most members seemed to feel that the promotional angle including awards was somewhat secondary. The important thing was that the decal, just as the pin of a fraternal organization, identified the individual concerned as being the member of a closely knit, worthy organization to which he is properly proud to belong.

June 1, the actual drawing of prizes, begins with six random account numbers listed in the Researcher and Daily Bulletin on June 12. The first five entitle a qualified member to $10 cash; the sixth and bonus number entitles an eligible member to one month’s payment on his car loan if financed with the Credit Union. Qualifying decals are still available at the Credit Union Office. Just ask for yours.

Contest ends when $500 has been won by various flag-flying members of the Credit Union.

Did you know we are one of the 100 largest in the U.S.? 

ROSE SHOW WINNERS: Ralph Turner (left), Full-Scale Research Division, won the Virginia Peninsula Rose Society’s grand sweepstakes trophy by scoring the highest number of points in the show. He also took first place for the best hybrid tea with “Oklahoma.” Grace Shackelford (right), Technical Editing, took second place in the best hybrid tea with her “Granada.” Mercer Christian, Fabrication, presents her the second place award.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of June 1:
- Monday - Consomme julienne, baked ham, stuffed flounder, knockwurst and sauerkraut, grilled cheese. Snack bar - Soup, grilled cheese, baked ham, French fries.
- Tuesday - Cream of tomato soup, pot roast, roast pork, creamed dried beef, Austrian ravioli. Snack bar - Soup, ham and egg, roast beef.
- Wednesday - Chicken-noodle soup, chicken pie, chuckwagon steak, liver and onions, franks and beans. Snack bar - Soup, hot dog, flying saucer, French fries.
- Thursday - Minestrone soup, grilled rib eye steak, baked lasagna, broiled fish, tamale pie. Snack bar - Soup, fish, steak, French fries.
- Friday - Clam chowder, roast beef, seafood Newburg, spaghetti and meat sauce, cheese omelette. Snack bar - Soup, sea dog, roast beef.

The menu for the week of June 8 is as follows:
- Tuesday - Cream of mushroom soup, pepper steak, fried shrimp, sauteed chicken livers, Spanish omelette. Snack bar - Soup, barbecued pork, steak, French fries.
- Wednesday - Chicken-vegetable soup, chopped steak, broiled fish, fried chicken, macaroni and white beans. Snack bar - Soup, hot dogs, Lou’s satellite special, French fries.
- Thursday - Vegetable-beef soup, country steak, meat loaf, fried fish, chili con carne. Snack bar - Soup, ham and egg, flying saucer, French fries.
- Friday - Tomato-rice soup, corned beef and cabbage, beef pie, salmon loaf, fish cakes. Snack bar - Soup, fish, hot corned beef.

NOTICE: Caddies needed for Kiwanis sponsored PGA golf tournament and qualifying rounds June 1 through June 7. Contact Bill Randolph, 877-5056.

A WOMAN must be a genius to create a good husband. - Balzac

MARRIAGE is the one subject on which all women agree and all men disagree. - Wilde
NASA POLICIES EXPLAINED

1. Employees may not have any outside activities or interests which may interfere with the performance of their duties or might reasonably be expected to result in a conflict of interest which would tend to prevent them from exercising impartial judgment on behalf of NASA.

2. Employees may not have any outside activities which tend to result in discredit or embarrassment to NASA.

3. Employees may not have any outside activities or interests which may appear to involve unethical capitalization on their official positions or on information or resources to which they have access by reason of their employment by the Government.

4. Employees may not receive any salary from non-governmental sources for their service to the Government.

5. Employees may not receive gratuities from or become obligated to any one with whom they may have official relationships or who may be affected by their performance of duty.

6. Employees may not receive any salary from non-governmental sources for their service to the Government.

7. Employees must disqualify themselves from handling or attempting to influence in any way any matter which affects chiefly any private person or organization (a) with whom they have a substantial economic interest, or (b) with whom they have arranged or are negotiating for subsequent employment or business relations, except by prior written authorization.

8. Employees may not divulge any restricted information to any unauthorized person; release any information in advance of the time prescribed for its authorized issuance; or make use of, or permit others to make use of, any information for private purposes on a basis of advantage not available to the general public.

9. Employees may not receive any salary from non-governmental sources for their service to the Government.

10. Employees may buy stocks and bonds for bona fide investment purposes providing they do not buy or sell securities as a result of or on the basis of information derived from their official position or from the official position of other NASA employees with whom they associate.

11. Employees may not utilize Government time or resources except for official business or NASA approved or sponsored activities.

12. Employees may not represent any non-governmental interest in any matter which involves any case or matter about which they have acquired knowledge, or have taken, or may take action, in connection with their official duties.

13. Employees may not do indirectly (by, through, or with other persons) what they may not do directly under the foregoing rules.

Specific information regarding conduct is contained in NHB 1900.1A, a copy of which has been issued to each employee. Answers to questions concerning the policies and copies of NHB 1900.1A may be obtained from the Personnel Office.

TECHNOLOGY UTILIZATION NEWS

Technology surveys have proven to be a most effective media for the transfer of new aerospace generated technology to other sectors of our economy. These publications, available in the SP-5000 series, have also been acclaimed by many engineers, scientists, and technicians here at Langley for their value in accomplishing our mission. They contain a wealth of up-to-date information on a variety of pertinent subjects. These surveys are conducted under NASA contract by recognized leaders in various fields.

Among the more popular of these SP’s at Langley are the following: SP-5019, Advanced Valve Technology; SP-5027, Thermal Insulation Systems; SP-5039, Structural Design Concepts; SP-505, NASA Contributions to Development of Special Purpose Thermocouples; SP-5062, High Velocity Metalworking; and SP-5066, Adhesives, Sealants, and Gas...
**SWAP AND SHOP**

**WANTED**

Fifth driver from Williamsburg to W.A. on 8 shift. Witcofski, 229-2031.

Home for kittens. Dow, 595-1029

Ham receiver set. Simmonds, 722-7214 after 5 p.m.

Fifth driver from Fox Hill to W.A. on 8 shift. Kelly, 3798.

**LOST**

Typed copy of lecture notes by P. C. Parks in mail envelope addressed to Special Typing. Call Schy or Parks, 2972.

**FOR RENT**

2 or 3-bedroom house in Dare, available July 1, one year lease. Mulqueen, 898-7301.

**FOR SALE**


3-bedroom, 2-bath brick rancher in Edge Hill - double garage, large lot, city water. Winer, TW8-5015.

4-burner apartment-size gas stove. Miller, 838-3487.

Hide-a-bed sofa (red) - $60; also 9 x 12 wool rug (dark green) - $20. Buntin, 722-5953.

12-gauge shot gun, double barrel. Wood, 596-3445.

1950 1/2-ton GMC truck. Bruce, 826-0783.

4-piece sectional sofa - $75, also 7-foot portable pool table - $50. Guastaferro, 851-3210.


1.8 acres overlooking Warwick River, cleared corner lot, fruit and shade trees, near schools. Barricklow, 596-5108.

Left-hand golf clubs - 2 through 9 irons and 1 through 4 woods - $40. Russell, LY6-5797.


Plywood sailfish made from Alcort kit, complete and ready to sail - $225. Clark, 596-0508 after 5 p.m.

Two male Toy Poodles - snow-white. Hensley, 877-6582.


**GOLF TOURNAMENTS PLANNED**

NASA Golf Association members are reminded that tournaments will be held June 8 and June 24 at the Langley Course. The June 8 tournament will be a four-man team, best ball event with handicaps assigned. Select your own foursome. The June 24 match will be against the Norfolk Naval Shipyard golf team.

Squad leaders will contact members for entrance fees and tee times. Tee times will be from 1 to 3 p.m.

**FRA MAURO LANDING SITE**

commander; Stuart A. Roosa, command module pilot, and Edgar D. Mitchell, lunar module pilot.

The landing site is in the hilly uplands north of the crater Fra Mauro. The lunar coordinates are 3.6 degrees south latitude by 17.5 degrees west longitude, about 110 miles east of where Apollo 12 landed last November.

Fra Mauro is of great interest to scientists because it is expected to provide new information on the age of the moon.

**PUTTING WORDS INTO PEOPLES’ MOUTHS**

In water supply reservoirs, considerable density stratification can take place causing the water to become anaerobic (oxygen depleted) resulting in undrinkable water and a water supply problem. A device or technique is required which can measure the density of a water column within a large storage reservoir. Refer to WP-1. Contact the Technology Utilization Office, 3281, for the problem statement or if you have a contribution.

**HATS-OFF DEPARTMENT**

Congratulations to the following persons who have submitted ideas to the T.U. Office toward the solution of biomedical and public sector problems: Dr. J. D. Buckley, FVSD; Dr. K. F. Rubert, AMPD; T. C. Murphy, IRD; B. W. Lawton, DLD; George Wentland, RMFD; K. P. Zaepfel, FID; U. T. Joyner, DLD; G. J. Morris, FMTD; H. D. Garner, FID; J. H. Wood, RMFD; John McFall, AMPD; Carl G. Baab, RSD; and F. M. Rogallo, FSRD.

The suggestions have been forwarded to the problem originators for evaluation and use.

**WHAT** scarcity of news there would be if we all obeyed the Ten Commandments.

DOCTORS say Americans are living too fast, and traffic statistics show they are dying the same way.
EMPLOYEES RECEIVE AWARDS

Eight staff members, pictured at right with their supervisors, recently received cash awards for suggestions under the Incentive Awards Program.

The recipients and their suggestions are as follows:

John W. Sundy, Research Support Division - $325 for his suggestion relative to the design of an electrical control panel for modification of an electronic traffic control system that increases safety on the NASA taxiway.

Alton T. Moore, Technical Information and Utilization Division - $90 for the development of an improved procedure for shadowgraph photography by adapting a camera so that it can easily be converted from schlieren to shadowgraph without interfering with other tunnel activities.

Wilson W. Clark, Instrument Research Division - $425 for a suggestion relative to modifying balance calibration machine flow valves in order to increase the quantity and pressure of oil flow to the hydraulic cylinder, thus terminating a procurement action for two new hydraulic cylinders.

Philip H. Glaude (two awards), Fabrication Division - $50 for the development of a special camera mount which will permit existing standard cameras to be used for stereo photography and $25 for a suggestion relative to the manufacture of 35 mm film envelopes for radiography resulting in increased reliability of data received from the Reentry F Spacecraft.

Tucker A. Clark Jr., Research Support Division - $330 for the design of an alignment jig for the ion chamber of a heavy ion source which greatly reduces the time required for realignment and results in increased output of research data.

Allen N. Milton - $25 for the installation of a switch which enables power supplies for quadrupole magnets on the beam tubes of the 4-MeV and 1-MeV accelerators to be used elsewhere, thus eliminating the purchase of additional power supplies.

John Fryer Jr., Research Support Division - $125 for the elimination of pre-fires on the 1-megajoule capacitor bank located in Building 1247-D, thus reducing the repair cost of capacitors and resistors and providing increased research data.

H. Stanley Muir III, 1969 summer employee - $100 for a suggestion relative to the design of an electrical control that increases safety on the NASA taxiway.

George Kerner, Research Support, topped the donors when he reached the six-gallon mark. Close behind was John A. Moore, Aero-Physics, with five gallons, and Richard A. Pride, Structures Research, completed his quota for four gallons.

One gallon pins were presented to Ray Gregory, IRD, and Ben Wilson, Fabrication.

Assisting during the visit were Dr. Ted Gray and Dr. Waldo Scott.

IT HAS been very truly said that the mob has many heads, but no brains. -Rivarol

HE THAT is overcautious will accomplish little. -Schiller
SHARYN HILSTROM SAYS, "WRAP YOURSELF IN SECURITY. SUBSCRIBE TO U. S. SAVINGS BONDS"
ASTRONAUT EISELE ASSIGNED TO LANGLEY RESEARCH CENTER

Astronaut Donn F. Eisele will leave the Manned Spacecraft Center this month to become Technical Assistant (Manned Flight) at Langley Research Center.

Eisele, 39, will be assigned to the Space Systems Research Division as a consultant and advisor on manned systems in which the Langley Center is conducting studies. They include the space shuttle and space station programs, skylab experiments, and life support research.

A lieutenant colonel, Eisele will remain in the Air Force. "I have served on prime and backup crews for four different spaceflight assignments. Now that manned flights have been stretched out and considering that there are numerous qualified astronauts who have not yet flown, I believe it is time for me to move on," Eisele said.

(Continued on page 6)

'WELLFARE OF MAN IN SPACE' IS PURPOSE OF LABORATORY

The new Life Support Technology Laboratory at the Langley Research Center has been dedicated "to the welfare of man in space and to the solution of the problems that must be overcome before he can stay there."

Dr. George M. Low, NASA Deputy Administrator, made the comment during his dedication address June 5 at outdoor ceremonies conducted at the $2.8 million laboratory, located at the corner of Ames and Freeman Roads in the West Area.

The new facility "will contribute to our future exploration of the planets -- to man's future life in space, just as surely as Langley's wind tunnels have contributed to every airplane that is flying today," Dr. Low said.

Speaking before about 200 center staff members and several special guests, Dr. Low cited a recent statement by President Nixon on this nation's future in space. Six specific objectives were mentioned by the President:

Continue to explore the moon; explore the planets and the universe; make use of space more economical; extend man's capability to live and work in space; expand practical applications; and greater international participation.

The life support laboratory fits in -- is part of -- our future, according to Dr. Low, who commented that "we could not extend man's capability to live and work in space without it."

(Continued on page 6)
**Happenings**

**Wedding Bells.** J. Earl Jones, Flight Instrumentation, will desert the bachelor ranks tomorrow when he takes his final vows with Carolyn Louise Hall, Hilliard, Ohio, in the First Baptist Church of Hilliard.

**Langley Alumnus.** Dr. Leonard Roberts has been named Director of Aeronautics and Flight Mechanics at the Ames Research Center. He succeeds Russell G. Robison, who is retiring after 40 years with NASA and its predecessor agency, the NACA. Dr. Roberts has been Director of NASA's Mission Analysis Division at Ames since 1966, when he transferred from Langley after nine years of service. Before joining Langley in 1957, he was a Research Associate at Massachusetts Institute of Technology for two years. He is well-known in the fields of aerodynamics, atmospheric entry, and lunar and planetary landing.

**Coin Club.** The Langley Research Center Coin Club will meet Thursday, June 18 at the Activities Building. There will be a wiener roast starting at 6 p.m. Club activities will include a trading session, in addition to the auction and the raffle of five, single BU silver dollars. Guests who wish to attend the wiener roast should contact Bob Wright, 3234, by noon June 15. Cost will be $1.25 for adults and one dollar for children.

**Word of Thanks.** Harry J. Slear, who retired recently from Research Support Division, wishes to thank his many friends at NASA for their kind expressions of good-luck on the occasion of his retirement after 24 years of service at Langley. Harry said his gift would be put to good use.

**Air Cargo Service.** The airlines serving Patrick Henry Airport and their cartage agent have complained to Center officials concerning the increased volume of telephone calls the airlines serving Patrick Henry Airport and their cartage agent have complained to Center officials concerning the increased volume of telephone calls. It is believed that the air cargo service under the control of the airline personnel and their cartage agent servicing Patrick Henry airport is perhaps the best and most personalized in the air cargo industry. The continuation of this service is of paramount concern. If you have a need to know, or a special problem, please contact your contract administrator, expeditor, or the Stores Branch, extension 2370, and they will make the contacts with the airport.

**Tuition Refund.** Employees planning to apply for tuition refunds for job-related courses completed this academic year must apply on or before June 24 so the necessary forms can be processed by June 30. To obtain forms and for additional information call Training Office, 2517.

**NASA Flyers.** The NASA Flying Club is expanding after purchase of a third aircraft. Persons, including students, who are interested in enrolling in the group are requested to call Bill Corlett, 723-4656.

**Lecture Series.** Dr. J. S. Tyler and Dr. R. K. Mehra, Systems Control, Inc., will conduct a lecture series on Aircraft Parameter Estimation on June 17, 18, 19, 22, and 23 from 9 to 10 a.m. in Building 1268A, Room 2120. The lectures will be concerned with methods of extracting aircraft aerodynamic parameters from flight data and will review various techniques of parameter identification, including Newton-Raphson, weighted least squares, gradient techniques, and quasilinearization. Interested staff members are invited to attend.

**Baby Derby.** Celebrating the birth of an eight-pound daughter, Kimberly Ann, on May 29 is Roy Heath, Fiscal.

**Big Catch.** C. A. Downing, Fabrication, hooked this 50-pound bag of Texas onions while fishing for striped bass in the James River. Downing was using a Pluger reel, steel wire line, 6-foot Montague rod, and a garlic scented bucktail for bait. He says things look good for a big onion run this year.

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**Air Cargo Service.** The airlines serving Patrick Henry Airport and their cartage agent have complained to Center officials concerning the increased volume of telephone calls...
SUGGESTION AWARDS: Five staff members have received cash awards for suggestions under the Incentive Awards Program. Harry Corbett (above left), Fabrication, presents $100 to Clell W. Chandler for his suggestion relative to request for consideration of trial retirement, which was under advisement by NASA, resulting in the expeditious establishment of the NASA Policy Directive on Trial Retirement. In the top right photo Norma M. Evans receives $185 from Sidney Parker, Fiscal. Norma received her award for suggesting the revision of NASA standard form, Application and Account for Advance of Funds, so that it may be more efficiently used as a dual-purpose accounting form. Guy Boswick (right), Administrative Services, presents a joint award of $195 to (from left) James D. Ferrell, Margaret Adair, and Marion Richie for a suggestion relative to changing the paper used for reception in facsimile machine to paper that costs less and also eliminates cleaning the machine.

LECTURE SERIES PLANNED
A series of lectures will be given this summer under the NASA-American Society for Engineering Education summer faculty programs. The following guest lecturers will participate in the series:

June 16 - Dr. A. Ferri, Professor of Engineering, New York University - "Active Cooling of Hypersonic Airplanes"

June 18 - Dr. H. C. McDonald, Supervisor of Theoretical Gas Dynamics, United Aircraft Research Laboratories - "Current Developments in Turbulent Boundary Layer Theory"

June 23 - Dr. Ali B. Cambel, Dean of Engineering, Wayne State University - subject to be announced

June 25 - Dr. Adenek P. Bazant, Associate Professor of Civil Engineering, Northwestern University - "A Comparison of Formulations of Incremental Deformation and Elastic Stability"

June 30 - Professor O. K. Mawardi, Case-Western Reserve University - subject to be announced

July 2 - Dr. R. T. Jones, AVCO Everett Research Lab - "Fluid Dynamics of Heart Assist Devices"

July 7 - Dr. Simon Ostrach, head of Division of Fluid, Thermal and Aerospace Sciences, Case Western Reserve University - "Vascular Dynamics of the Macrocirculation"

July 9 - Dr. J. Kestin, Brown University - "Instability of Stagnation Flow and its Effect on Heat Transfer Rates"

July 16 - Dr. J. K. Stille, Dept. of Chemistry, University of Iowa - "Aromatic Polymers: Single and Double-Stranded Chains"

July 17 - Dr. R. L. Bisplinghoff, Dean of Engineering, MIT - subject to be announced

July 21 - Dr. Albin A. Szewczyk, University of Notre Dame - "Application of Finite Difference Techniques to Viscous Flow Problems"

July 23 - Dr. R. W. Truitt, head of Mechanical and Aerospace Engineering, N. C. State University - subject to be announced.

July 27 - Dr. M. Rubenstein, Professor of Engineering, UCLA - subject to be announced

July 28 - Professor James A. Moore, Department of Chemistry, University of Delaware - "Synthesis and Chemistry of Seven-membered Heterocyclic Systems"

July 31 - Dr. C. K. Chu, Dept. of Mechanical Engineering and Plasma Lab, Columbia University - subject to be announced.

August 4 - Dr. A. Roshko, California Institute of Technology - "Interaction of a Supersonic, Turbulent Boundary Layer with a Ramp Corner"

August 6 - Dr. H. H. Woodbury, Luminescence Branch, General Electric Research Co. - subject to be announced

All lectures will begin at 10 a.m. and will be held in the 7 x 10 Projection Room, Building 1212, with the exception of Dr. Cambel's lecture on June 23 which will be held in the East Projection Room, Building 587.

Interested staff members are invited to attend.
NASA SOFTBALL TEAM

Jerry Creedon
Outfield

Wayne Bryant
Outfield

Thayer Sheets
Outfield

Allen Whitehead

Mac Jackson
Outfield

D. A. "Sonny" Wood
Outfield
NASA TEAM IN LOCAL LEAGUE

This is the first year that a NASA-sponsored team has competed in the community slow-pitch softball league. After participating in the pre season grapefruit league composed of all 47 slow-pitch teams in the Newport News Softball Association, the NASA team was placed in the Recreation League which is formed from the best eight teams in the Softball Association.

All games are played at the field adjoining Warwick High School and admission is free. NASA's schedule for the next two weeks is as follows:

June 15 - 7 p.m. - NASA vs. Nurney and Cox
June 17 - 7 p.m. - NASA vs. Shematek Oil
June 22 - 7 p.m. - NASA vs. Hilton Country Club
June 25 - 7 p.m. - NASA vs. Messick

The NASA team will also participate in the First District Open Tournament which will be held tomorrow at the Warwick field. The event is a single elimination tournament and a team may play as many as four games during the one-day contest. Winner will go to the Metro-Norfolk Tournament in August.

EISELE JOINS CENTER STAFF

(Continued from page 1)

"I have accepted this new assignment because it will afford an opportunity to broaden the scope of my participation in spaceflight activities and thereby enhance my effectiveness in the total space effort," he said.

Eisele has been a NASA astronaut since October 1963. He was the command module pilot for the 11-day Apollo 7 mission in October 1968. Apollo 7 was the first manned flight test of the Apollo command and service modules. With spacecraft Commander Walter Schirra, and Lunar Module Pilot Cunningham, Eisele performed transposition and docking and lunar orbit rendezvous exercises with the S-IVB stage of their launch vehicle, completed eight ignitions of the service module propulsion system, measured the performance of all spacecraft systems, and provided the first effective television transmissions of onboard crew activities.

Eisele was backup command module pilot for Apollo 16.

LIFE SUPPORT LABORATORY

(Continued from page 1)

Dr. Low said the past decade of space exploration has been characterized by progress in the form of new scientific knowledge and practical benefits to man. He expressed confidence that the new laboratory will contribute to this country's future efforts to learn more about the universe.

During the past several years, Langley has been the focal point of NASA's advanced research and technological developments required to equip future manned space vehicles with life support systems capable of use on missions of extended duration.

The laboratory, Building No. 1250, makes it possible for Langley to house its variety of life support research activities in one facility, thus increasing the effectiveness of the Center's concentrated programs in this field.

Research to be accomplished in the laboratory will include the development of promising life support concepts into tested hardware, the integration of the hardware into working prototype systems, and the evaluation of these systems in simulated mission exercises.

Dr. John E. Duberg, Associate Director, presided at the dedication program, which included remarks by Rep. Thomas Salm.

SPACE ORBITER SHUTTLECRAFT: The one-tenth size dynamically scaled experimental model of the proposed MSc 12.5K Space Orbiter Shuttlecraft is shown mounted under a U.S. Army CH-54 helicopter prior to a successful drop test at Fort Hood, Texas, last month. The initial drop test at Fort Hood and the continuing drop tests at the White Sands Missile Range in New Mexico are to demonstrate the test vehicle's transition from a high angle of attack reentry to a level cruise attitude, the stability of the vehicle in stalled conditions, and to obtain free-flight data to assist in aerodynamic analytical transition prediction techniques. The shuttle test vehicle is about 13 feet long, with a fuselage two feet in diameter, an eight-foot wing span; and it weighs about 600 pounds. Construction of the test vehicle is of aluminum and fiberglass.

DON'T ABUSE SPECIAL DELIVERY

A recent analysis of the Center's special delivery system was made which showed that in a one-week period 2,000 individual deliveries were made. The survey also revealed that some users of the system have come to rely on it for routine items which should be delivered as part of the regular internal messenger service, or the scheduled package delivery service.

Every effort must be made to keep the use of the special delivery service to a minimum. It cannot and should not be expanded. Good utilization might really result in a general improvement in the service. Center management does not wish to impose restrictions on users of the service, but indiscriminate use of the special service cannot be ignored. The cooperation of all members of the staff will be appreciated.

MEN WHO flatter women do not know them; men who abuse them know them still less. --Mme. de Salm
SUMMER YOUTH PROGRAMS BEGIN

Four youth programs will start at the Center this month. Thirty-five Summer Student Trainees will enter on duty on June 15 and 16. They will be primarily undergraduate and graduate students majoring in engineering, mathematics, and the physical sciences. They will be assigned to various research and technical service divisions.

Seventy-five Summer Aids will arrive on June 17, 18, and 19, and will be located in research, administrative, and technical service divisions throughout the Center. They will be a mixture of high school and college students and assigned primarily as clerical aids and math aids. These summer appointments are authorized under the President's Youth Opportunity Campaign.

Fifty-five Neighborhood Youth Corps enrollees will be assigned to the Center this summer. The Newport News Office of Economic Opportunity will sponsor 40 male enrollees; they will arrive June 17 and will be located in the Research Support and Fabrication Divisions. The Hampton Community Action Agency will sponsor 15 enrollees. They will arrive June 15 and will be assigned to Personnel, Procurement, Fiscal, and Administrative Services. All NYC enrollees are high school students and will work 3 days a week over a 10-week period.

Fifteen Special Youth Program trainees will begin a one-year training program on June 22. These high school students, sponsored by the Hampton Community Action Agency, will be working half a day for five days a week. They will be assigned to the Structural Fabrication Branch, Machine Branch, and Aerospace Model Development Branch of the Fabrication Division.

CREDIT UNION LISTS WINNERS

First NASA members to be eligible for prizes in the current Fly-the-Flag contest are identified by their account numbers. The first five collect $10 cash each provided they qualify, while the sixth receives one month's payment on his car if financed with the Credit Union. The five numbers are 2155, 11512, 19568, 23815, 23550 while the Bonus Number is 5350. Please call or come by if you spot yours. The contest continues with a new list of winners announced in the next issue of Researcher. Qualifying decals are available at the Credit Union office on Mondays and Fridays.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of June 15:

Monday - French-onion soup, hot turkey sandwich, grilled ham, chicken chow mein, Austrian ravioli. Snack bar - Soup, hamburgers, ham sandwich.

Tuesday - Cream of celery soup, Swiss steak, stuffed shrimp, smoked sausage, western omelette. Snack bar - Soup, ham and egg, steak, German potato cakes.

Wednesday - Chicken-vegetable soup, roast beef, grilled pork steak, barbecued chicken, franks and sauerkraut. Snack bar - Soup, hot dogs, roast beef, French fries.

Thursday - Consomme julienne, chicken and dumplings, deep-fried liver, minute steak, tamale pie. Snack bar - Soup, barbecued pork, flying saucer, French fries.

Friday - Cream of tomato soup, pot roast, chicken pie, broiled fish, grilled cheese. Snack bar - Soup, grilled cheese, roast beef, French fries.

The menu for the week of June 22 is as follows:

Monday - Puree of bean soup, baked ham, stuffed flounder, Salisbury steak, baked hash. Snack bar - Soup, hamburger, baked ham, French fries.

Tuesday - Split green pea soup, seafood Newburg, chuckwagon steak, ham and macaroni loaf, cheese omelette. Snack bar - Soup, fish sandwich, chuckwagon steak, French fries.

Wednesday - Vegetable-beef soup, country-style steak, roast pork, sauteed chicken livers, fish cakes. Snack bar - Soup, ham and egg sandwich, steak sandwich.

Thursday - Chicken-rice soup, grilled rib eye steak, fried chicken, creamed dried beef on biscuit, macaroni and wieners. Snack bar - Soup, hot dogs, flying saucer, French fries.

Friday - Minestrone soup, roast beef, baked lasagna, fried fish, Spanish omelette. Snack bar - Soup, sea dog, roast beef sandwich, French fries.

GOLF WINNERS: Bob Turner (left), Tournament Director, stands with the four winners in the second NASA Golf Association tournament. Coming in with a low net of 51 were Lemuel Forrest, Herb Boulter, Bob Babcock, and Tom Carpin. Bob Faison (right), scored a hole-in-one on number 10.

-- Photo by Fred Jones

GOLF WINNERS ANNOUNCED

The NASA Golf Association held its second tournament of the year on June 8 at the Langley Golf Course. Fifteen four-somes competed for $90 in prizes.

First place winners of nine golf balls each with low net 51 were Bob Babcock, Herb Boulter, Tom Carpin, and Lemuel Forrest. Congratulations to Bob Faison for his hole-in-one on number 10.

Revised schedule calls for a regular NASA Golf Association Tournament on June 24 and the match with Norfolk Naval Shipyard rescheduled for July 29. Squad leaders will contact players for entrance fees and tee times. New members are invited to join at any time. Contact Gene Nauman, 3595, for information.

NASA SOFTBALL STANDINGS

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Salisbury steak, baked hash. Snack bar - Soup, hamburger, baked ham, French fries.

Tuesday - Split green pea soup, seafood Newburg, chuckwagon steak, ham and macaroni loaf, cheese omelette. Snack bar - Soup, fish sandwich, chuckwagon steak, French fries.

Wednesday - Vegetable-beef soup, country-style steak, roast pork, sauteed chicken livers, fish cakes. Snack bar - Soup, ham and egg sandwich, steak sandwich.

Thursday - Chicken-rice soup, grilled rib eye steak, fried chicken, creamed dried beef on biscuit, macaroni and wieners. Snack bar - Soup, hot dogs, flying saucer, French fries.

Friday - Minestrone soup, roast beef, baked lasagna, fried fish, Spanish omelette. Snack bar - Soup, sea dog, roast beef sandwich, French fries.
PUTTING WORDS INTO PEOPLES' MOUTHS

QUESTIONS AND ANSWERS

Q. Where does the money from the NASA Exchange go? Are the auditors' reports a matter of public record? If so, where may they be seen? If not, why not? Who dictates the policy and who administers it?

A. The NASA Exchange is a non-profit organization. The auditors' reports are a matter of public record and may be seen in the office of the Treasurer of the Exchange. Jess Ross, Room 108, Building 1218, is Treasurer. Policy is dictated by the Exchange Regulations and administered by the Exchange Council. (Members of the Exchange Council were listed in the Question and Answer column May 28).

Q. Can Langley Center have something done to improve the traffic situation at the back gate (by Bldg 125)? The traffic jams up there morning and afternoon. A light (or guard) is needed to direct traffic across Va. 172, especially in the morning. Retiming the light at Va. 134 and marking the two outbound lanes to split the traffic would improve the afternoon traffic flow. Can Langley persuade Hampton to make these or other improvements or perhaps supply a guard to direct traffic across Va. 172?

A. The Vehicle Traffic Safety subcommittee of the Executive Safety Committee is working with the City of Hampton to attempt to obtain a permanent solution to the traffic flow problem at Gate 5. The City of Hampton, through its traffic consultant, is making a determination of possible solutions. As an expediency, several temporary measures are being considered to help the traffic flow until a permanent solution can be implemented.

Q. If an employee does not agree with the classification of a position that he occupies, is it possible to get his classification changed? If so, what is the procedure?

A. Any employee who feels that the classification of his position (title, grade, or salary) is incorrect may file a classification appeal within NASA or to the Civil Service Commission. Information on how to pursue the appeal is contained in Management Manual Instruction 3500.3, or may be obtained from the Personnel Division. In general, employees are encouraged to attempt to resolve problems with their supervisors prior to submitting a formal appeal.

NASA TENNIS CLUB NEWS

The Hidenwood Tennis Club defeated the Langley Center Club 5-4 last week.

Results of the matches were as follows:

Singles - Jim Mueller (L) defeated Jentry Lowe 6-3, 6-4; Bill Heith (H) defeated Bill Drozdowski 6-4, 6-0; Lou Yates (H) over Howard Edwards, 6-3, 6-2; Elmer Goyette (L) over Chet Long 6-3, 6-1; Bill Compton (L) defeated Buster Mesic 3-6, 6-3, 6-3; and Robert Boswinkle (H) defeated Bill Weaver 8-6, 4-6, 6-4.

Doubles - Lowe-Yates defeated Mueller-Drozdowski 6-0, 6-3; Heith-Long over Edwards-Goyette 6-1, 6-2; and Compton-Weaver defeated Boswinkle-Gregory 6-8, 8-6, 6-1.

$110. Barrett, 877-9429.
Norge automatic washer - $65, swivel-base platform rocker (needs recovering) - $15, Savedge, 722-5761.
HERBERT HARDRATH RECEIVES SOCIETY'S AWARD OF MERIT

Herbert F. Hardrath, head of the Fatigue Branch, Structures Research Division, was granted the ASTM Award of Merit by the American Society for Testing and Materials on Wednesday at the awards luncheon held during the society's 73rd annual meeting at the Royal York Hotel in Toronto, Canada.

Established by ASTM 21 years ago, the Award of Merit is given to recognize individuals who have rendered distinguished service to the society. He received the award "for extensive research contributions in developing understanding of fatigue in aircraft materials and structures, in guiding technical growth of young engineers, and providing a bridge between research and structural engineers."

ASTM is an international, non-profit, technical, scientific,
(Continued on page 5)

SATELLITE POLLUTION SENSOR CONTRACT AWARDED BY NASA

As a part of the national attack on the problem of atmosphere pollution, Langley Research Center has begun development of a space-borne sensor for carbon monoxide.

A Langley contract to prepare a flight experiment based on an advanced type of sensor for measuring carbon monoxide concentrations has been awarded to the General Electric Company's Space Division, King of Prussia, Pa. The 30-month effort is valued at $1,077,000.

It is an outgrowth of an invitation issued by NASA's Office of Space Science and Applications late in 1968 announcing opportunities for experiments for earth oriented applications satellites. General Electric responded to that announcement with a proposal for the "Carbon Monoxide Pollution Experiment for Earth Oriented Applications Satellites."

Scientists estimate that the Earth's atmosphere contains about 500 million tons of carbon monoxide. Each year, automobile exhausts, industrial activities and other sources generate some 200 million tons of carbon monoxide.

However, measurements over a period of years indicate that the total concentration of carbon monoxide in the atmosphere is apparently not increasing despite the huge

(Continued on page 5)

SPACE STATION SIMULATOR: Home for four crewmen during 90-day test of space station-type life support system is this 4100-cubic-foot simulator at McDonnell Douglas Astronautics Company. The metal, double-walled cylinder is 12 feet in diameter and 40 feet long. Langley Research Center is manager of the test.

LANDLEY CONDUCTING 90-DAY LIFE SUPPORT SYSTEM TEST

Four crewmen were sealed into a simulator June 13 for a 90-day experiment during which they will drink reclaimed water and breathe regenerated oxygen -- much as astronauts will do in space stations in the future.

The test, a part of a national program to develop regenerative life support systems for advanced manned spacecraft, is being conducted in a space station simulator at the McDonnell Douglas Astronautics Company (MDAC), a division of the McDonnell Douglas Corporation.

The project is managed by Langley Research Center and is a program of NASA's Office of Advanced Research and Technology. A. O. Pearson, head of Systems Operations and Analysis Section, Space Systems Research Division, is project manager and is supervising the project for NASA. He is being assisted by David Grana, Robert W. Johnson, Dan Popma, and Charles W. McKee, all of Space Systems Research Division.

Charles R. Able, chairman and chief executive officer of MDAC, said information obtained from the experiment will be important to the operation of the three-man Skylab orbiting workshop, scheduled for launch in 1972, and to the design of a 12-man space station proposed for later in the decade.

Crewmen, all graduate students, are Wilson Wong, 23; John G. Hall, 25, and Stephen G. Dennis, 22, all from the
(Continued on page 3)
HAPPENINGS

THANKS STAFF... Will Lawson, Chairman of the Center’s annual Bond Drive, wishes to express his appreciation for the help of all division and project coordinators in raising the Center’s percentage of participation in the U.S. Savings Bonds’ program from 80 to 85.3 percent. A total of 208 new subscribers signed up for the purchase of bonds through the payroll savings plan and 126 increased their present bond allotments. At present, 3,312 staff members are buying bonds.

BRIDGE GAMES... The novice duplicate bridge games will continue to be held at 7:30 p.m. in the Activities Building every first and third Tuesday. Persons interested are invited to attend.

ON DEAN’S LIST... Congratulations to Richard W. Tyson, Research Support Division, for making the Dean’s List at Old Dominion University. Richard works nights at the Center and attends Old Dominion during the day. He is majoring in Mathematics and expects to graduate in August.

RECEIVES AWARD... James G. Thibodaux Jr., former Langley staff member, has been presented the James H. Wyld Propulsion Award of the American Institute of Aeronautics and Astronautics for “outstanding leadership in research and development of Apollo spacecraft propulsion.” He is Chief of the Power and Propulsion Division of the NASA Manned Spacecraft Center. Sharing the award with Thibodaux was Hans G. Paul, Chief of the Propulsion Division at NASA’s Marshall Spaceflight Center.

FREE OUTDOOR CONCERT... The Hampton Roads Jaycees will present the Peninsula Symphony Orchestra in a program entitled “An American ‘Pops’ Concert” on Sunday at 7:30 p.m. on the plaza near the entrance to the Hampton Roads Coliseum. The program, conducted by Cary McMurran, will include George Gershwin’s “An American in Paris,” selections from “The Sound of Music” and popular works by American composers Aaron Copland and Charles Ives. Eighteen hundred free seats will be set up. In case of rain, the concert will be held inside the Coliseum.

TENNIS INSTRUCTIONS... Jack Butler, noted NASA and Peninsula tennis player, will be the director of the tennis instructional program for beginning ladies. Classes will be held on Wednesdays at 4:30 p.m. on the courts adjacent to the Activities Building. For additional information contact Frances Taylor, 2486, or Barbara Hixon, 2429.

SOFTBALL SCHEDULE... The NASA Softball Team will play the following games during the next two-week period. June 30 - 8:15 p.m. - NASA vs. Bryant and King; July 2 - 8:15 p.m. - NASA vs. Hutchens Chevrolet; July 8 - 8:15 p.m. - NASA vs. Marva Mald. All games are played at the field adjoining Warwick High School.

HONOR ROLL... The following apprentices completed the spring semester with an average of 95 or above: Robert W. Bourgeois, Plant Electrical Section; James R. Clair, Research Equipment; John W. Cox, Spacecraft Structures; Carl E. Gray, Landing and Impact; J. Russell McHatton, Aero Thermal Test Facility; Barry D. Meredith, Microwave Techniques; and John F. Rogers, Fabrication.
LIFE SUPPORT SYSTEM TEST
(Continued from page 1)

California Institute of Technology, and Terry Donlon, 31, University of California at Los Angeles.

Wong, Glen Oaks, New York, is a major in aeronautics; Hall, Portland, Oregon, geochemistry; Dennis, Bradenton, Florida, neurophysiology; and Donlon, Tacoma, Washington, medical physics.

Criteria for their selection included physical and psychological fitness and graduate study in a field related to the functions of the crew during the three-month period of uninterrupted confinement.

Prime objective of the experiment is to test the effectiveness of the life support system in providing a habitable atmosphere, drinkable water and suitable personal hygiene accommodations without any resupply during the 90 days.

Other goals include a determination of the physical and psychological effects of prolonged confinement and an evaluation of the crew’s ability to monitor and maintain the life support equipment and to perform mission experiments.

Drinking water for crew use will be reclaimed from their urine and perspiration and purified for reuse. Prime unit for processing of urine and perspiration is a vacuum distillation-vapor filtered system which uses a nuclear fuel as a heat source.

Recovery of oxygen from the carbon dioxide exhaled by the crew is the function of the atmosphere purification and control subsystem, which consists of thermal control, carbon dioxide removal and toxin control units, and the atmosphere supply and pressurization subsystems, which includes a Sabatier reactor, water electrolysis unit and atmosphere supply control unit.

In addition to the recovery of water and oxygen, other functions of the life support system are control of atmospheric pressure, temperature and relative humidity; removal of trace contaminants; storage of food and food preparation facilities and collection, treatment and storage of solid wastes.

The McDonnell Douglas space station simulator is a double-walled metal cylinder, 12 feet in diameter and 40 feet long. It contains 4100 cubic feet and is emplaced in a horizontal position.

Interior of the simulator is divided into an equipment area and crew living area. The equipment area houses the environmental control system equipment and instrumentation and also a command center containing the life support monitor, psychomotor test console to evaluate crew reactions and a keyboard-link to an outside computer.

The crew living area contains food preparation facilities, an enclosed waste management area, a folding table for eating and recreation and four bunks isolated by draperies.

Entrance to and exit from the pressurized chamber is through a 150-cubic-foot airlock.

CREWMEN IN 90-DAY EXPERIMENT: Four crewmen check out equipment in life support equipment area of space station simulator. Terry Donlon (seated left) and Stephen Dennis (seated right) man command center, where life support monitor, psychomotor test console and computer-link keyboard are located. Wilson Wong (left) adjusts Sabatier reactor, part of atmosphere supply and pressurization subsystem, while John Hall takes reading on an atmosphere purification and control subsystem.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of June 29:

Monday - Consommé julienne, barbecued spareribs, stuffed shrimp, minute steak, chili-mac. Snack bar - Soup, steak, barbecued pork, French fries.

Tuesday - Tomato-rice soup, beef stroganoff, grilled ham, meat loaf, franks and beans. Snack bar - Soup, hot dogs, ham sandwich, German potato cakes.

Wednesday - Chicken-noodle soup, chopped steak, broiled fish, fried chicken, western omelette. Snack bar - Soup, ham and egg, Lou’s satellite special, French fries.

Thursday - Vegetable-beef soup, Spanish pot roast, grilled pork chops, stuffed pepper, tamale pie. Snack bar - Soup, hamburgers, hot roast beef, French fries.

Friday - HOLIDAY

The menu for the week of July 6 is as follows:

Monday - Cream of mushroom soup, simmered corned beef and cabbage, fried shrimp, spaghetti and meat sauce, grilled cheese. Snack bar - Soup, grilled cheese, hot corned beef, French fries.

Tuesday - Tomato soup, roast beef, grilled pork steak, knockwurst with sauerkraut, fish cakes. Snack bar - Soup, barbecued pork, roast beef, German potato cakes.

Wednesday - French onion soup, hot turkey sandwich, stuffed flounder, liver and onions, baked hash. Snack bar - Soup, hamburger, turkey sandwich, French fries.

Thursday - Vegetable-beef soup, pepper steak, creamed dried beef, fried chicken, macaroni and wiener. Snack bar - Soup, hot dogs, steak sandwich, French fries.

Friday - Clam chowder, chicken pie, broiled smoked ham, fried fish, Austrian ravioli. Snack bar - Soup, fish sandwich, flying saucer, French fries.

PROBABLY the worst help you can give an incompetent scientist is encouragement.

--- Sabol
The NASA Merit Promotion Program carries out the basic Merit Promotion policies established by the Civil Service Commission instructions in Chapter 335 of the Federal Personnel Manual. The purpose of this plan is to assure selection from among the best qualified persons available to fill vacancies on the basis of merit, fitness, and qualifications and without regard to race, color, religion, national origin, marital status, sex, age, physical handicap, employee organizational affiliation, personal favoritism or political affiliations. This plan does not guarantee promotion but rather is intended to assure that all qualified employees receive fair and equitable consideration for promotional opportunities.

At the option of the selecting official, a vacancy may be filled by promotion, demotion, reassignment, transfer, re-instatement, or appointment from a civil service register of eligibles. Announcing a vacancy as a promotional opportunity is only one method of locating candidates and it does not preclude concurrent consideration or ultimate selection of outsiders as best qualified. However, when outside candidates are current or former federal employees and the position to be filled involves promotion or has known promotion potential, the competitive provisions of this plan will be applied.

The Langley Center’s Merit Promotion Plan applies to filling positions by means of internal transfer of employees, either where a reassignment results directly in a promotion, or the position possesses known promotional potential. The Merit Promotion Plan does not apply to promotion resulting from gradual change of duties and responsibilities. Neither does it apply to reassignments when it is determined that opportunity for promotion will not be improved because of the reassignment.

Upon specific request to the Personnel Office, any employee considered for a vacancy will be furnished the name of the individual selected, and the following information:

Whether he was found to be qualified on the basis of the minimum standards; whether his name was on the list from which selection to fill the position was made; and in what areas, if any, he should improve himself in order to increase his chances for future selection for advancement.

Employees are responsible for informing the Personnel Office, at least annually, of qualifications, special training, and educational achievements which are not already a matter of record in the Personnel Office.

If an employee has a question or complaint about the promotion program or a specific promotion action, he should contact the Staffing and Special Services Branch. Mere failure to be selected for promotion when proper procedures were used, that is, non-selection from among the group of properly ranked and certified candidates, is not a basis for formal complaint. Formal complaints will be processed through the Langley grievance procedures.

All staff members have been given copies of this plan and copies are also given to new employees when they enter on duty. Additional copies of Langley's Merit Promotion Plan are available in the Personnel Office.

For further information, employees should consult their supervisors or John J. Cox, 2233, Bldg. 587, Room 130.

MINI-SYMPOSIUM: Langley Center was host this week for a mini-symposium on the chemical rocket orbit-to-orbit shuttle. Among those attending the two-day meeting were (from left): George Brooks, Aero-Physics Division, who was coordinator for the conference; Hans Hoffman, Assistant to the Deputy Secretary General, European Launcher Development Organization (ELDO), Germany; Dr. George W. Brooks, Langley Assistant Director; Dr. Christian Reinhold, ELDO, Germany; Jean LaGrade, European Space Conference, Liaison Officer, France; and Lloyd Jones, NASA Headquarters.

MINI-SYMPOSIUM HELD HERE

A mini-symposium on the chemical rocket orbit-to-orbit shuttle was held at the Center Tuesday and Wednesday. The orbit-to-orbit shuttle, also known as space tug or space ferry, is envisioned as an important component of the proposed space transportation system, and is premised on the success of the reusable earth-to-orbit shuttle (EOS) by providing a low-cost launch system for replacement of current expendable rocket boosters.

Because of the flight restrictions imposed on the earth-based EOS, it is not well suited for space-based missions which include crew and cargo transfer, satellite placement and repair, and lunar ferry service once a permanent base is established at the moon. For these missions, the space tug, propelled by conventional chemically fueled or advanced nuclear engines, can provide a vital link in an efficient space transportation system. By designing the space tug for many reuses and adapting certain common modules through the use of add-on kits for each class of mission, the waste inherent in highly individualized and non-reusable systems can be avoided.

About 50 representatives from NASA, European space organizations, private industry, and the USAF heard 16 speakers present varying points of view on how best to build and use a space tug. The impact of proposed missions for the tug on its design was the major topic of discussion. Other areas of interest included design of propulsion systems for long lifetimes, expanding the usefulness of the space tug through novel applications of its proposed capability, and the extent to which some missions can be performed through remotely controlled manipulators.

The symposium was planned and coordinated by David R. Brooks, Aero-Physics Division.
CONTRACT SIGNED: Langley Research Center has become the first NASA facility to enter into an agreement with the Small Business Administration under a program designed to increase the involvement of minority group contractors in federal procurement. Sherwood Butler (seated center), Procurement Officer, signed the contract last week. Present for the signing were seated: Thomas Regan, District Director of SBA, and Willie Webb, contractor. Standing (from left): Joseph Braig, head of the Center's Industry Assistance Office; Morris Poe, Newport News Office, Economic Opportunity; Representative Thomas N. Downing of the First District of Virginia; Edgar M. Cortright, Langley Director; and Wilburn W. Buran, Chief, Procurement and Management Assistance Division, SBA Regional Office, Richmond.

SATELLITE POLLUTION SENSOR
(Continued from page 1)

quantities added every year, a fact which implies that fortunately there must be some natural mechanism for removing most of the gas as it is generated.

The Langley-sponsored experiment is designed to make global measurements of carbon monoxide over a period of a year in an effort to map those portions of the Earth's atmosphere with high, low and average concentrations of the poisonous gas. In that way, scientists hope to identify the so-called removal sinks in which the gas is changed to another compound. Unless the removal mechanisms can be defined, there is no way to predict whether the carbon monoxide concentration will increase in the future or by how much.

General Electric's proposed experiment is based on an instrument known as a correlation interferometer being developed by Barringer Research, Ltd., of Toronto, Canada. The interferometer is an optical device capable of detecting very small amounts of gas constituents.

During the 30-month development program, which is divided into four phases, GE and Barringer as a GE subcontractor, will define the experiment in detail; develop and demonstrate a laboratory version of the instrument; complete development of an engineering model of the sensor; and finally, if the preceding steps are successful, undertake a series of flight demonstration tests using a balloon or an aircraft.

Selection of the particular satellite on which the fully developed experiment will be flown will not be made until later in the program.

NEW PROGRAM AIDS MINORITY FIRMS

The Langley Research Center has become the first NASA facility to enter into an agreement with the Small Business Administration under a program designed to increase the involvement of minority group contractors in federal procurement.

Under Section 8(a) of the Small Business Act, government agencies may contract directly with the SBA which, in turn, is authorized to subcontract with selected minority firms for certain supplies and services.

Langley pioneered the program within NASA by signing an agreement with SBA, which has awarded a contract to Webb Janitorial Services, a minority-owned business concern of Newport News, for window washing services at the Center.

The original amount of the contract is for $3,500 and may be extended by the SBA on the basis of performance by the company.

The contract between NASA and the SBA was signed by Sherwood L. Butler, Langley Procurement Officer, and Joseph J. Zimecki, Contracting Officer of the SBA, Washington, D.C.

The cooperative government program was established in response to a request by President Nixon that federal agencies assist qualified minority firms in achieving productive and economic stability in a competitive business environment.

The President is asking federal agencies to support this minority assistance program by providing procurement opportunities; supplying management and technical experts; and helping set goals to measure progress of the efforts being made.

Langley's efforts in the program are coordinated by Joseph F. Braig, small business specialist and head of the Center's Industry Assistance Office.

HARDRATH RECEIVES AWARD
(Continued from page 1)

and educational society concerned with research and standards for products and for materials of every type. It is the largest developer of nationally used voluntary standards—both industrial and consumer—in the United States.

A native of Manitowoc, Wisconsin, Hardrath received his B.S. degree in civil engineering in 1946 and his M.S. degree in civil engineering in 1947 from Case-Western Reserve University. He did post-graduate work at the University of Virginia. He has been with NASA since 1947.

NASA SOFTBALL STANDINGS

BECAUSE one desires so much to think and act for himself, he needs the liberty of following a crowd. —Sabol

A HANDFUL of patience is worth more than a bushel of brains. —Dutch Proverb
EXCHANGE PROGRAM SUCCESSFUL

Just a year ago, a suggestion by Dr. George W. Brooks, Assistant Director, resulted in more than 175 persons at Langley joining in a program designed to encourage the youth in high schools to make their decisions on future plans. You will recall the announcement of a program whereby professional staff members were encouraged to transmit the magazines and journals they were receiving to the librarian of the high school from which they graduated, so that they might be placed in the school library for use by students.

From time to time, during the year, some interesting letters have been received by individual participants in this program from the high school principals and guidance directors pointing out the value of the program to the students, and expressing appreciation for the students. One such letter was recently received by W. E. Howell, Flight Instrumentation, from the Guidance Director of Lexington High School, Lexington, who states, "As the 1969-70 school year draws rapidly to a close, we would like to take this opportunity to thank you for the journals which you have shared with our students this year. It is indeed rewarding when an individual retains and develops his interest in the development of our secondary school students. You may be assured that the materials which you have supplied to our school have played an important role in helping the students become more serious about their future plans."

Comments such as these might serve to encourage more participation in this plan or to cause some who originally followed through, to reconsider its value. Anyone desiring time to care.

TECHNOLOGY UTILIZATION NEWS

The future of our space program depends largely upon public awareness of its great importance to our nation. The question is often asked by the man in the street, "Why is NASA spending all that money on the moon, when we have so many problems right here on Earth?"

This might sound like a logical question at first thought, but a little reasoning should soon render it completely unsound. In the first place, "all that money" is not spent on the moon - it's spent right here on Earth in developing the special skills and technology required to reach our goals. Many new materials and serendipidous by-products of great benefit to mankind have resulted from our space effort.

Secondly, the amount of money spent on our space program is surprisingly small, amounting to less than 1/3 of 1 percent of our Gross National Product. Indeed, it is estimated that a large portion of our increase in GNP in the last few years is attributable to the space program.

Fortify yourselves with facts to counter the anti-space propaganda which is currently being circulated by persons oblivious to the costs and the benefits of our space program. If case you are not sold on these benefits yourself or have difficulty in convincing your fellow citizen, please contact your T. U. Office, extension 3681. It is the responsibility of each of us to consider the facts in their proper perspective and to keep the public fully informed about the space program.

LANGLEY HOSTS WORKING GROUP: The 17th Refractory Composites Working Group met June 16-18 at the Hilton Inn in Williamsburg with Langley Research Center serving as host. Dr. John E. Duberg (left), Langley Associate Director, gave the welcoming address and Dr. John D. Buckley, Flight Vehicles and Systems Division, was coordinator for the meeting. L. N. Hjelm (right), Air Force Materials Laboratory, Los Angeles, served as co-chairman with J. J. Gangler, NASA Headquarters.

ANNUITIES WILL BE INCREASED

A cost-of-living annuity increase of 5.6 per cent will be effective August 1 for all Civil Service annuities that begin on or before that date, NASA Headquarters announced. The increase includes a 4.6 per cent adjustment based on recent rises in the Consumer Price Index and an additional 1 per cent authorized by law, resulting in the 5.6 per cent total raise.

The Civil Service Retirement Law provides for the automatic increase of civil service annuities whenever the cost of living, nationwide, goes up by at least 3 percent over the Consumer Price Index (CPI) for the month used as the base for the most recent cost-of-living annuity increase and stays up by at least 3 per cent for 3 consecutive months.

The effective date of such increase is the first day of the third month which begins after the CPI has had a rise of at least 3 percent for 3 consecutive months. This provision of the law is explained in the Federal Personnel Manual.

The base month was August 1969. Last March was the first month that the percentage rise in the CPI equaled at least 3 per cent over the base period. The percentage also went up in April and May.

The act provides that annuities will be increased by the highest percentage rise in the CPI during the three-month period plus the additional 1 per cent authorized by law.

The highest percentage increase in the CPI during the three months was in May. This figure was 4.6 per cent over the base month and, combined with the additional 1 per cent, resulted in a total increase of 5.6 per cent.

The Civil Service Commission points out that, in order to get the advantage of this increase, a retiring employee's annuity must be effective on or before August 1. His annuity will be effective on or before August 1, if he is separated or his pay ceased on or before July 31.

WOMEN FORGIVE injuries, but never forget slights.
INDUSTRIAL EDUCATION PROGRAM: Langley Research Center is cooperating with the state in sponsoring a summer program in industrial arts and vocational trades for 19 high school instructors in Virginia. Instructors participating in the program are seated (from left): William J. Hagy, Joe L. Chapman, Thomas E. Brown, David C. Sweeney, and Patrick Johnson. Second row - Frank Penland, Langley's Training Office; John F. Burrell, Thurlow S. Smith, George E. Hankins, William S. Green, Alonzo Minton, Roy E. Fields, and Leon A. Lawing. Third row - Charles N. Hughes, Jonathan S. Gibson, Robert M. McCurdy, Willard Castle, Morris Taylor, David I. Joyner, Professor from Old Dominion University, and Mac Gray, Assistant Supervisor, Trade and Industrial Education Service, Richmond. Absent when the picture was taken were Wanlace E. Yates and Wallace L. Mitchell. The six-week program started June 18.

SWAP AND SHOP
FOUND
Wedding ring in Building 1219. Suit, 3375.
FOR RENT
3-bedroom, 2-bath brick rancher in Powhatan Park - has deep freeze, washer, drier, refrigerator, electric stove and other features. Buchanan, 723-8311.
3-bedroom air conditioned house in Wythe - partially furnished; available Aug. 20 to June 1, 1971. Leatherwood, 244-2941.
WANTED
Driving combination from Hidenwood Elementary School to W.A. on 8 shift. Young, 827-3621.
Ride to Roanoke July 3 and returning July 5. Chalkey, 247-3169 after 6 p.m.
Ride or driving combination from Wythe-Southampton area to W.A. on 7:30 shift. Hallissy, 3761.
Driving combination from Gloucester High School area to W.A. on 8 shift. Martin, 2805.
Driving combination from Williamsburg to E.A. on 8 shift. Polhamus, 2875.
FOR SALE
3-1 2 hp Grand Prix mini-bike. Fodrey, 595-5776.
8-foot wood hydroplane, needs some repair - $15; copper-tone top-load dishwasher - $90. Lockett, 595-6262.
10-foot wood pram, oars and paddle - $25; aluminum screen door and frame with screen or glass inserts - $7.50. Pendergraft, 596-0538.
AKC registered Scottish Terrier pups. DiCarlo, 595-4198.
1965 Mustang GT, air conditioning, 4-speed, 225 hp, V-8 - $1,000. Adkins, 868-6419.

CSC SUMMARIZES EEO PROGRESS
Chairman Robert E. Hampton of the U.S. Civil Service Commission recently summarized the progress that has been made in equal employment opportunity since President Nixon issued Executive Order 11478 last August. Among areas on which he reported were the following:
The Administration's commitment to equal opportunity has been carried directly to Federal agency officials, representatives of minority organizations, and educators by the Commission and White House staffs.
The Commission's organization for equal opportunity has been consolidated and strengthened by the establishment of an Office of Federal Equal Employment Opportunity headed by the Executive Director. In addition, all Regional Directors have been designated as Coordinators for their areas, and full-time EEO Representatives are being appointed in each of the Commission's 10 regional offices.
Federal agencies have been authorized, for the first time, to maintain minority employment data in automated files. This will help agencies and the Commission to measure results on a continuing basis and will eliminate both the need and cost of large-scale periodic surveys whose results quickly become outdated.
Agencies have been directed to establish incentive programs to reward managers, supervisors, and employees for exceptional performance in providing equal opportunity for all.
New EEO training programs for managers are being held by the Commission and Federal agencies, and the Commission is negotiating for two EEO training films to be made available to agencies this year.
Directors of Equal Employment Opportunity are now required to take personal charge of the Federal Women's Program in each agency. Also, each agency has been directed to name a Coordinator for its Federal Women's Program or a Federal Women's Program Committee on the staff of the Director of EEO, to assure that equal opportunity is provided for women.
A government-wide plan for encouraging upward mobility from lower level jobs is being prepared and will be released shortly to Federal agencies.
Meetings have been initiated with representatives of minority group organizations to improve communications and to obtain ideas for further progress.

Miniature Schnauzer, AKC registered. Miller, 877-3431. 16-foot fiberglass canoe - $140. Swanson, 229-8024.
Upright 3-position Hoover vacuum cleaner - $35; canister Kenmore vacuum cleaner - $10. Nethouse, 826-8239.
1962 Falcon, 4-door sedan, also 10-foot Hobie surf board. Stephens, 898-5593.
Wooded lot in exclusive area near mouth of Potomac River - $1,400. Moore, 826-2589.
Skiffish sail with aluminum booms, wooden mast and daggerboard, also new rudder/ext. tiller. Mccarthur, 596-2542.
1966 Mustang, 6-cylinder, auto. transmission, 27,000 miles - $1075. Cornette, 838-0313.
Beauty-Rest mattress and springs for double bed - $10 each, Buntin, 722-5953.
QUESTIONS AND ANSWERS

Q. Does Langley management bear the cost of preparing, printing, and distributing notices concerning retirement parties for Langley employees? If so, could a savings be realized by placing this type of announcement in Langley Researcher?

A. It has been the policy of the Center to permit the preparation and distribution of individual notices concerning retirement recognition events when the affairs are being coordinated by a recognized group, and when the person to be honored has served at Langley for approximately 25 years. This has been considered proper, but lately, the number of such events has increased to the point that perhaps another medium such as a notice in Langley Researcher would serve the same purpose. A column headed "Upcoming Retirements" or some such name could develop a uniform method of presenting the necessary information concerning a retirement recognition event. The Researcher editor could serve as a coordination point on such events with the sponsoring organization. It is worth a try! (Editor's Note: The Langley Research staff has agreed to give this plan a try. Persons or groups planning retirement recognition events are requested to contact the Langley Researcher Office, extension 3116.

Q. The majority of NASA Buildings have double doors. Why is only one door unlocked in most buildings? Isn't this a safety hazard?

A. It is the policy of the Center that double doors be open at all facilities, although there may be a few exceptions permitted because of some particular circumstance. In such cases, the facility coordinator has been asked to place a small sign on each door which is not operable asking that the other side of the door be used. If there are doors that will not open because they lack push bars or handles, this equipment should be requested through normal channels on Form 7530-F19-1208.

EMPLOYEE CONDUCT ON THE JOB

The manner in which an employee conducts himself on the job is frequently relevant to the proper, economical and efficient accomplishment of his official duties and responsibilities. In addition, those employees who are in direct contact with the public play a most significant role in determining the public's attitude toward the Federal service, both by the manner in which they serve the public and the way in which they conduct themselves generally in the view of the public.

Employees are expected during duty hours consistently to apply themselves to the duties of their positions and to give full value in services rendered to NASA and the public. Idleness, wasting time, or failure to be at work on assigned tasks will not be tolerated. Instructions of supervisors must be carried out promptly or within established deadlines insofar as possible.

Employees may not use Federal property of any kind for other than officially approved activities. They also have a positive responsibility to protect and conserve all Federal property, including equipment and supplies, which is entrusted or issued to them.

Generally speaking, employees of the Federal Government are expected not only to be efficient, but also to conduct themselves in a manner which will reflect favorably on their employer. Although the Government does not want to circumscribe the private lives of its employees, it does expect them to be honest, reliable, trustworthy, and of good character and reputation. They are expected to be loyal to the Government and to NASA.
NASA RESCHEDULES LAUNCH DATE FOR APOLLO 14 TO NEXT JANUARY

Changes to be made in the Apollo spacecraft and procedures before the Apollo 14 mission will require postponing the launch to no earlier than January 31.

The changes and new date were announced by Dr. Thomas O. Paine, NASA Administrator, following a review of recommendations of the Apollo 13 Review Board, an evaluation of the Board's report by the NASA Aerospace Safety Advisory Panel, and recommendations by NASA's Office of Manned Space Flight.

The Review Board, which was chaired by Langley Director Edgar M. Cortright, had reported that a short circuit ignited electrical insulation in spacecraft oxygen tank No. 2, causing failure of the tank, subsequent loss of electrical power and abort of the lunar-landing mission 200,000 miles from Earth on April 13.

Command and Service Module systems will be modified to eliminate potential combustion hazards in high-pressure oxygen of the type revealed by the Apollo 13 accident.

In addition, a third oxygen tank will be added to the Service Module to avoid operations in low oxygen conditions, thereby making possible the removal of unsealed fan motors in the tanks.

(Continued on page 3)

CONTRACT AWARDED TO BUILD VISITOR INFORMATION CENTER

Langley Research Center will build a Visitor Information Center to be opened to the general public in the spring of 1971, Director Edgar M. Cortright announced last week.

Construction will begin immediately under a $142,000 contract awarded to the Eastern Construction Corporation of Tabb.

The Information Center will be located on the ground floor of the Flight Instrumentation Building. Construction will consist of enclosing an 8,000 square foot area now unfinished and providing interior facilities.

Langley plans to equip the Information Center with exhibits and displays to explain NASA activities and the role played by the research center in supporting the nation's programs in space and aeronautics. A small theatre with a seating capacity of 100 will provide a place for welcoming visitors and showing NASA films.

There will be no admission charge to visit the Information Center and plans are being made to include it as a stop on the Hampton Tour.

Interior arrangements, displays and exhibits will be prepared and installed by members of the Center staff after completion of the construction in late December.

Architects for the Visitor Information Center are Oliver and Smith of Norfolk.
**HAPPENINGS**

NEWLYWEDS. . . Back at work after a Canadian honeymoon is John E. Hunt, Fabrication Division. He was married June 19 to Ann McDermott, Portsmouth. . . Virginia K. Welch, Technical Illustrating, and Richard W. Bennett, Fabrication, will take their final vows tomorrow in the First Presbyterian Church, Hampton.

LIBRARY NOTICE. . . The Technical Library will continue to be open on Tuesday and Thursday evenings from 4:30 to 8:30 p.m. through December 31.

ROTATING-WING RESEARCH. . . Frederic B. Gustafson, Staff Scientist in the Flight Mechanics and Technology Division, is the author of a four-part series of articles on rotating-wing aircraft beginning in the June issue of Verti-Flite, a monthly magazine published by the American Helicopter Society. The first part is extensively illustrated with Langley photographs, four of which are featured in a color cover. The comprehensive articles are entitled, "History of NACA/NASA Rotating-Wing Aircraft Research, 1915-1970."

TELEPHONE CHANGE. . . Effective July 1, the Federal Telecommunications System (FTS) identification number for Langley Center was changed from V88012 to DF8012. This number is to be given to the FTS operator when completing official long distance telephone calls via the FTS voice network. This change is made by GSA to improve service and identification of LRC calls for cost accounting.

NASA JEWELRY. . . Tie tacks, tie bars, and charms with the NASA symbol can now be purchased from the Activities Association's bookkeeper, Building 1222.

SOFTWARE SCHEDULE. . . The NASA Softball Team will play the following games during the next two-week period. July 13 - 8:15 p.m. - NASA vs. Nurney and Cox; July 15 - 7 p.m. - NASA vs. Shematek Oil; July 20 - 7 p.m. - NASA vs. Hilton Country Club; and July 23 - 8:15 p.m. - NASA vs. Messick. All games are played at the field adjoining Warwick High School.

LECTURE SERIES. . . Dr. Richard W. Nau, Assistant Professor at the University of Virginia who is participating in the Langley Faculty Research Program this summer, will present a series of five lectures of one-hour each, starting at 8:30 a.m. July 13 through July 17 in Room 2120, Building 1268A. The lectures will describe ALGOL, the international algorithmic language of computers, and examine the reasons for its impact on computers, programming, and other languages. For further information contact Dr. Nau, 3875, or J. N. Shoosmith, 3468.

THEY ALSO SERVE. . . Elections were recently held in a number of Jaycee Chapters in the area and several elected officers are employed at the Center. They are as follows: Gloucester Jaycees - Raymond D. Burris, Fabrication, internal vice president. Hampton Roads Jaycees - Edgar "Kam" Kersey, AMPD, vice president, region XIV; James E. Gardner, Structures, internal vice president; Dennis L. Dicus, FVSD, civic vice president; Timothy R. Rau, ASMD, state director; Leonard V. Clark, Dynamic Loads, secretary; Billy R. Ashworth, ACD, two-year director; Darrell R. Branscome, FVSD, two-year director; John P. Decker, FSRD, one-year director; and William J. Snyder, FMTD, one-year director. James River Jaycees - James C. Ellison, APD, immediate past president, and Charles G. Miller, APD, secretary. Poquoson Jaycees - Robert C. Evans, Fabrication, director. Williamsburg Jaycees - Leonard R. MCMaster, IRD, president; Leonard T. Melfi, IRD, external vice president; and Wallace C. Sawyer, FSRD, director.

WORD OF THANKS. . . Ethel Horton, who recently retired from Personnel Division after over 20 years of Federal service, wishes to express her thanks to her many friends and co-workers for their kindness and thoughtfulness during the years and especially for her retirement party and the lovely gifts.

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Editor .................. Ruth Angel Versell
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.
TWO STAFF MEMBERS DIE

Howard L. Pendleton, Supervisory Engineering Technician in the Fabrication Division, and B. Leon Hodge, Aerospace Technologist in the Viking Project Office, died in June.

Pendleton was born May 26, 1918 in Day, Florida. He moved to Newport News 36 years ago and joined the Center staff on June 12, 1944.

He is survived by his widow, Mrs. Annie L. Pendleton; two daughters, Eileen M. Pendleton of Hampton and Amy D. Pendleton of Newport News; and two sons, H. Leslie Pendleton Jr., Jacksonville, N.C.; and Stuart E. Pendleton, at home.

Hodge was born October 31, 1932 in Jacksonville, Florida. He received his B.S. degree from the University of Florida and joined the Center staff on August 29, 1955. In 1961 he was assigned to the Space Task Group and moved to Houston in 1962. He returned to Langley August 1966.

Surviving are his wife, Mrs. Suzanne Ault Hodge, and four sons, B. Leon Hodge Jr., Michael C. Hodge, G. Nathan Hodge and Christopher N. Hodge, all at home.

The family has requested that expressions of sympathy be made in the form of contributions to the Leon Hodge Memorial Scholarship Fund, Christopher Newport College, Box 6070, Newport News, Va.

NASA RESCHEDULES LAUNCH DATE

Use of Teflon, aluminum and other materials potentially combustible in the presence of high-pressure oxygen will be minimized throughout the high-pressure oxygen system and kept away from possible ignition sources.

All electrical wires will be stainless-steel sheathed and the quantity probe will be stainless steel instead of aluminum.

The fuel cell oxygen supply valve will be redesigned to isolate Teflon-coated wires from the oxygen.

Warning systems on board the spacecraft and at Mission Control will be modified consistent with the Board’s recommendations to provide more immediate and visible warnings of system anomalies.

AWARDS PROGRAM HANDBOOK

In the near future, an awards program handbook will be distributed to each employee. This handbook will contain information on all awards administered by the Awards Program Office, such as suggestion awards, quality increases, special achievement awards for performance or contribution, etc.

Should you desire more specific information, contact the Awards Program Office, Building 587, extension 2214.

CREDIT UNION WINNERS: NASA members eligible for prizes in the current Fly-the-Flag contest are identified by their account numbers. The first five collect $10 cash each provided they qualify, while the sixth receives one month’s payment on his car if financed with the Credit Union. The five numbers are 157, 4295, 4475, 5544, 34937 while the bonus number is 33487. Please call or go by the Credit Union if you spot your number.

TENTH ANNIVERSARY: July 1 marked the tenth anniversary of the launch of the first Scout rocket vehicle from Wallops Station. The first Scout (above) was launched as part of a program to develop a small, reliable and flexible solid-fuel research vehicle designed for a variety of space exploration tasks. The Scout concept originated in mid-1958 at Langley and to date a total of 68 Scout launches have taken place. Through launch after launch, Scout has built a strong success record. With each new mission it continues to demonstrate its economy and its wide ranging versatility.

UPCOMING RETIREMENT

Charles S. Cromlee, formerly of NASA and now employed at the Naval Ship Research and Development Center located at Building 720 (Tank 1), will retire from Federal service on July 31. A retirement party has been planned in his honor at the NCO Club at 7 p.m. on Friday, July 31. For reservations or information call Rosemary Daube, 764-3513 or NASA extension 2650, before July 22.

COIN CLUB MEETS JULY 16

The LRCCoin Club will meet Thursday, July 16 at 7:30 p.m. in the Activities Building. A slide program will be shown and the raffle will consist of 17 lots of uncirculated U.S. coins, including a 1937 Franklin half-dollar.

The club’s metal locator is now available for use by club members, associates, and NASA personnel for a nominal rental fee. Persons interested in borrowing the instrument may contact Ernie Anglin, 2231.

GOLF TOURNEY WINNERS NAMED

The NASA Golf Association held its third tournament of the season on June 24 at the Langley Golf Course. Play was four-man team, best ball, low net with handicap strokes given.

First place winners of seven golf balls each was the team composed of Jim Weilmuenster, John Oakley, Clay Rogers, and Ray Leatherman. Second place prize of five golf balls each went to Charles Marushi, Craig Collins, Charles Cockrell, and George Whitehurst.

Low gross winner was Jim Howell with 76 and low net winner was John P. Campbell Jr. with 67 while Tom Hall took low puts with 30.

The next scheduled match is against the Norfolk Naval Shipyard Golf Team on July 29.
APOLLO POST-FLIGHT TEST: This sequence of three photographs were taken from 16mm motion picture film of panel separation tests conducted at Langley Research Center to determine the mechanism by which the Apollo 13 panel was separated from the Service Module. Tests used a 1/2 scale model with a honeycomb sandwich panel and was conducted in a vacuum. Edgar M. Cortright (right), Langley Director and Chairman of the Apollo 13 Review Board, is shown with an Apollo service module cryogenic oxygen tank heater and fan assembly and other service module parts with possible ties to the Apollo 13 oxygen tank failure. Cortright has chaired the Apollo 13 Review Board since late April.

LRC EXPANDS COMPUTER CAPABILITY

As part of a program for increasing the usefulness of its central computer complex, Langley Research Center will procure eight medium speed remote terminals to link research locations directly with the main data handling installation.

A firm fixed price contract for the remote terminals has been awarded to Control Data Corporation, Minneapolis, Minn., as an extension of a basic contract under which the company has been providing an extensive upgrading of Langley's computer capability since 1966. The dollar value of the remote terminal installations will be $1,977,870.

Three of the eight remote terminals will be located in Langley wind tunnels to provide computed results of experimental data while a test is in progress. One will serve both test sections of the Unitary Plan Wind Tunnel. A second will be located in the 7 by 10-foot High Speed Wind Tunnel, and the third will be linked to the V/STOL Wind Tunnel which is now nearing completion.

The five additional remote terminals will support areas of the Center in which analytical studies require staff scientists to have access to the central computer for specific tasks. They will permit scientists to obtain computer service rapidly in the locations in which they work.

Analytical studies in aerodynamics are expected to benefit particularly from the remote terminal installation.

The contractor will also provide the necessary electronic equipment to permit problems originating at any of the remote locations to be fed to the central computers and to return the computer results promptly to the point of origin.

STAFF MEMBERS RETIRE FROM CENTER

Staff members who retired recently but who did not have photographs taken are:

Arthur B. Lawson, Fabrication Division
Arrietta M. Pease, Administrative Services Division
Beulah B. Barber, Fiscal Division
Ralph A. Daisey, Administrative Services Division
Ellen D. Townsend, Administrative Services Division
LeRoy O. Hicks, Applied Materials and Physics Division
Thelbert L. Gammage, Fabrication Division
Robert M. Forrest, Research Support Division
David R. Woodward, Full-Scale Research Division
Mary W. Hillery, Procurement Division

LIFE is an everlasting struggle to keep money coming in and teeth and hair from coming out!

IT TAKES two to make a marriage - a single girl, and an anxious mother.

LOUD mouths don't have to worry about food shortages. They usually eat their words.
STAFF MEMBERS RETIRE FROM FEDERAL SERVICE

DOROTHY H. MOORE, FISCAL
GEORGE PERN, PID
SARA L. PHELPS, ACD
WEINER J. PAPILLA, DYNAMIC LOADS
MARTIN L. LEMPY, STRUCTURES

DORLEY F. WATERS, FABRICATION
ETHEL L. ROSSON, PERSONNEL
B. LEE DECKENSON, PUBLIC AFFAIRS
JANE A. HOFF, AERO-PHYSICS
HARRY D. PELTON, PMTQ

AUSTIN J. PEREIRA, FABRICATION
CHARLES E. OAKI, RESEARCH SUPPORT
BARRY J. HEAR, RESEARCH SUPPORT
B. JOHN ATKINS, RESEARCH SUPPORT
WALLACE D. ALBRIGHT, FABRICATION
JAMES D. COLEMAN, RESEARCH SUPPORT

ROBERT MCELHANAN, SQUOT OFFICE
RICHARD R. JAMES, PROCUREMENT
JOSEPH M. VOGTLE, BMTD
BENJAMIN C. FOSTER, FABRICATION
JASPER Y. HANES, RESEARCH SUPPORT
JOHN H. WOOD, BMTQ

ELLA E. PUTZER, TDU
JOSEPH RAWLINS, JR. PID
SHERMAN H. MIKELSON, PID
ASHLeY ROGERS, TDU
EUGENE W. HEGE, TDU
JACOB E. WAGNER, RES. SUPPORT
ROLAND J. MONTGOMERY, FAB.
EMPLOYEES RECEIVE AWARDS

Six staff members, pictured at right with their supervisors, recently received Special Achievement Awards under the Incentive Awards Program.

The recipients and their citations are as follows:

Dr. Robert W. Leonard, Structures Research, $750 "for sustained and outstanding leadership of a research group which provides a unique competence in engineering mechanics applicable to structural design of a broad spectrum of aerospace vehicles."

Betty T. Sheets, Full-Scale Research, $150 "for her sustained superior performance in accomplishing her assignments within the Supersonic Analysis Section of the Full-Scale Research Division, and specifically for the efficient and effective manner in which she provided the office management logistics required in setting up the division's new Aero-Thermo Section."

Mary M. Jenkins, Procurement, $150 "for her sustained superior performance and her outstanding efforts in establishing at Langley Research Center an efficient system for processing Government Bills of Lading."

Stewart L. Ocheltree, Instrument Research, $500 "for his imaginative and professional development of the electron beam and its use for measurement of gas parameters and for flow visualization in high velocity, low density gas flow."

Robert G. Thomson, Structures Research, $350 "for his sustained superior performance relative to his constructive research and many creative contributions to the theory of meteoroid impact, and for his outstanding achievement in the timely development of methods to predict hailstone damage to high-speed aircraft."

Beulah B. Barber, Fabrication, $200 "for her sustained superior performance in developing and fabricating a wide variety of textiles and films for highly specialized research test models, flight personnel equipment, and stress absorbing fabric components of flight hardware."

DEDICATION CEREMONY: The $182,721 extension to the Materials Receiving Building (Bldg. 1206) was dedicated June 15. Dr. John E. Duberg, Associate Director, cuts the ribbon while David Buchanan, head of Stores Branch, Procurement Division, looks on. The new addition was built by Wise Contracting Co. and covers an area of 14,000 sq. ft.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of July 13:

Monday - Puree of bean soup, seafood Newburg, breaded veal cutlet, ham and macaroni loaf, Spanish omelette. Snack bar - Soup, ham and egg, veal cutlet, French fries.

Tuesday - Cream of celery soup, country style steak, stuffed shrimp, chicken chop suey, Spanish franks. Snack bar - Soup, hot dogs, steak sandwich, French fries.

Wednesday - Chicken-vegetable soup, chicken and dumplings, deep-fried liver, stuffed pepper, chili con carne. Snack bar - Soup, hamburger, corned beef, German potato cakes.

Thursday - Vegetable-beef soup, pepper steak, baked ham, sauteed chicken livers, fish cakes. Snack bar - Soup, sea dog, baked ham.

Friday - Consomme julienne, Spanish pot roast, stuffed flounder, minute steak, baked hash. Snack bar - Soup, fish, hot roast beef, French fries.

The menu for the week of July 20 is as follows:

Monday - French onion soup, roast beef, knockwurst and sauerkraut, grilled smoked ham, western omelette. Snack bar - Soup, barbecued pork, grilled ham.

Tuesday - Cream of tomato soup, grilled pork chops, fried shrimp, spaghetti and meat sauce, tamale pie. Snack bar - Soup, cheeseburger, roast beef, French fries.

Wednesday - Chicken-noodle soup, chopped steak, hroiled fish, fried chicken, macaroni and wiener. Snack bar - Soup, hot dogs, Lou's satellite special, French fries.

Thursday - Vegetable-beef soup, grilled Delmonico steak, baked meat loaf, fried fish, cheese omelette. Snack bar - Soup, sea dog, corned beef, French fries.

Friday - Minestrone soup, baked lasagna, minute steak, stuffed pepper, deviled crab, fish cakes. Snack bar - Soup, fish, steak, French fries.

STATISTICS show that an average of over 39,000 people are killed by gas each year. Sixty inhale it, forty light matches to it, and 38,900 step on it.

OUTPOST IN THE SKY: NASA planners' concept of a 100-man space base in the late 1980's assembled in Earth orbit from separately launched modules over a 10-year period is shown above. The initial module would be a 12-man space station launched in 1976. The crew would include scientists, engineers, technicians, and maintenance personnel to support researchers' work and attend to housekeeping needs. Supplies and crews could be transported to and from the space base and Earth via a reusable space shuttle capable of returning to Earth by its own flight and landing on a runway.
QUESTIONS AND ANSWERS

Q. What is NASA doing or going to do about the parking problem in East Area?
A. Because of the density of population in certain sections of the East Area and the limited real estate on which to build parking lots, there will always be a problem of furnishing every NASA employee a parking space adjacent to his work. However, numerous studies have been conducted on parking habits in the East Area and it has been concluded that there are adequate numbers of parking spaces to accommodate all NASA personnel within a reasonable distance, but, as stated above, not always adjacent to their work. On this basis, it has been decided that parking in the East Area will remain on a first-come-first-served basis. With regard to "reserved parking," it has been decided that the NASA policy will be the same as for West Area NASA personnel. The Air Force and Tactical Air Command determine their parking policy as it applies within their property lines.

Q. Can Langley Center have something done to improve the arrangement of the stop and yield signs at the Main West Gate at the intersection of Walcott/Shephard Boulevard and Virginia State Highway #172?
A. Since the widening of Armistead Avenue, leading to the NASA Main Gate, numerous discussions have been held with State traffic engineers regarding the possibility of removing the yield signs from the NASA exit. The State has ruled the NASA exit is a private driveway entering a public road, therefore, exiting NASA traffic will be required to yield to traffic on Armistead Avenue. New discussions are now taking place in an effort to post signs which will improve the safety of this intersection.

SWAP AND SHOP

LOST
1970 high school ring with inside initials T.M.H. Hartman, 247-6890.

WANTED
Driving combination from Lee Hall to W.A. on 8 shift. Hoad, 3611 or 229-6468.
Driving combination from Gloucester Point to W.A. on 8 shift. Martin, 2483.

FOR SALE
Double bed with bookcase headboard, mattress, springs, and dresser - $50; small kitchen table with two chairs - $40. Hixon, 838-0213.
Large size station wagon with automatic transmission. Childs, 698-6719.
Female Collie puppies, 8 weeks old, shots, wormed, purebred. Ballance, Smithfield 238-2861.
3-bedroom brick rancher with air conditioning, attached garage, beams family room with fireplace. Gunther, 11 Gwynn Circle, Denbigh, 877-9418.
Norge apartment-size refrigerator - $25; swivel rocker with wooden base - $12; deep fryer - $5. Hanrahan, 595-1575.

PUTTING WORDS INTO PEOPLES' MOUTHS

The long cane (48 to 54 inches) is one of the mobility aids most widely used by blind people. More sophisticated types of aids are being explored. Until these can be developed, an improved long cane is needed. The cane serves as a probe, therefore, a rigid design consisting of lightweight materials is sought. There is also interest in and need for a cane which can be telescoped, at least to some degree. Refer to B-1. Contact the Technology Utilization Office, extension 3281, for the problem statement or if you have a contribution.

Can You Solve This Problem?

The long cane (48 to 54 inches) is one of the mobility aids most widely used by blind people. More sophisticated types of aids are being explored. Until these can be developed, an improved long cane is needed. The cane serves as a probe, therefore, a rigid design consisting of lightweight materials is sought. There is also interest in and need for a cane which can be telescoped, at least to some degree. Refer to B-1. Contact the Technology Utilization Office, extension 3281, for the problem statement or if you have a contribution.

Large maple desk - $25. Martin, 868-9495 after 4 p.m. 1964 Chevelle 300, 4-door sedan - $425. Talwar, 838-7868.
3-bedroom, 2-bath, brick rancher with fireplace and attached garage - 6% loan - $5500 down with $175 monthly payments. Mangum, 595-4625.
90-DAY LIFE SUPPORT SYSTEM TEST PASSES ONE-THIRD MARK

The four crewmen who were sealed into a simulator June 12 for a comprehensive test of space station-type life support systems, reached the one-third mark last week as they successfully completed the first 30 days of a scheduled 90 days of confinement.

McDonnell Douglas Astronautics Company (MDAC), a division of the McDonnell Douglas Corporation, is conducting the test under contract to Langley Research Center. The experiment is part of a research program of NASA’s Office of Advanced Research and Technology. A. O. Pearson, Space Systems Research Division, is Langley’s project manager.

Since the crewmen, John G. Hall, 25; Stephen G. Dennis, 22; Wilson Wong, 23, and Terry Donlon, 31, entered the 40-foot long chamber last June 13, their operating efficiency has steadily improved as they have become more familiar with the routines and life support equipment.

The life support system under evaluation is reclaiming oxygen from crew carbon dioxide and water from crew urine and perspiration. Data from the experiment will be used in the design of more sophisticated systems for manned orbiting space stations of the future.

Leisure-time activities of the crew have included the celebration of the Fourth of July with a word-game tournament. They also have watched films projected into the chamber through a one-way viewport. As all are graduate students, study has occupied some of their time. Donlon, for example, is working on a dissertation for his doctorate in medical physics.

ACTIVITIES ASSOCIATION PLANS MINI-CARNIVAL FOR LATE AUG.

The Activities Association will sponsor a Mini-Carnival at the Activities Building on Saturday, August 29. This will be held in lieu of the larger two-day carnival which the group has sponsored for the past three years.

According to Activities officials, the future carnivals will be operated on a two-year basis with the large full scale affair held every two years and the one-day mini-carnival held on alternate years.

The Mini-Carnival will feature rides and games for the kids, special games for adults, and a dance that evening for the adults. Food and drink booths will be setup on the grounds for the convenience of those attending.

The activities are still in the planning stage and many volunteer workers are needed to help with the planning and operating of the carnival. Persons interested in helping are requested to contact their district representatives or call Herb Boulter, 3462.

HEADQUARTERS SEeks INFORMATION ON NASA’s LEADERSHIP IN COMMUNITY

The Public Information Division of NASA Headquarters is seeking information on NASA employees or their spouses who are serving in or seeking public office, elective or appointive. The types of offices involved would include school boards, city and county councils, etc.

The information may be used as background material for a feature article on the leadership activities of NASA people in their communities and may be published in the NASA

(Continued on page 6)

MUSEUM TO SHOW LUNAR SAMPLE

Staff members will have an opportunity to take part in a program sponsored by the Peninsula Nature Museum, located on J. Clyde Morris Boulevard in Newport News, during the period of July 25 through August 2.

The museum is providing a special display and film showing, featuring the display of the State of Virginia’s lunar sample, photographs and models associated with the Apollo program and the periodic showing of the NASA Apollo 11 film.

The program is timely in that it ties in with the celebration of the first anniversary of man’s visit to the moon’s surface. The museum trustees and staff have extended a special invitation to Langley Research Center staff members and their families to visit the facility during the period.

The public is admitted to the museum without charge. Visiting hours are 9 a.m. to 5 p.m. Monday through Saturday, and 2 p.m. to 5 p.m. on Sunday.

David A. Willment, Technical Illustrating Section, served as an advisor to the museum staff in setting up this display.
HAPPENINGS

NEW HEIR. Celebrating the birth of an eight-pound son, Douglas M. Jackson, on July 12, are Carol, Dynamic Loads, and Mac Jackson, Flight Vehicles and Systems.

RETIREMENT ACT. All staff members covered by the Retirement Act will receive new certificates dated January 1970. When the new certificate is received the old one may be discarded.

LECTURE SERIES. Dr. B. Upchurch, Chemistry Department, Old Dominion University, will give two-lecture series on "Fundamentals of Electrochemistry" on July 29 and August 5 at 10 a.m. in Room 225, Building 1230. For additional information call G. Gaetano, 2791.

INSURANCE CERTIFICATE. The Federal Employees Group Life Insurance Program's Certificate Supplement for Optional Insurance is being distributed to staff members. Those who are entitled to receive the certificate and do not receive one should call Employee Services, 2605.

SOFTBALL SCHEDULE. The NASA Softball Team will play the following games during the next two week period: July 28 - 7 p.m. - NASA vs. Bryant and King, July 30 - 7 p.m. - NASA vs. Hutchens Chevrolet, and August 4 - 7 p.m. - NASA vs. Marva Maid. All games are played at the field adjoining Warwick High School.

RETIREMENT PARTY: Dorothy Moore (top left), Head of Payroll, was honored by her friends at a retirement party. Attending the affair were (top right) Carolyn and Gene Fadely, Merle Anderson, Mike Garula, Jo Russell, and Kathleen Stowers. In the lower right photo Irene Collins poses with retired employees Lois Hartmanbruber and Louis Earnhardt. In the lower right photo the honored guest is flanked by Edward A. Howe (left), Chief of Fiscal Division, and Sidney Parker, Assistant Chief of Fiscal.

AUTO INSURANCE. Staff members are reminded that effective July 1, 1970, within the State of Virginia, the minimum automobile insurance coverage for personal injuries to one person was raised from $15,000 to $20,000. Langley Instruction 1600.5 requires that all NASA and contractor personnel operating motor vehicles on the base have at least the minimum coverage. Please check your automobile insurance policy to insure that you have the proper coverage.

THANKS FRIENDS. Dorothy Moore, who retired from the Center last month, has expressed the following thanks, "I would like to express my appreciation to my many friends at NASA who helped to make the occasion of my retirement such a memorable one. Some of you I have known for a long time and others just a short time, but to each and every one of you my sincere thanks and very best wishes."

FOUR HONORED: The Fabrication Division recently honored four of their staff members who have retired from the Center. The honorees are (top left): Frank Waters, Beany Watson, T. L. "Doc" Gammage, and Roland Montgomery. In the top right photo Ronny Amele presents Waters a set of combs and brushes. Going through the chow line (lower left) are Gene Fullerton, Nat Bowman, Solomon Williams, Happy Bright, and George Umlasneider. Gammage (lower right photo) seems to think Secretary Annie Coleman is his retirement gift.
EMPLOYEES RECEIVE AWARDS

Five staff members, pictured here with their supervisors, recently received Special Achievement Awards under the Incentive Awards Program.

The recipients and their citations are as follows:

William A. Brooks, Structures Research, $750 "for sustained and outstanding research contributions and leadership in development of thermal protection systems for entry spacecraft."

Felix P. Crommie, Scout Project Office, $300 "for his sustained superior performance in developing improved performance and reliability and significantly reducing costs of Scout propulsion units."

William B. Mitchell, Fabrication, $250 "for his sustained superior performance in efficiently accelerating precision fabrication of force measuring instruments."

James H. Parker, Fabrication, $250 "for his sustained superior performance in efficiently accelerating precision fabrication of force measuring instruments."

Thomas W. Preston, Fabrication, $250 "for his sustained superior performance in efficiently supporting the Parawing Program by engaging in the in-house development of complex parawing deployment systems and by providing effective technical support for the contractors' field tests and developmental efforts."

TECHNOLOGY UTILIZATION NEWS

A new T. U. film release entitled "Technology at Your Fingertips" is now available from the T. U. Office. This film depicts a number of significant NASA developments which are finding industrial applications. It also describes the functions of NASA-sponsored regional dissemination centers, which play such an important role in the technology transfer process.

These centers are strategically located to provide our major industrial areas with specialized information services. Literally, all of the aerospace technology generated by NASA in the past ten years is made readily available to industrial clients via these centers.

The film emphasizes the importance of our space program to American industry and should prove especially enlightening to non-believers in the space program. Schedule it soon for a meeting of one of your church or civic organizations (16 mm film, running time 16 minutes, sound and color).
FIRST ANNIVERSARY OF APOLLO 11 MOON LANDING

HERE MEN FROM THE PLANET EARTH
FIRST SET FOOT UPON THE MOON
JULY 1969, A. D.
WE CAME IN PEACE FOR ALL MANKIND

Astronaut Neil A. Armstrong, Commander, Apollo 11
Astronaut Michael Collins, Command Module Pilot, Apollo 11
Astronaut Edwin E. Aldrin, Jr., Lunar Module Pilot, Apollo 11

Lunar Module ascends from the Moon to rendezvous with the Command Module and Astronaut Michael Collins
Tranquility Base -- the Lunar Module, the United States flag, and Astronaut Aldrin
'WE CAME IN PEACE FOR ALL MANKIND'

A year ago, July 20 at 10:56 p.m. EDT, to be precise, Astronaut Neil Armstrong placed his left foot on the surface of the Moon and uttered the now-famous words for all the world to hear, "That's one small step for a man, one giant leap for mankind."

Eighteen minutes later Astronaut Edwin "Buzz" Aldrin joined Armstrong on the lunar surface and together they read the plaque which remains on the Moon. Inscribed are these words: "Here Men From the Planet Earth First Set Foot Upon the Moon, July 1969, A.D. We Came in Peace for All Mankind."

Astronaut Michael Collins remained with the Command and Service Module in lunar orbit to bring the Moonmen safely home to Earth after their successful Moon exploration.

July 1969, A.D., Anno Domini for the year of Our Lord -- how will that year be recorded by the historians? Does that time, so precisely marked by that first footprint on the Moon, end one age for man and herald the beginning of a new one?

Historians have devised ways to reckon time and bracket eras and periods into neat packages. Religious historians use the Latin, Anno Mundi, for the Age of the World and the years in our time are Anno Domini years.

There have been other categories like the Prehistoric Age, the Age of Exploration and more recently the Machine Age, the Atomic Age and the Space Age.

But whatever the age or the period or the method of reckoning time, throughout the history of man he has always had his eye on the Moon wondering about its mysteries and dreaming one day to explore it. Now, just a year ago, man has done this, and this great dream and aspiration long held by man has been realized.

So now there are all those aeons before the lunar landing by man, and that short one year since this epochal event, the time when man left Earth and physically extended his influence to another planet.

We simply take note of the first anniversary of man's landing on the Moon. But some historians, exercising their prerogatives to mark that very precise date -- July 20, 1969 A.D. -- more auspiciously for the history books of tomorrow may well devise another way of reckoning time after this event. Thus, it is not unlikely that our scholars may record time from the manned lunar landing as 1 A.L., for 1 Anno Adventus ad Lunam, which roughly translated from our even rougher Latin means the first post lunar year.

Latin scholars may argue with our Latin, but historians will not quarrel with the fact that on July 20, 1969 at precisely 10:56 p.m. Eastern Daylight Saving Time, an era ended for man and a new one began.
EXECUTIVE BOARD: Members of the Activities Association's Executive Board for 1970-71 are seated (from left): Herbert Boulter, social committee chairman; Janet George, children's committee; Ernest Greene, president; Bill Beasley, building and grounds; and Sandra Chaney, secretary.

Can You Solve This Problem?

An improved method for computing X-ray depth dosage in diagnosis and treatment is needed. A technique is sought whereby point by point intensity measurements can be plotted in half relief, so as to more accurately define dose distribution at any point within a field. Refer to SWC-8. Contact the Technology Utilization Office, extension 3281, for the problem statement or if you have a contribution.

ALL STAR SOFTBALL GAME: A game between the all stars of the Newport News Recreation League and the Center League will be played tonight at 7 p.m. at the field adjoining Warwick High School. Representing NASA on the all star team will be J. Lambiottte, shortstop, and David McDougal, pitcher.

NASA SEeks INFORMATION

(Continued from page 1)

Space Sheet which is distributed to the national news media. Staff members or their spouses who are contributing this type of community leadership are asked to complete the form below and send it to the Public Affairs Office, Mail Stop 154, by Friday, July 31.

Name of Employee

Name of Spouse (if involved)

Title of office held by employee or spouse

Term of office

Charles R. Row, NASA Headquarters; Larry Kirsch, Civil Service Commission (Norfolk); W. L. Lee, NASA Headquarters; J. T. Sippel, NASA Headquarters; Edward J. Perron, NASA Headquarters; Martin Zidek, Civil Service Commission (Richmond); J. Norwood Evans, Langley Assistant Personnel Officer; and F. T. Boyes, Manned Spacecraft Center.
TWO STAFF MEMBERS DIE


Dennard was born October 7, 1922 in College Park, Georgia. He received his B.S. degree in Mechanical Engineering from Georgia Institute of Technology in 1943 and joined the Center staff on February 8, 1943.

Survivors include a daughter, Jane Dennard, and two sons, John Edward Dennard and Alan Sanford Dennard, all of Hampton.

Bartone, 20, died in a helicopter crash while serving with the 1st Air Calvary Division in Vietnam. He was the Huey Cobra pilot for the 20th Artillery Group of the 2nd Battalion, he arrived in Vietnam in November 1969. He received two distinguished Flying Crosses, the last one on July 4.

Bartone joined the Center staff as an apprentice on September 14, 1967 and went on military leave September 23, 1968. He is survived by his parents, Mr. and Mrs. Leonard M. Bartone of Hampton; three sisters, and three brothers.

DID YOU KNOW? The Classification and Organization Branch maintains a library of the Position Classification standards published by the Civil Service Commission. Staff members wishing to consult these standards may do so by visiting Building 587, Room 225.

HE WHO lives without committing any folly is not so wise as he thinks. --La Rochefoucauld

MANY individuals have, like uncut diamonds, shining qualities beneath a rough exterior. --Juvenal

The following menu will be served in the cafeterias during the week of July 27:

Monday - Egg drop soup, pepper steak, grilled pork steak, chicken chow mein, baked hash. Snack bar - Soup, hamburger, hot pastrami.

Tuesday - Puree of bean soup, baked ham, stuffed shrimp, Salisbury steak, grilled cheese and bacon. Snack bar - Soup, grilled cheese and bacon, flying saucer, French fries.

Wednesday - Consomme, veal cutlet, liver and onions, stuffed pepper, chili mac. Snack bar - Soup, barbecued pork, veal cutlet, German potato cakes.

Thursday - Vegetable-beef soup, country-style steak, barbecued chicken, creamed beef on biscuits, franks and beans. Snack bar - Soup, hot dogs, steak sandwich, French fries.

Friday - Clam chowder, hot roast beef sandwich, broiled smoked ham, fried flounder, Austrian ravioli. Snack bar - Soup, fish, hot roast beef, French fries.

The menu for the week of August 3 is as follows:

Monday - French-onion soup, simmered corned beef and cabbage, fried shrimp, minute steak, chili con carne. Snack bar - Soup, ham and egg sandwich, hot corned beef, French fries.

Tuesday - Cream of mushroom soup, pot roast, stuffed flounder, sauteed chicken livers, tamale pie. Snack bar - Soup, hamburgers, roast beef, French fries.

Wednesday - Tomato-rice soup, beef stroganoff, chicken pan pie, broiled fish, frankfurters. Snack bar - Soup, hot dogs, Lou's satellite special, German potato cakes.

Thursday - Vegetable-beef soup, grilled rib eye steak, fried chicken, stuffed pepper, baked hash. Snack bar - Soup, barbecued pork, steak sandwich, French fries.

Friday - Chicken gumbo, roast beef, seafood Newburg, liver and onions, fish cakes. Snack bar - Soup, fish, roast beef, French fries.
QUESTIONS AND ANSWERS

Q. When making a check payment to the NASA Employees' Benefit Association, would it be helpful to send along the Premium Notice (IBM card)? Why not say so on the card?

A. The cashier has no need for the premium notice card at the time of obtaining a check payment. The member's name is on the check, and the cashier maintains an alphabetical listing to which she makes reference to record the payment. Many members like to keep their premium notice card and indicate their check number and date to retain it with their policy for reference to the payment.

Q. Since the NASA Exchange is a non-profit organization, and the only major overhead items are food and labor, why isn't a meal in the NASA Cafeterias substantially lower in price than one in a profit making public restaurant?

A. Prices are lower than in local public restaurants for comparable meals. Public restaurants in this area also serve an evening meal which is their largest profit producer. The LRC cafeterias serve a small volume of breakfasts and a lunch -- but no large evening trade is served. The Federal minimum wage rates, which apply to NASA cafeteria employees, are not imposed on local public restaurants -- this is another overhead cost which makes it impossible to serve food at prices lower than those now charged.

Q. The parking lot at Stratton Road between Moffett Road and Durand Road has, for much, much, too long, had a large hole in it near the Moffett Road exit. Will it ever be repaired?

A. A Form 69 was submitted July 13 to the Facility and Plant Planning Group to repair this hole. The Construction and Repair Unit is in the process of procuring "cold patch" material and will repair the hole as soon as the material is received. (Editor's Note: The Facility and Plant Planning Group was unaware that this hole existed until their attention was called to it. Often, it is easier to voice our complaints than it is to seek constructive solutions to the problems.)
V/STOL AIRCRAFT: An Air National Guard Unit transported a P-1127 V/STOL aircraft from Edwards Air Force Base to Langley Research Center on July 29. The aircraft was disassembled and the fuselage was carried in a C-124 Globemaster and the wing in a C-130 Hercules. The aircraft was designed and built by Hawker Siddeley Aviation, Ltd., of England. The USAF concluded a test program at Edwards Air Force Base on the aircraft in 1968 and is giving it to NASA to support Langley's flight tests now being conducted with another P-1127 which has been in operation at Langley and Wallops Station since mid-1967.

KILGORE NAMED TO NEW POST

Edwin C. Kilgore, Deputy Chief of the Office of Engineering and Technical Services, has been appointed Deputy Associate Administrator (Management) in NASA's Office of Advanced Research and Technology (OART). He will report to Oran W. Nicks, Acting Associate Administrator for Advanced Research and Technology.

Kilgore will exercise administrative direction over all OART operations with respect to four NASA field centers that are oriented toward advanced research. His responsibilities emphasize institutional management functions such as budget, manpower, facilities, safety and computer acquisition planning, and the management of procurement, personnel, and financial matters.

Kilgore, a native of Coeburn, Virginia, joined the Langley staff in 1944 after receiving a B.S. degree in Mechanical Engineering from Virginia Polytechnic Institute.

As Chief of the Flight Vehicles and Systems Division from May 1962 to 1968, he directed the engineering, design and development of multistage rocket vehicles in spacecra. Kilgore has had a key role in numerous Langley space flight projects, including the highly successful Lunar Orbiter program that paved the way to man's first step on the moon by providing advanced photographic coverage of possible landing sites.

DR. THOMAS O. PAINE ANNOUNCES RESIGNATION AS NASA DIRECTOR

Dr. Thomas O. Paine submitted his resignation July 28 as Administrator of the National Aeronautics and Space Administration and was hailed by President Nixon for his role in space exploration.

It was while Dr. Paine headed the NASA that man for the first time orbited the moon and walked on its surface.

President Nixon accepted Dr. Paine's resignation, effective September 15. No successor has been named.

Dr. Paine joined the space agency January 31, 1968 as Deputy Administrator and became Acting Administrator in October that year on the retirement of James E. Webb. Paine was named Administrator March 5 last year.

Dr. Paine, 49, is returning to General Electric Company which he left to join the space agency. A native of Berkeley, California, Dr. Paine previously had worked for the General Electric Company in Santa Barbara, California, and for five years headed the company's "Think Tank," the Center for Advanced Studies and a long-range planning group. Paine joined GE as a research associate at the Schenectady, N.Y., laboratory in 1949.

Dr. Paine was graduated from Brown University in engineering in 1942 and served on submarines in the Pacific during World War II.

After the war he took master's and doctor's degrees in physical metallurgy at Stanford University and was a research associate at Stanford from 1947 to 1949 where he conducted studies in high-temperature-alloy liquid metals.

LEAVES NASA: Dr. Thomas O. Paine, NASA Administrator, has submitted his resignation as head of the space agency effective September 15. He is shown here during one of his recent visits to Langley Research Center.
HAPPENINGS

NEWLYWEDS... Wedding bells rang last Sunday when Patricia Lowery, Public Affairs Office, and Reginald Tucker, Poquoson, took their final vows at Emmaus Baptist Church in Poquoson.

NOTE OF THANKS... Arrietta Pease, who retired recently from the Telephone Office after almost 24 years of Federal service, wishes to thank her many friends and co-workers for the retirement party and the lovely gifts. Arrietta has many friends at the Center and those who do not know her personally are probably familiar with the voice that asked, "May I help you, please?"

DIAPER LINE... Weighing in at seven pounds, eight ounces on July 24 was Robert V. II, son of Robert V. Garletts, Research Support Division. Celebrating the birth of a six-pound daughter, Kimberly Susan, is Albert Stacey Jr., Fabrication Division. Announcing the birth of a seven-pound, eleven-ounce daughter, Victoria Androniki, on July 27 is Andronicos Kantios, Instrument Research Division.

TOUCH FOOTBALL... The NASA Touch Football League is now being organized. Anyone wanting to enter a team or looking for a team to play with should call Charlie Werner, 3089. Games will be played at Kecoughtan High School on Saturday mornings.

THANKS STAFF... Frank Penland, Training Office, wishes to thank the apprentices, apprentice alumni, and members of the Training Office and Personnel Division for the flowers received at the recent death of his father, James A. Penland.

PROFESSOR TO VISIT... Dr. Thomas L. Reynolds, Head of the Department of Mathematics at the College of William and Mary, will visit the Center on Thursday, August 13, to discuss the graduate program in mathematics and to answer questions on the new program in applied science. A general meeting will be held in Room 125, Building 587 at 2 p.m. All interested staff members are invited to attend.

BON VOYAGE: S. Walter Hixon, Head of Training Branch, Personnel Division, left the Center last Friday after 32 years of Federal service to accept an appointment at NASA Headquarters. His friends and co-workers gathered in the Activities Building to wish him good luck. In the upper left photo Langley Director Edgar M. Roomague gives Hixon some tips on the operations at Headquarters. Hixon's two Girls Friday at Langley were (upper right) Joan Harris and Mary Lemke. At lower left Mrs. Hixon (left) chats with Nellie Medaris and John L. Hudson. At lower right Hixon inspects his new shot gun. There seems to be a safety message here and either Hixon or Dr. John E. Duberg, Associate Director, believes in living dangerously. The accessory after the fact is Pat Clark who seems to be out of firing range.

RETIREES HONORED: Research Support Division recently honored two of their staff members who retired from Federal service. In the top left photo Howard P. Cole (left) and William T. Parker (right), honorés, pose with William J. O'Sullivan, AMPD, who has also retired. At top right the guests chat with Nell Quinn (left) and Janice Grow. There was plenty of food for all (lower left). Presenting gifts (center) to the retirees are Earl Gerringer (left) and Dwight McSmith. Going through the chow line with Cole and Parker is Dr. George Sands, who is transferring from Applied Materials and Physics Division to Viking Project Office.

TENNIS TEAM... In a match played July 25 the Fort Eustis Tennis Team defeated the NASA Tennis Team 8-1. The results of the matches were as follows: Singles - Bruce Hanna (Continued on page 6)
MOON SHOW OPENING: Astronaut Donn F. Eisele, who is assigned to Langley's Space Systems Research Division, snipped a mylar ribbon on July 25 to open the Nature Museum's salute to the moon flight program. Looking on are (from left): Robert Beck, First Vice President of the Board of Trustees of the Museum, and Brad Hawkins, Executive Director of the Museum. Eisele was Command Module Pilot aboard the Apollo 7 mission.

VACUUM BOTTLE POTENTIAL BOMB

Because of the way vacuum bottles are made, those with glass linings can be dangerous. If the lining is broken, glass splinters may be hurled with explosive force through the neck of the bottle. Wide-mouth bottles are particularly hazardous. The wide-mouth permits the insertion of spoons or other metal utensils which may strike and break the lining.

In one such widely reported incident, flying glass struck the user in the face and eyes. His sight was probably saved only because he was wearing safety glasses at the time.

Plastic lined vacuum bottles now on the market are a far safer buy. However, if you can't find this type, or otherwise must use one with a glass lining, there are precautions which you can take to reduce the risk of injury.

First, avoid subjecting the bottle to such sudden extreme temperature changes as will occur from pouring hot liquids into a cold bottle, or ice cold liquids into a warm one. Gradually warm or cool the bottle first, as the case may be, by placing it under a running tap and slowly increasing or decreasing the water temperature.

Instead of scooping out the contents of a wide-mouthed bottle with any kind of utensil, pour them out. And, always handle a vacuum bottle with the same care that you would a lightly packaged light bulb.

A HUSBAND who is busy as a bee may wake up to find his honey missing.

A GIRDLE is an uncomfortable item that makes women look uncomfortable.

AN OUNCE of parent is worth a pound of probation officer.

MINI-CARNIVAL PLANNED AUGUST 29

Herb Boulter, General Coordinator, announced that final plans are being made for the Activities Association's Mini-Carnival, which will be held on the Activities grounds on Saturday, August 29. This will be in lieu of the large two-day carnival which the group has sponsored for the past three years.

According to future plans, the carnivals will be operated on a two-year basis with the large full scale affair held every two years and the one-day mini-carnival held on alternate years.

The grounds will open at noon on carnival day and children's and adult activities will start at 1 p.m. Food and drinks will be served during the time the mid-way is open.

Eight booths and three rides will be set up on the grounds for ages 6 to 60. Other adult games will be held on the side porch of the Activities Building.

Some special entertainment will be presented during the afternoon. Further details will be announced later.

The children's activities will close at 8 p.m. and adult activities will close with a dance from 8:30 to 12:30. No admission will be charged for the dance.

Boulter has appointed chairmen of the various committees involved in operating the carnival. Volunteer workers are needed in all areas and persons interested in helping are requested to contact one of the following chairmen:

Linda Tribeck, Fiscal Chairman, 2058; Bob Satterthwaite, Adult Activities, 2675; Jeanette George, Children's Activities, 3518; Billy Beasley, Grounds and Safety, 2826; Bruce Amole, Food and Drink, 2185; Jackie Miller, Entertainment, 2948; and Sandra Chaney, Publicity, 3337.

CREDIT UNION CONDUCTS AUDIT

As part of the annual audit of the Langley Federal Credit Union, the Supervisory Committee has mailed statements of share and loan accounts to all members. Those who have not received statements by this time are requested to notify the Chairman, Supervisory Committee, Box 607, Langley Air Force Base, Virginia 23365.

Members are requested to examine and compare these statements with their records and report any differences promptly to the Supervisory Committee at the above address. Please note that the date of the statement is June 30. Transactions after June 30 do not appear on the statement. They will be reflected on the next semi-annual statement which will be issued as of December 31.
ACHIEVEMENT AWARDS PRESENTED

Twelve staff members, pictured at left with their supervisors, recently received Special Achievement Awards under the Incentive Awards Program.

The recipients and their citations are as follows:
Albert L. Braslow, Space Vehicle Design Criteria Office, $350 "for his sustained superior performance and significant contributions in effectively managing the development of space vehicle design criteria in the areas of aerothermal heating, shell buckling, and slosh."

Robert R. Howell, Structures Research, $350 "for his sustained superior performance and superior contributions and leadership in the development of test requirements and facilities for structures and thermal protection systems of hypersonic airplanes and space shuttle."

James D. Church, Research Models and Facilities, $350 "for his sustained superior performance in managing the operations of the Lunar Landing Research Facility through conversion from research operations to training operations for Apollo astronauts; and for improving operating procedures and directing the upgrading of the flight simulation system, which greatly increased the flight efficiency without interference with the scheduled astronaut training."

Robert D. Smith, Viking Project Office, $350 "for his sustained superior performance and outstanding contribution to the Viking mission in analyzing and recommending a more reliable sterilizable battery, for significantly improving the power system design, and for successfully formulating and negotiating the basis NASA/AEC Viking agreements."

Frederick R. Morrell, Flight Instrumentation, $300 "for his sustained superior performance in directing the modification of the Langley Research Center telescope equipment and coordinating the coronal polarization experiment carried out during the recent total eclipse of March 7, 1970, and for developing the tracking procedures which resulted in providing very high quality data during the ninety seconds of totality available at this site."

Linda H. Boone, Instrument Research, $150 "for her sustained superior performance in accomplishing her assignments in the Electro-Optical Instrumentation Branch of Instrument Research Division, and specifically for her contributions in relieving the branch secretary of a number of office management duties."

Edwin J. Prior, Applied Materials and Physics, $300 "for his sustained superior performance in making an outstanding analysis of the orbital motion of inflatable balloon satellites which has provided new insight into the properties of the space environment and its effects on satellite orbits."

Phillip M. Davidson, Fabrication, $200 "for his sustained superior performance in efficient and accelerated precision fabrication of force measuring instruments."

James A. Mullins, Applied Materials and Physics, $300 "for his sustained superior performance in making outstanding contributions to the knowledge, understanding, and methods of analysis of earth satellite atmospheric drag data."

William E. Robbins, Fabrication, $200 "for his sustained superior performance in efficient and accelerated precision fabrication of force measuring instruments."

Earle K. Huckins III, Applied Materials and Physics, $250 "for his sustained superior performance in rendering new techniques and original methods of attack to problems in the field of decelerator deployment dynamics."

Charles D. Bailey, Fabrication, $200 "for sustained superior performance in his efficient planning and execution during development and fabrication of the intricate and highly complex arc accelerator and transition nozzle for use in an arch-heated wind tunnel."

DANGEROUS WHIRLPOOL: This tornado-like disturbance was made during investigations by NASA into a phenomenon known as the trailing vortex. Created by the aerodynamics of aircraft, this turbulence is hazardous to airplanes following it, especially during landing and takeoff. This photograph was taken at the Marshall Space Flight Center. Colored smoke was released from the tower in calm wind, and the tornado effect resulted when a jet aircraft flew through it.

EMPLOYEES GUARANTEED RIGHT TO VISIT PERSONNEL OFFICE

Any Center employee has the right to communicate with personnel officials, the equal employment opportunity officer or counselor, and supervisory or management officials of higher rank than his immediate supervisor.

When an employee wishes to visit the personnel office or talk with any of the management personnel, he should ask his immediate supervisor to indicate a convenient time which would not disrupt the work schedule unduly, but the employee is not required to explain his reasons for wishing to talk to any of the officials listed.

Additionally, an employee has the right to file a complaint, a grievance, or an appeal under the procedures of NASA or the Civil Service Commission without interference or threat of reprisal. An employee acting in an official capacity for NASA shall not interfere with or attempt to interfere with the filing of such a complaint, grievance, or appeal, or take or threaten to take any act of reprisal (including but not limited to discharge or other disciplinary action, denial of promotion, or adverse performance evaluation) against an employee because he has filed, or expressed an intention to file, a complaint, a grievance, or an appeal.

It is not enough for supervisors to abstain from overt acts or threats of interference; they should refrain from making any statement or taking any action that has the flavor of a threat, interference, or intimidation.
**HAPPENINGS**

(Continued from page 2)

over Jim Mueller (NASA) 6-0, 6-0. Bob Murray over R. Marshburn (FE) 3-6, 6-4, 6-1; B. Nelson over E. Goyette (NASA) 9-7, 6-2; R. Lander over F. Nicholson (NASA) 1-6, 7-5, 6-1; J. Ball over T. Bright (NASA) 7-9, 6-3, 7-5; and N. Willemsen over H. Mahanes (NASA) 6-2, 6-3. Doubles - Hanna-Nelson over Muller-Goyette 6-3, 6-2; Willemsen-Mathers over Nicholson-Bright 6-1, 6-2; and Goble-Henning over Mahones-Horne 6-2, 6-4.

GOLF TOURNEY...The NASA Golf Team defeated the Navy Yard 25-1/2to 16-1/2ina match played July 29 at the Langley Golf Course. Low gross winners were Dave McDougall with 78 and Bill Lassiter and Bob Turner with 79 each. Low net winners were John Oakley with 66, Bill McMillan with 68, and Ken Test with 69.

NAGS. . . The local branch of the National Association of Government Secretaries will meet August 13 at 6:30 p.m. at the Ramada Inn, Route 17, Newport News. This will be a get acquainted night. If you are a GS-4 or above, you are invited to become a member. For reservations contact Gloria Alto, 595-0997, or Bernice Barrack, 838-1660.

COIN CLUB. . . The Langley Research Center Coin Club will meet on Thursday, August 13 at 7:30 p.m. at the Activities Building. The program will include a business discussion and a demonstration of the club's newly acquired metal locator. The raffle will be a multiple drawing of items worth a total of $15 and a children's drawing will be held for lots of B.U. Lincoln cents. Guests are invited.

**TECHNOLOGY UTILIZATION NEWS**

"Anything worth doing at all is worth doing well" is an adage which has never been more appropriate than in our modern space-age. Manned space flight programs such as Apollo, for example, have established new standards of excellence in the manufacture and assembly of the countless items which make up the total vehicle. Each tiny part or component must perform its assigned function flawlessly to insure the success of the mission.

These unprecedented standards of quality control and reliability which have been instilled into the numerous industries supplying these items represent one of the most important benefits of our space program.

The American consumer is the ultimate winner with new and improved products which not only function more reliably but yield a longer service life. The public has learned to expect and demand better quality and performance in merchandise of all kinds through NASA's leadership in the all-important factors of quality control and reliability.

**CAFETERIA MENU**

The following menu will be served in the cafeterias during the week of August 10:

- **Monday** - Cream of celery soup, braised lamb Shank and vegetables, grilled smoked ham, meat loaf, broiled pork, luncheon meat. Snack bar - Soup, hamburger, smoked ham.
- **Tuesday** - Puree of bean soup, grilled pork chops, chuck-wagon steak, ham and macaroni loaf, franks and beans. Snack bar - Soup, hot dog, chuckwagon steak, French fries.
- **Wednesday** - Chicken-vegetable soup, chicken and dumplings, Polish sausage, stuffed pepper, Austrian ravioli. Snack bar - Soup, ham and egg, hot pastrami, German potto cakes.
- **Thursday** - Tomato-riose soup, hot turkey sandwich, broiled halibut steak, spaghetti and meat sauce, western omelette. Snack bar - Soup, barbecued pork, hot turkey sandwich.
- **Friday** - Manhattan clam chowder, Spanish pot roast, stuffed flounder, minute steak, beef ravioli. Snack bar - Soup, fish sandwich, steak sandwich, French fries.

The menu for the week of August 17 is as follows:

- **Monday** - Egg drop soup, roast beef, creamed dried beef, chicken chop suey, cheese omelette. Snack bar - Soup, roast beef, cheeseburger, French fries.
- **Tuesday** - French-onion soup, barbecued spareribs, liver and onions, knockwurst, fish cakes, deviled crab. Snack bar - Soup, sea dog, hot corned beef.
- **Wednesday** - Chicken-noodle soup, chopped steak, fried chicken, stuffed pepper, chili con carne. Snack bar - Soup, hamburger, Lou's satellite special, French fries.
- **Thursday** - Cream of mushroom soup, country-style steak, beef pan pie, fried fish, franks and sauerkraut. Snack bar - Soup, hot dog, steak, French fries.
- **Friday** - Vegetable-beef soup, pot roast of beef, chicken pie, broiled halibut steak, baked hash. Snack bar - Soup, fish, hot roast beef.

**RETIRREE:** Charles Cromlee, who retired after 34 years of Government service, was honored last week by his many NASA friends and co-workers at the Naval Ship Research and Development Center (NSRDC). Cromlee worked many years in Langley's Tank I and when it was turned over to NSRDC Charlie went with it. In the upper left photo Elmo Mottard, Acting Head of the High-Speed Phenomena Division (NSRDC), wishes Cromlee good luck during his retirement years. The guest (upper right) poses with his wife, Ruth. Members of Charlie's old NASA gang (lower left) are: Arthur Carter, Roland Olson, Norman Lang, Cromlee, Mottard, G. O. 'Pop' Lehman, and Alfred Tankersley. Rosemary Daube (lower right) presents a gift to the guest who is wearing the latest thing in head gear for the well dressed fisherman.
LANGLEY HOST: Langley Research Center was host last month for a meeting of the OART Senior Council. Attending were front row (from left): Paul Bickle, Director of Flight Research Center; Eugene J. Manganiello, Deputy Director of Lewis Research Center; Edgar M. Cortright, Langley Director; Neil Armstrong, Deputy Associate Administrator (Aeronautics), OART; Oran Nicks, Acting Associate Administrator, OART; Rear Admiral John E. Clark, Deputy Director, Jet Propulsion Laboratory; Milton Klein, Manager, AEC-NASA Space Nuclear Propulsion Office; and Charles W. Harper, Special Assistant to the Director for Interagency Affairs, Ames Research Center. Second row - David Dennis, representing OART Mission Analysis Division (NASA Headquarters) Office, Ames Research Center; Dr. Frank E. Goddard, Jet Propulsion Laboratory; Milton Ames, Director, Space Vehicles Division, NASA Headquarters; Dr. Hans Mark, Director of Ames Research Center; Dr. Hermann H. Kurzweg, Director, Research Division, NASA Headquarters; R. D. Ginter, Director, Special Programs Office, NASA Headquarters; Albert J. Evans, Director, Aeronautical Vehicles Division, NASA Headquarters; Robert W. Ziem, Chemical Propulsion Division, NASA Headquarters; Dr. Walton L. Jones, Director, Biotechnology and Human Resources Division, NASA Headquarters; Dr. Herman Wein­ner, Director of Science and Engineering, Marshall Space Flight Center; Frank Sullivan, Director, Electronics and Control Division, NASA Headquarters; Floyd Brandon, Programs and Resources Division, NASA Headquarters; Aleck C. Bond, Manned Spacecraft Center; and William H. Wood­ward, Director, Power and Electric Propulsion Division.

**Can You Solve This Problem?**

To help automate clinical laboratories, a secure means for patient/specimen identification is needed. The identification method sought must permit accurate and rapid means for marking and reading samples, many of which are processed in glass containers such as test tubes or petri dishes. Refer to USC-3. Contact the Technology Utilization Office, extension 3281, for the problem statement or if you have a contribution.

**CONGRATULATIONS**

The following persons are to be congratulated for their contributions of suggestions to the Technology Utilization Office toward the solution of biomedical and public sector problems: Blake Corson, John McFall, George Sands, M. H. Bertram, Bob Macklin, Mrs. David Caplan, Richard Pride, T. G. Campbell, Bruce Warburton, Paul Yeager, C. J. Shoemaker, Randall Chambers, Kennedy Rubert, Frank Farmer, Michael D. Williams, Robert M. Henry, G. Louis Smith, and Robert J. Platt Jr.

The suggestions have been forwarded to the problem originators for evaluation and implementation.

**EMPLOYEES DONATE BLOOD**

The Red Cross Bloodmobile visited the Center July 22 and staff members donated a total of 172 pints of blood.

Robert J. Guillotte and Jules M. Miller completed their quota for an eight-gallon pin and Joseph A. Siefring reached the seven-gallon mark. George H. Veneris was credited with six gallons and Robert W. Mulac reached the five-gallon mark.

Four-gallon donors included James Adams, Walter Bres­sette, William L. Chapin, and Herbert Cunningham. F. J. Hines and James G. Fowke were credited with three gallons. Two gallon donors were Herman Schuchert, Uriel Lovelace, Sam McAdams, Horace Jones, and Cecil Burcher.

One-gallon pins were presented to Wade Morris, Snowden Mills, Daniel Solomon, James Ferris, Don Ward, John J. Treier, and Glenn Gates.

Assisting during the visit were Dr. C. C. Tan and Dr. F. W. Gray.

The next Bloodmobile visit to the Center will be on Sept. 23. Persons interested in joining the blood program and who have not registered are requested to call East Dis­pensary, extension 2243.

**A POLITICIAN thinks of the next election; a statesman, of the next generation.** — James Freeman Clarke
PUTTING WORDS INTO PEOPLES' MOUTHS

WANTED:
Ride or driving combination from Northampton, Patrician Manor to W.A. on 7:30 shift. Gilliland, 3551.
Alternate driver from Dutch Village Apartments to W.A. on 7:30 shift. Sentell, 3532.
Home for two Beagle pups. Hayes, 838-6639.
Ride from Route 173 or Route 17, Grafton, to W.A. on 8 shift. Perrin, 2001 or 898-5122.

FOR RENT
Home in Marlbank; furnished or semi-furnished, all appliances, air conditioned - available September to June. McNulty, 898-5877.
3-bedroom brick rancher with den, fireplace, attached garage - Runnymede. Lambotte, 877-5816.

FOR SALE
Two acres cleared land in Poquoson. Martin, 868-9619.
1964 Plymouth station wagon, 8 cylinders, 9-passenger, auto. transmission - $400. Siefring, 826-2884.
1959 Plymouth Fury, 4-door, 8-cylinder. Miller, 595-0731.

QUESTIONS AND ANSWERS

Q. Do the cafeterias located in the East and West Areas utilize the available Government sources of supply, such as G.S.A., F.S.S. and the Veterans Administration supply depots for their dry substances - flour, sugar, coffee, canned vegetables, salt, dishes, glassware, trays, silverware, etc.? Substantial savings can be realized from these sources.
A. The cafeterias are non-appropriated fund activities, and, as such, are not permitted to utilize Government sources of supply such as G.S.A., F.S.S., etc.

Q. When a bond allotment is changed, why isn't it either initiated when it will work out to exact payment of bond or else pay employee over-payment so he will have use of his money?
A. When a bond allotment is changed, the employee is supposed to indicate on the allotment change the date that he desires the change to become effective. It is quite in order to indicate that date to be at the completion of the payment of the current bond. The Payroll Office is also willing to make a one-time special deduction in order to effect a change, and will have a bond of smaller denomination issued if desired. Payroll officials pointed out that they discourage refund of deductions made, inasmuch as this defeats the purpose of a bond savings program; however, where it is warranted, a refund will be made.

Q. Are the duties of an editorial committee described anywhere in greater detail than on the standard editorial copy cover sheet? Different management units seem to have disparate opinions about how far these duties go beyond assuring technical accuracy of a report.
A. There are no official documents that spell out the duties of the editorial committee more explicitly. However, the cover sheet mentions more than "technical accuracy." It requests the committee "to conduct a responsible technical editing" and to review the paper "thoroughly... for technical accuracy and suitability for publication." This broad responsibility includes not only technical accuracy but also technical sophistication, novelty, and merit as a contribution to the technical literature, in addition to appropriateness and clarity of the presentation (organization, text, tables, and figures).

18 cubic-foot Admiral frostless 2-door refrigerator - $150;
3-temperature Sears dryer - $65; Zenith black and white TV in cherry finished cabinet with stereo record player in bottom - $125. Mangum, 595-4525.
33-square-inch coffee table; inlaid green leather top telephone bench; 8 venetian blinds size 29 inches wide x 41 inches long. Henry, 596-7829 after 5 p.m.
1969 Chevrolet Impala, 4-door, air conditioning, power steering, 12,000 miles - $2500. Erickson, 838-0309.
RCA electric alarm clock radio - $5. Richardson, 723-5509.
Kawasaki 90 trail bike with extras - $300. Whitlock, 838-1591.
1968 Volkswagen sedan. Watson, 595-3121 after 5 p.m.
16-foot Tri-Hull Renken with 60 hp electric start Johnson and Fleet Captain trailer. Montgomery, 723-4673.
**JESS G. ROSS HEADS CENTER'S COMBINED FEDERAL CAMPAIGN**

Jess G. Ross, Assistant Chief of Administrative Services Division, has been named chairman of the Center's Combined Federal Campaign, it was announced by Edgar M. Cortright, Director. This will be the third combined campaign conducted at the Center and it will include the Peninsula United Fund organizations, the national health agencies, and the international service agencies. Last year staff members contributed a total of $123,000 to the effort.

A kick-off meeting will be held on September 22 in the Activities Building. The one-day intensive drive will be held on Tuesday, September 29.

Ross graduated from Woodrow Wilson High School in Portsmouth and received his B.A. degree in Business from George Washington University. He served with the Navy in the Southeast Pacific during World War II and was recalled to active duty during the Korean conflict. He currently holds the rank of captain in the Naval Reserves.

Ross joined the Center staff in 1959 and was appointed to his present position in 1966. He is on the board of directors of the Peninsula Heart Association, the Virginia Heart Association, and the Newport News Office of Equal Opportunity.

**NASA-NIGHT SET FOR TWO DATES**

NASA-Night will be observed on two consecutive days - Monday, August 31, and Tuesday, September 1 - at the Peninsula Memorial Stadium.

On Monday the Peninsula Astros (farm team of the Philadelphia Phillies) will play host to the Lynchburg Twins (farm team of the Minnesota Twins) for a double header. All NASA employees, contractors, and members of their families will be admitted for 75 cents by showing their identification badge at the box office. Children will be admitted free when accompanied by an adult. Opening ceremonies will start at 6:15 p.m.

On Tuesday night the Astros will again play host to Lynchburg for a double header at 6:30 p.m. The Activities Association will present awards to winners in various sporting events at the Center. Admission will be on the same basis as for the Monday game.

Make plans to attend both nights. For further information contact Bob Satterthwaite, 2675.

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**DOUBLE LAUNCH SCHEDULED TODAY ON SCOUT VEHICLE**

The Orbiting Frog Otolith (OFO) is one of two spacecraft to be launched on a single Scout vehicle by NASA from Wallops Station. As of press time Wednesday, launch time was 1:06 p.m. today.

Also on board the solid-propellant Scout will be the Radiation Meteroid (RM) spacecraft to demonstrate and evaluate improved instrumentation and to gather near-Earth data of scientific interest.

Two male bullfrogs (Rana Catesbiana) will be monitored in OFO for about five days alternately in the weightlessness of space and during periods of partial gravity created by spinning them up to 50 revolutions per minute, producing a one-half g acceleration condition.

Through microelectrodes surgically implanted in the vestibular (inner ear) nerves leading from sensor cells in the otoliths of the bullfrogs, scientists will be able to study for the first time the electrical response of the otolith sensors during hours of weightlessness.

Data from the five-day experiment will provide information about the adaptability of the vestibule in the inner ear (which controls balance) to a sustained weightless environment as well as its response to acceleration.

**MINI-CARNIVAL PLANNED AUGUST 29**

Final plans have been made for the Activities Association's Mini-Carnival which will be held Saturday, August 29 on the Activities grounds. The grounds will open at noon and activities will start at 1 p.m.

Eight booths and three rides will be set up on the grounds for ages 6 to 60. Other adult games will be held on the side porch of the Activities Building. Food and drinks will be served during the time the midway is open.

Drawings for ground prizes will be held every hour and the winner must be present.

A rock and roll concert will be held from 2 to 4 p.m. featuring The Five O'clock Shadow. Children's activities will close at 8 p.m. Adult activities will close with a dance from 8:30 to 12:30 and music will be furnished by the Progressions. No admission will be charged for the dance.

Herb Boulter, general coordinator for the carnival, has appointed chairmen of the various committees involved in operating the carnival. Volunteer workers are needed in all areas and persons interested in helping are requested to contact one of the following chairmen:

- Linda Tribeck, Fiscal, 2058; Bob Satterthwaite, adult activities, 2657; Jeanette George, children's activities, 3518; Billy Beasley, grounds and safety, 2826; Bruce Amole, food and drink, 2183; Jackie Miller, entertainment, 2948; and Sandra Chaney, publicity, 3337.
HAPPENINGS

BABY DERBY...Joe Brown, an employee of Computing Software who is assigned to the Center's Data Reduction Section, walked away with top honors in the baby derby when he became the proud father of triplets on August 11. The two boys and their sister have been named Dustan Lyn, Quint Patrick, and Brandi Jo. They ranged in weight from three pounds, eleven ounces to four pounds, four ounces. . . Word has reached the Center that Christine Darden, Aero-Physics, recently became the mother of a seven-pound, fourteen-ounce daughter, Janet Christine. . . Celebrating the arrival of a six-pound, nine-ounce son, Christopher Matthew, on August 5 is John J. Rehder, Space Systems Research.

TENPIN LEAGUE...The NASA Tenpin League will hold an organizational meeting on August 25 at 6:30 p.m. at Century Lanes. All teams are requested to have a representative present and those interested in bowling but who do not have a team are also requested to attend. For further information call Sandi Satterthwaite, 851-6717.

AFGE MEETING...The NASA Lodge 2755 American Federation of Government Employees will meet on Wednesday, August 26 at 7:30 p.m. at the Central Labor Union Hall.

NOTE OF THANKS...Ernest D. Lounsberry, who retired on July 24 after 25 years of service, wishes to thank his many friends and co-workers for their kindness and thoughtfulness during the years and especially for his retirement party and many lovely and useful gifts.

PROFESSOR TO VISIT...Dr. Halbert F. Brinson, Department of Engineering Mechanics, Virginia Polytechnic Institute, will visit the Center on Friday, August 28, to discuss the VPI graduate program in Engineering Mechanics. Employees interested in an interview with Dr. Brinson should call the Training Office, 2517, for an appointment.

DUCKPIN LEAGUE...The NASA Duckpin League will hold an organizational meeting on Monday, August 24 at 4 p.m. in the Activities Building. Interested persons are requested to attend. For further information call John Moore, 2346.

HEALTH BENEFITS PLANS...Subscribers to the Federal Employees Health Benefits Plans are reminded that coverage for unmarried dependent children ceases at age 22.

BENEFICIARY CHANGES...Employees are reminded that whenever there is a change in family or marital status, the appropriate beneficiary changes should be made for insurance, retirement, and unpaid compensations.

Can You Solve This Problem?
The National Air Pollution Control Administration is in need of a portable, battery-operated carbon monoxide analyzer for use in emergency monitoring (explosion at chemical plants, pollution buildup on crowded freeways, traffic jams, under adverse temperature conditions, etc.). The concentration range of interest is from 10 to 50 ppm. Refer to AP-60. Contact the Technology Utilization Office, extension 3281, for the problem statement or if you have a contribution.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23685, 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.
TECHNOLOGY UTILIZATION NEWS

Most of Langley's creative engineers, technicians, and scientists have found Tech Briefs to be a very appropriate media outlet for the items of new technology they generate. In turn, the accumulated Tech Briefs from Langley and other NASA centers have proven to be an excellent source of useful new ideas to further our aerospace research mission.

As the name implies, a Tech Brief is a concise description of a new or improved device, technique, process, tool or material which may benefit others, particularly those in the non-aerospace industries. Such new knowledge must be made available to everyone who might use it if progress is to be made at a reasonable rate.

Tech Briefs are widely circulated and frequently are re-published in trade journals and magazines. Additional information about Tech Brief items is generally compiled into Technical Support Packages to answer the inquiries directed to Langley’s T. U. Office about the item. Some Tech Briefs are so simple, however, that they can be fully covered within the two-page Tech Brief format.

Most of us here at Langley are familiar with Tech Briefs and their purpose but fail to submit items of new technology because we consider these items to be too ordinary or mere components,'' Library File #539.7, K63, C.2. Bryant, 3535. This proves to be of increased importance.

To create an incentive for the submission of reportable items of new technology which can be readily piped to industry via Tech Briefs, an award of $25 is given initially to anyone whose name appears on a Tech Brief. Much higher awards are possible at later dates if the new technology proves to be of increased importance.

Contact the T.U. Office, 3281, for additional details.

SWAP AND SHOP

LOST


WANTED

Ride from Hampton to Washington, D.C., and back on weekends. Sreehari, 2614.

Driving combination from Woodmere area to E.A. on 8 shift. Page, 2614.

Additional driver from Seaford to W.A. on 8 shift. Childs, 3981 or 2491.

Youth bed or single bed. Lambiote, 877-5816.

High chair. Stainback, 596-6294.

Fifth driver from Williamsburg to W.A. on 8 shift. Witcofski, 229-2031.

Ride from Grafton, Seaford Road, or Route 17 to W.A. on 8 shift. Perrin, 2001 or 898-5122.

FOR RENT

Large efficiency apartment in East Hampton - $90 per month, all utilities included. Jones, 722-6685.

WILL TRADE

1967 Ford custom with standard transmission for station wagon with automatic transmission. Laney, 668-9995.

FOR SALE

72-inch rectangular pecan table with extra leaf and two captain's chairs. Wilson, 877-6347.

Registered Pointer puppies. James, 842-4109.

Parker 505, aluminum mast and boom, aluminum Travelight trailer, ready to race or sail - $1850. Shipp, 596-4192.

Alcort super sailfish. Shaughnessy, 595-2024.

OFO LAUNCH: The launch of the Orbiting Frog Otolith (OFO) experiment is scheduled for this afternoon from Wallops Station. The experiment involves placing two bullfrogs in a weightless environment for a period of several days. Immersed in water with microelectrodes attached test subjects (above) are monitored by research technicians in the wet laboratory. The experiment will be launched by Scout.

DOUBLE LAUNCH SCHEDULED

(Continued from page 1)

conducting both basic and applied research to determine how the vestibular organs of man function, both on Earth and in space.

The OFO and RM spacecraft, both 30 inches in diameter, will separate after achieving Earth orbit. Ames Research Center manages the OFO experiment package and the RM program is managed by Manned Spacecraft Center.

The Scout is managed by Langley Research Center. Participating in the program are: R. D. English, head of Scout Project Office; Larry R. Tant, payload coordinator; Lee R. Foster, head of operations; Clyde W. Winters, head of launch operations; R. D. Standlee, coordinator of launch operations (LTV); David M. Smith, mechanical technician; W. Bruce Dunn, alignment technician; Ralph P. Parks, electrical technician; W. Lee Sullivan, fluids technician; Charles Laird, electrical engineering; J. David Dearing, assistant launch operations engineer; and Thomas L. Owens, fluid controls engineer.

Coppertone GE electric stove with two ovens, removable oven door for easy cleaning and many extras - used 12 months - $175. Firman, 868-9583.

1965 Falcon station wagon - $525. Batterson, 596-9361.


1961 Falcon Futura. Harris, 898-6512.


SUGGESTION AWARD: Paul H. Wooddell (left), Instrument Research, has received one of the Center's largest cash awards for a suggestion under the Incentive Awards Program. He was awarded $855 for his suggestion relative to the use of the strain gage tension link approach in updating the Toledo scale system at the Full Scale Tunnel thus eliminating the need to purchase a new optical scanning system for readout. Making the presentation is Clifford H. Nelson, Assistant Director.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of August 24:

Monday - Cream of tomato soup, pepper steak, chicken pan fry, fried fish sticks, grilled cheese and bacon. Snack bar - Soup, grilled cheese and bacon, steak, French fries.
Tuesday - Consomme julienne, braised beef tips, fried shrimp, liver and onions, tamale pie. Snack bar - Soup, barbecued pork, flying saucer, French fries.
Wednesday - Puree of bean soup, veal cutlet, grilled pork steak, broiled fish, chilli-mac. Snack bar - Soup, hamburgers, veal cutlet, German potato cakes.
Thursday - Vegetable-beef soup, broiled slice of smoked ham, fried chicken, stuffed pepper, western omelette. Snack bar - Soup, ham and egg, Lou's satellite special, French fries.
Friday - Clam chowder, roast fresh ham, stuffed shrimp, minute steak, franks and sauerkraut. Snack bar - Soup, hot dogs, steak sandwich, French fries.

The menu for the week of August 31 is as follows:

Monday - Beef broth, Spanish pot roast, baked lasagna, Polish sausage, fish cakes. Snack bar - Soup, barbecued pork, roast beef, corn fritters.
Tuesday - French onion soup, corned beef and cabbage, stuffed flounder, minute steak, baked hash. Snack bar - Soup, foot long hot dog, hot corned beef, French fries.
Wednesday - Chicken gumbo, roast beef, grilled smoked ham, fried chicken, chili con carne. Snack bar - Soup, hamburgers, ham sandwich, German potato cakes.
Thursday - Vegetable-beef soup, grilled rib eye steak, roast pork, broiled fish, franks and beans. Snack bar - Soup, hot dogs, steak sandwich, French fries.
Friday - Split green pea soup, baked ham, shrimp Newburg, chicken chow mein, cheese omelette, deviled crab.

EMPLOYEES RECEIVE AWARDS

Twelve staff members, pictured at right with their supervisors, recently received cash awards for suggestions under the Incentive Awards Program.

The recipients and their suggestions are as follows:
Frederick H. Austin, Flight Mechanics and Technology - $215 for an in-house fabrication of a nozzle position test set for use on the T-38 airplane, which canceled the purchase of this equipment and assured more expedient trouble diagnosis and correction, thus increasing safety.
John Fryer Jr., Research Support - $30 for the design and construction of an improved method for handling delicate 35 mm short-wave radiation film during processing and developing.
A. Edgar Barker, Fabrication - $65 for the design of a Universal solder slinger jig to efficiently solder slings various sizes of printed circuit boards thus reducing the setup time.
Troy A. Wilson, Research Support - $55 for the design of a new aluminum seal tube connector block with a flexible air line for the 4- by 4-Foot Supersonic Pressure Tunnel which results in man-hour savings.
William F. Giannini, Procurement - $55 for a new, more direct and business-like method of handling invoices for purchased services and/or materials requiring approval by the Contracting Officer prior to effecting payment.
Robert M. Ely, Research Support - $35 for the permanent mounting of a sling or snap fixture to compress gas cylinder dollys for ease and safety in handling.
Charles A. Rawls, Research Support - $50 for an improved method of thermocouple calibration and test-section work.
Carl W. Kruse, Fabrication - $50 for an in-house fabrication of a nozzle position test set for use on the tethered balloon test.
Gerald C. Purgold, Applied Materials and Physics - $25 for an improved scanivalve box which reduces the time involved in changing and correcting, thus increasing safety.
William J. Irick, Flight Vehicles and Systems - $25 for anodizing the case and the mounting fixtures of underwater sound source units to prevent corrosion.
Charles A. Rawls, Research Support - $40 for the construction of metal oil drum covers which will protect the new oil from accidental contamination.
Moody J. Firman, Research Support - $45 for the design of an improved scavenger box which reduces the time involved in hooking up scavenger tests.

STAFF MEMBERS RETIRE FROM CENTER

Staff members who retired recently but who did not have photographs taken are:
Howard D. Cole, Research Support Division
Walter J. Doneson, Research Support Division
Edwin W. Watson, Fabrication Division
Nadine C. Kemper, Applied Materials and Physics Division
William T. Parker, Research Support Division
Ray H. Wright, Full Scale Research Division
Marcus Savage, Research Support Division
Beverly P. Latimer, Analysis and Computation Division
Ollie W. Lawson, Instrument Research Division

Egotism is the anesthetic that dulls the pain of stupidity.

A man without principles is dangerous; principles, without a man, are useless.
LANGLEYLITE OF THE MONTH

MODEL COLLECTOR: James A. Dorst, Procurement Division, is shown with a few samples from his unusual collection of aircraft recognition models.

James A. Dorst, Procurement Agent in the Purchasing and Construction Contracting Branch, Procurement Division, is one of a relatively small number of collectors of aircraft recognition models. He is also an avid model aircraft builder, specializing in scale models. He is, as are a number of other Center employees, a member of the Tidewater Chapter of the International Plastic Modellers Society.

Besides constructing models, Dorst has developed an interest in collecting, restoring, and preserving recognition models. These models represent two significant factors. First, they are of great historical significance and secondly, they were the forerunners of the present day plastic aircraft models so familiar to the public.

Dorst pointed out that when war was declared in Europe in 1939, there was a need for a program of aircraft recognition for allied flying personnel and crews manning anti-aircraft defenses. This recognition training was necessary so that combat personnel could distinguish between friendly and hostile aircraft.

As combat speeds for fighter aircraft of this period (1941-45) were in the 400 mph range, instant recognition became even more of a necessity.

It was found that by the injection molding process utilizing various plastics and cellulose acetates, an accurate model could be manufactured in large quantities. The U.S. Government and her allies used these models in substantial quantities.

When the war ended in 1945, the program lay dormant for several years until 1948 when the cold war began to increase in intensity. The program continued until 1961. By that time, sophisticated electronic airborne aids had relegated the need for visual identification to an insignificant factor.

Of the approximately 450 types of recognition models known to have been issued, Dorst now has in excess of 320. These models, which are considered collectors items, represent many unique and exotic aircraft which probably will never be manufactured in kit form. There are known to be about 100 private collectors in the world, as well as those in such facilities as the Smithsonian Institution, Wright-Patterson Air Force Base, and Ontario Air Museum.

Dorst, who has the largest collection on the East Coast, said that many models are received in very bad condition and many hours of work are required to restore them to mint condition.

He has written many articles on this phase of aviation history and he maintains liaison with many museums. He has also donated a few unusual models to the Smithsonian.

A native New Yorker, Dorst served in the Air Force from 1951 to 1955. Part of his service time was spent at Langley so when he received his discharge he joined the civilian staff at Langley. He transferred to NASA in 1959.

UNDERGRADUATE COURSES OFFERED

Officials of the Training Branch have made arrangements with directors of extensions from the College of William and Mary and Old Dominion University to offer courses for the fall semester provided a sufficient number of students enroll.

Old Dominion is offering a three-semester-hour course in Thermodynamic I - Engineering 301. Prerequisites are Physics and Differential Equations. The content of this course will include a classical presentation of the study of energy and energy transformations, the first and second laws applied to systems and control volumes, thermodynamic properties of systems, systems undergoing processes, and availability of energy are the major topics covered.

Dr. Edward G. Keshock will teach the class on Mondays and Wednesdays from 3 to 4:30 p.m.

Professor P. Stephen Barna will teach a one credit laboratory course in Thermodynamics and Fluids - Engineering 391 at Old Dominion University. The class will meet on Thursday from 2:30 to 5:30 p.m.

The following William and Mary courses are offered:

Math 103 - Algebra and Trigonometry. An integrated study of the real number systems, sets, functions, graphs, equations and inequalities, systems of equations, matrices and determinants. This is followed by a study of the trigonometric functions and their properties. The class will meet in Building 1149, Room 201, on Mondays from 4:30 to 7:30 p.m. William C. Turner will be the instructor.

Math 201 - Calculus with Analytic Geometry. Inequalities, absolute values and analytics through conics will be covered. Sets, ordered pairs and functions leading to limits and derivatives of algebraic and transcendental functions including applications to maxima, minima, plane motion and law of the mean value will be included in the course. John G. Shearin will be the instructor and the course will be taught on Tuesdays in Building 1149, Room 201.

Math 202 - Calculus with Analytic Geometry. This course will include the Fundamental Theorem of Integral Calculus and their applications to the areas, volumes, work, first moments and centroids including improper integrals and study of revolution. Class will be held on Thursdays in Building 1149, Room 201, from 4:30 to 7:30 p.m. Instructor will be announced later.

Math 203 - Calculus with Analytic Geometry. This will include sequences and series of Taylor’s and Maclaurin’s series and convergence, solid analytic geometry and partial differentiation with applications, and L’Hospital’s Rule.

Application forms for enrolling are available in the Training Office, extension 2611. Approval of the supervisor and division chief is required before the applicant may enroll.
STAFF MEMBERS RETIRE FROM FEDERAL SERVICE
PUTTING WORDS INTO PEOPLES' MOUTHS

"You did say you are with PLAYBOY, INC.?"

CO-OOPS MAKE DEAN'S LIST

Several cooperative education students currently assigned to the Center received recognition from their respective schools for scholastic achievement during the previous study period.

Two students from Purdue University, Ed Lowder, assigned to Viking Project Office, and Richard Pelc, assigned to Space Systems Research Division, received Dean's List Distinction for the spring semester. Two Drexel University students, Frank Herzig, Applied Materials and Physics Division, and Ken Iobst, Flight Instrumentation Division, received high honors for the previous quarter.

Two University of South Florida students, Don Ehlenbeck, Aeronautical and Space Mechanics Division, and Larry Saunders, Applied Materials and Physics, made the Dean's List as did Joe Savage from Florida State University, currently assigned to Dynamic Loads Division. Bob Calloway, assigned to Flight Mechanics and Technology Division, received Dean's List honors with recognition at the University of Tennessee for the 1970 spring quarter.

In addition, five students from Virginia Polytechnic Institute earned Dean's List recognition. These students and their assignments are: Clifford Smith, Full Scale Research; Tom Judy, Structures Research; Brad Vaughan, Analysis and Computation; Christopher Dalton, Aero-Physics; and Robert Hallisy, Flight Instrumentation.

QUESTIONS AND ANSWERS

Q. Why does the Personnel Office send out Merit Promotion Vacancy Announcements? It is a known fact that some jobs are filled before the merit promotion announcements are sent out. For example, Merit Promotion Action No. 70-44 came out on July 27, 1970. The job was filled July 1, 1970.

A. Announcing Merit Promotion Opportunities is a requirement of the NASA Merit Promotion Plan. From the example cited, it is gathered that some confusion exists. Merit Promotion Action No. 70-32 which closed June 1, 1970, was for Payroll Supervisor, GS-7. The employee selected filled the job of Head, Payroll Office, effective July 1, 1970. The Merit Promotion Action No. 70-44, Payroll Supervisor, GS-6, was for the position of Assistant Head, Payroll Office. This announcement closed August 7, 1970, and selection was made after that date.

Q. Why is it that Langley's temporary employees cannot receive Quality Step Increases or any type of Langley award when they contribute so much and do as much of the work as regular employees?

A. Civil Service Commission regulations make quality increases available only to permanent General Schedule employees. Temporary employees are eligible to receive other types of Langley awards such as the Special Achievement Awards and the Suggestion Awards. Information about these awards is given in the Awards Program Handbook, LMI 3400.1, pages 3 and 6. If you have any further questions, call the Awards Program Office, extension 2214.

Q. Please explain how the Langley Federal Credit Union computes dividends on shares owned by Center employees.

A. During the year, share eligibility for dividend credit is adjusted automatically, after each transaction, in the memory stripe on the back of the ledger card involved. Then at year-end, the cards are read (using an updated dividend program) which posts the correct dividend and identifies it to the transaction code, DV. On a less technical level, (1) only whole shares - even $5's - are considered, (2) in by the 5th earns from the 1st, and (3) only shares held as of close of business on December 31 receive dividend credit. For instance, a member opens an account with $10.90 in shares on January 4, adds $5 on January 7, another $15 on July 3, another $5 on December 3, and withdraws $10 on December 15. He has $25.90 shares on December 31. He gets $25 credit for each of 6 months (December through July), $15 credit for 5 months (June through February), and $10 credit for 1 month (January). The sum of these credits is $235 in share dollars. Divide $235 (share dollars) by 12 (months), multiply by 5.25% (dividend rate) and you get $1.03 (actual dividend).

Q. What is the difference, if any, in Credit Union terminology between shares and savings?

A. None. While still frowning on the word deposits, the new Handbook for Federal Credit Union uses savings to clarify shares. For instance, "...purchase shares (the equivalent of establishing a savings account)...."

It is easier to suppress the first desire than to satisfy all that follow it.

--Franklin

Behind an able man there are always other able men.

He is not only idle who does nothing, but he is idle who might be better employed.

--Socrates
NASA WIN PRESIDENT’S AWARD; PAINE CONGRATULATES STAFF

Dr. Thomas O. Paine, NASA Administrator, recently transmitted a letter to all officials of NASA Headquarters and to Center Directors, expressing his appreciation for the safety program of the organization which was recognized in a most tangible manner by receipt of the President’s Safety Award.

Following is the text of Dr. Paine’s letter:

“It was indeed a pleasure for me to accept, on behalf of the National Aeronautics and Space Administration, the coveted President’s Safety Award for reduction of injuries to NASA employees over the past three calendar years.

“All of us in the Agency can take pride in this honor and achievement. NASA has earned this award in the face of the ever-present and peculiar hazards that are associated with the pioneering research operations of our aeronautical and space programs. It is noteworthy that we were in competition with thirty other Government agencies for this award.

“Safety is reflected in the successes that we of NASA have realized in our ventures in space. It is gratifying to realize that this award was based on achievements during the period of preparation for and completion of our first moon landings.

“Please convey to our personnel my appreciation for their effort to perform safely in every aspect of NASA’s endeavors. I would encourage safety awareness in future efforts and the same zeal for accomplishment while giving safety our paramount consideration.”

Edgar M. Cortright, Center Director, in commenting on the award stated that he shared Dr. Paine’s pleasure at the recognition which has come to NASA through receipt of the President’s Award, but he wanted to be certain that each member of the staff recognized safety as a continuing challenge in which each plays an important role.

For example, Cortright pointed out that currently the safety record at Langley Research Center is not as good as he

(Continued on page 3)

ASME GROUP TO HEAR MATTSON

Axel T. Mattson, Assistant Chief of Space Systems Research Division, will be guest speaker at a meeting of the Hampton Roads Chapter of the American Society for Metals on Monday, September 14 at the Diesel Injection Company, located at Brambleton Avenue and Tidewater Drive, Norfolk.

Mattson, who has been a member of the Langley staff since 1941 will speak on ‘‘The Space Station and Space Shuttle.’’ Mattson has made many significant research contributions during his nearly three decades of Langley service, and has been the recipient of many honors. He was one of a group of scientists cited in 1951 for helping make possible the development at Langley of the world’s first transonic wind tunnel.

The meeting will be preceded by a social period at 6:15 p.m., followed by dinner at 7 and the meeting at 8 o’clock.

ONE-DAY DRIVE PLANNED FOR COMBINED CAMPAIGN

Jess G. Ross, Chairman of the Center’s Combined Federal Campaign, announced that Tuesday, September 29 has been selected as the date for an intensive one-day drive at the Center.

This will be the third combined campaign conducted at the Center and it will include the Peninsula United Fund organizations, the national health agencies, and the international service agencies.

Last year staff members contributed a total of $123,000 to the effort.

Assisting Ross in the drive are the following: William B. Mayo, vice chairman; Eleanor Cole and Helen Willey, financial chairman; Elva Rollins, employees on travel; Peggy Lai, location of personnel; John Witherspoon, coops and graduate students; Edward A. Howe, fiscal advisor; Edward T. Maher, Charles F. Barnett, and Dennis J. Martin, general advisors; and Ruth Verell, publicity.

Division chiefs and project managers will serve as fund raising coordinators in their respective organizations.

QUESTIONNAIRES BEING TALLIED

An ‘‘Opinion Poll of Langley Researcher’’ was distributed to staff members with the August 21 edition of Langley Researcher and at press time on Wednesday, 756 questionnaires had been filled out and returned.

The Langley Researcher Advisory Committee is now in the process of tallying the results and a report will be made to the staff as soon as the tally has been completed.

Staff members who have not returned their questionnaires to the Langley Researcher Office are urged to do so as soon as possible. Persons who did not receive a questionnaire may obtain one from the Researcher Office, 3116.

MINI-CARNIVAL: The Activities Association held its first Mini-Carnival last Saturday on the Activities grounds. The midway provided entertainment for the young and not so young alike. Additional pictures are shown on page 3.
HAPPENINGS

COIN CLUB...The Langley Research Center Coin Club will meet on Thursday, September 10 at the Activities Building. Activities will include an ANA slide program on fractional currency and raffle of three different date uncirculated silver dollars, one un circulated Indian head cent, and three uncirculated Mercury dimes. The club’s metal locator may be used by NASA employees on the same rental basis as club members. Arrangements may be made with Ernie Ang lin, 3074. Anyone interested in car pools to go to the VNA in Richmond should contact Thayer Sheets.

GOLF NOTICE...Langley Center golfers are reminded to reserve October 1 for the fall golf tournament at the Langley Golf Course. Complete details will be announced later.

BLOODMOBILE...The next Bloodmobile visit to the Center will be on Wednesday, September 23. Additional donors are needed. Persons who have not registered to participate in the program and wish to do so are requested to call East Dispensary, 2243.

TELENOIWNERS...Ed Kilgore and Jack Butler won the NASA men’s doubles tournament by defeating Lou Shackelford and Ed Riddle 6-2, 6-2. In the semi-finals Kilgore and Butler defeated Norm Silsby and Earl Dunham 6-2, 6-0 and Shackelford and Riddle won over Dick Pincus and Bob Murray 6-3, 7-5.

BON VOYAGE...Bill Williams, Head of the Center’s Manpower Analysis Office, Personnel Division, has accepted the position of Director of Personnel at Ames Research Center. He will report to his new assignment early this month. Williams entered on duty at the Center in May, 1959. He has

REPORT FROM EUROPE: Ernie Greene, Langley Researcher’s foreign correspondent, has sent in the above pictures of Center employees who are enjoying a 22-day tour of Europe. The travelers left the Peninsula on August 18 and are expected to return September 8. The top photo shows the Langley group at a rest stop between Grenoble and Nice. Lower left - The White Cliffs of Dover furnish the backdrop for Jackie Baylor, and Louise and Oliver Anderson as they cross the English Channel. Lower right - Rudy and Elsie Olive pose in front of the Hotel du Louvre in Paris.

served as placement assistant; classification analyst; was appointed Classification Officer in 1964; was Executive Assistant to the Assistant Director for Administration; and was appointed to his position with the Manpower Analysis Office in December, 1969.

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 STAFF MEMBERS DIE

Sheldon Kopelson, Electrical Engineer in Read-Out Equipment Development Section, Analysis and Computation Division, died August 22 at the age of 41.

Kopelson was born January 25, 1929 in New York City. He received his B.S. degree in Electrical Engineering from City College of New York in 1948 and joined the Center staff on August 17, 1948.

He is survived by his widow, Mrs. Mary Sutton Kopelson; a son, David M. Kopelson; and two daughters, Carol S. Kopelson and Laura A. Kopelson.

Joseph N. Kotanchik, former Langley staff member and Chief of the Structures Mechanics Division, Manned Spacecraft Center, died Saturday August 22 when stricken with a heart attack.

A veteran of 32 years of government service, Kotanchik joined the Langley staff in October 1938 after receiving his B.S. degree in Aeronautical Engineering from Massachusetts Institute of Technology. He joined the Manned Spacecraft Center in 1961.

All of Kotanchik’s Langley service was with the Structures Research Division. Under his direction at Langley, much of the development of high temperature experimental research on quartz-tube-lamp radiant heating and electric-arc heating of gas streams was performed.

He is survived by his wife, Mrs. Mary Rehura Kotanchik, and two sons, James and Joseph.

APPRENTICE SCHOOL NOTICE

The fall semester of the Apprentice School will start on September 14 and classes will be held in Building 586 and at Thomas Nelson Community College. The Thomas Nelson classes will begin on September 26.

The courses and instructors are as follows:

Monday, Wednesday, and Friday - Communications 241, Preston Haines, Thomas Nelson College; Calculus 141, George Tyler, Thomas Nelson; and Tech. Physics III - Sue Lawrence, Thomas Nelson.


Tuesday and Thursday - Practical Industrial Electronics, Credric Miller, and Pulse and Switching Circuit, Ernest Edmonds.

MORE ON MINI-CARNIVAL: Bruce Amole (top left) tries his luck at the cork gun booth. John Hunt and family (top right) attended the one-day affair in full force. Jim Russell (lower left) joined in the festivities. Jackie Miller (lower right) pins a prize on one of the youngsters.

LIBRARY NOTICE

Many current requests for N70 documents from STAR are being delayed because the libraries’ response is based on the microfiche distributed by the headquarters administered Scientific and Technical Information Facility.

This distribution is running approximately six weeks late, and although headquarters is aware of the situation, it is uncertain how long it will take to correct the problem.

Some improvement may be noted by the end of September since a new source of microfiche for non-NASA documents (CFSTI) is being activated.
RECOGNITION PROGRAM: A youth recognition program was held at the Activities Building last month for Summer Aids and Neighborhood Youth Corps enrollees working at the Center this summer. T. Melvin Butler, Assistant Director for Administration, presented certificates and $25 checks to eight young employees who were recognized for their outstanding performance. Receiving the awards were (from left): Cynthia Morrissette, Merwin Jones, Linda Branch, Gwendolyn East, Butler, Ronald Crocker, Vanessa Davis, Charles Hilton, and Richard Brown.

YOUTH RECOGNITION PROGRAM HONORS EMPLOYEES

A youth recognition program was held August 18 in the Activities Building to pay tribute to the summer aids and Neighborhood Youth Corps enrollees working at the Center. T. Melvin Butler, Assistant Director for Administration, was master of ceremonies for the event and Dr. George W. Brooks, Assistant Director of Group 2, was principal speaker. Guests from the Virginia Employment Commission, the Newport News Office of Economic Opportunity, and the Hampton Community Action Agency were recognized.

Highlight of the program was the presentation of $25 awards to the four most outstanding Summer Aids and four most outstanding Neighborhood Youth Corps enrollees, and presentation of commemorative desk sets to the four runners-up in each group. The presentation of these awards and Outstanding Performance Award certificates was followed by refreshments furnished by the Activities Association.

Summer Aids receiving cash awards were Cynthia Morrissette, Stability and Performance Branch of FSRD; Merwin W. Jones, Spacecraft Research Branch of ASMD; G. Linda Branch, Office of Chief, ASMD; and Gwendolyn R. East, Classification and Organizational Branch, Personnel. Neighborhood Youth Corps enrollees receiving similar awards were Ronald Crocker, Research Operations Section E of RSD; Vanessa Davis, Security Branch of Personnel; Charles A. Hilton, Research Operations Section D of RSD; and Richard L. Brown, Mechanical Systems Support Section of Fabrication Division.

Summer Aids receiving commemorative desk sets were Linda D. Shields, Training and Educational Services Branch of Personnel; Phyllis J. Hayes, Structural Mechanics Branch of SBD; Patricia L. Tucker, Office of Public Affairs; and Janet Hixson, Budget Unit of Resources Programming and Control Office. Neighborhood Youth Corps enrollees receiving desk sets were Michael Stegall, Research Operations Section E of RSD; Karen Y. Samuels, Small Business Office of Procurement; Clifford Whitesides, Research Operations Section D of RSD; and Dwight E. Thomas, Administrative Support Branch of ASD.

RUNNER-UP AWARDS: Receiving Outstanding Performance Award certificates and commemorative desk sets were: Linda Shields, Phyllis Hayes, Patricia Tucker, Janet Hixson, Butler, Michael Stegall, Karen Samuels, Clifford Whitesides, and Dwight Thomas. Guest speaker for the event was Dr. George W. Brooks, Assistant Director of Group 2.
SOFTBALL CHAMPS: Misfits won the softball championship by defeating Viking in the regular season playoffs and by scoring a victory over ACD in the post season tournament. Members of the team are front row (from left): Cliff Smith, Gene Wagner, Joe Woolsey, Dave McColskey, Jim Taylor, team captain, Otto Youngbluth, and Marvin Burgess. Back row - Tom Judy, Bob Bryant, Sam Harper, Bob Beyma, Bob Huffman, Cecil Kirby, and Hugh Mahanes. Absent were Ed Daniels and Ted Bright. At right Jim Gardner, president of the softball league, presents the league trophy to Jim Taylor, captain of the Misfits. Assisting Gardner in running the league were Bruce Conway (left) and Joe Moorman.

MISFITS WIN CHAMPIONSHIP

The NASA 1970 Softball League provided the most exciting race for the championship in the past 15 years. With one week to play the Misfits, Viking, and Structures each had a shot at the regular season title. The regular season ended with the Misfits and Viking tied for first and Structures and ACD tied for third, only one game behind the leaders. The Misfits defeated Viking 7-3 in a playoff game to win the regular season championship. The post season tournament was also won by the Misfits who overpowered ACD 27-8 in the championship game. With a record of 15 wins and 3 losses, the Misfits compiled an impressive 294 runs scored, averaging 16.9 runs per game while allowing 124 runs at 6.8 runs per game. The Misfits, in only their second year of league play, attributed their success to a nucleus of young players plus a sprinkling of seasoned veterans.

CONGRATULATIONS

The following persons are to be congratulated for their contribution of suggestions to the Technology Utilization Office toward the solution of biomedical and public sector problems: William J. O'Sullivan, John H. Wilson, A. R. Sinclair, Kennedy F. Rubert, George D. Sands, Robert M. Henry, Jag J. Singh, Norman J. Johnston, John R. Davidson, and Albert A. Schy.

A soft answer turneth away wrath. --Proverbs XV. 1

Life is a jig saw puzzle with most of the pieces missing.

He who imagines he can do without the world deceives himself much; but he who fancies the world cannot do without him is still more mistaken. --La Rochefoucauld

Trying to appear rich keeps most people poor.

Blessed are they who have nothing to say, and who cannot be persuaded to say it. --Lowell
PUTTING WORDS INTO PEOPLES' MOUTHS

I believe I'll have the ham on rye.

They laughed at Dirk Rogers.

QUESTIONS AND ANSWERS

Q. On January 7, 1970, Mr. Cortright published "Some Thoughts for 1970". On page 3 he wrote of a ranking and promotion system which was instituted to "not penalize" research individuals for not assuming supervisory duties. Will the system be explained to the staff? Can a staff member find out his position in the system?

A. For the past year, an employee ranking and promotion system has been undergoing trial application by the Manpower Utilization Committee and its several subcommittees in making promotion determinations. The ranking system itself is based on the "most valuable player" concept by which an employee is ranked numerically against other employees in the same grade in the same organization. Rankings of employees are assigned by appropriate supervisory personnel and reviewed by higher level management officials within the organization. In this trial stage, it is being applied to both supervisory and non-supervisory employees in engineering, research, scientific and professional administrative positions, grades GS-7 through GS-15.

Rankings are based primarily on the employee's performance, productivity and growth potential, among other pertinent ranking factors, and are categorized in percentile ranges of 1-10; 10-25; 25-50; 50-75; 75-95; and 95-100. The 1-10 percentile indicates the top ten percent of the highest ranking employees within the same grade in the same organization and the 95-100 percentile indicates the lowest ranking employees. Within each of these percentile ranges, a minimum time in grade or "waiting period" is established for promotion from grade GS-7 up to grade GS-15. This is commonly referred to as a promotion "grid". The "grid" reflects a basic premise of the higher the level of performance, productivity and degree of growth potential, the higher the ranking and consequently more rapid advancement in grade. Additionally, the "grid" serves as a guide to supervisors and management officials for recommending employees for promotion within a time frame or "waiting period" consistent with their assigned ranking and further assures consistent and equitable consideration for promotion.

At the moment, computerized techniques are being explored and applied to the ranking system with a view toward establishing an average time-in-grade grid that will fit the Langley Research Center situation and which will create higher graded personnel at a rate which can be justified. As soon as these and other aspects of the ranking system have been fully evaluated, and an ultimate determination made for adoption and implementation, a Langley Management Instruction will be published and made available to Center employees. It is intended that employees be advised of their standing in the system if they so desire.

Q. How is the Supervisors' Club financed?

A. The LRC Administrative and Technical Services Supervisors' Club is financed entirely through annual dues which are paid by the members. Dues for regular members are $18 per year and retired members pay $10.

Cardinal Luxaire gas-fired down-flow furnace, 100,000 btu output - $60. Deal, 838-0920.

swap and shop

WANTED

Fifth driver from Williamsburg to W.A. on 8 shift. Maiden, 2134 or 229-3153.
Hunting bow. Maiden, 229-3153.
LOST

Will the person who borrowed the Fairchild Digital Calculator and the Electrical Data Handbook please call Gaetano, 2791.

Fifth driver from Williamsburg to W.A. on 8 shift. Maiden, 2396 between 7:30 a.m. and 8 p.m.

Two twin bed frames with mattresses and box springs - $45. Lambert, 245-2395 between 6:30 p.m. and 8 p.m.

H-sports racing special, use as a road or track car - 95%
LANGLEY MANAGED 90-DAY LIFE SUPPORT EXPERIMENT COMPLETED

Four crewmen emerged Friday from a space station simulator, ending 90 days of confinement -- the longest test yet in the United States utilizing a regenerative life support system.

A surprise visitor to the area was Apollo 11 astronaut Neil Armstrong who congratulated the four and the rest of the research team which conducted the successful experiment at the McDonnell Douglas Company, Huntington Beach, California.

During the prolonged test, an advanced space station-type life support system provided the crew with uncontaminated water and oxygen reclaimed from their body wastes.

The test began June 13 when the crew, all graduate students, entered the 40-foot-long, metal simulator.

MDAC, a division of McDonnell Douglas Corporation, conducted the test under contract to NASA's Langley Research Center.

Members of the Langley team included Albin O. Pearson, program manager, Dan C. Popma, David C. Grana, Robert (Continued on page 7)

PEOPLE ARE DEPENDING ON US

The Langley Research Center has moved into a position of acknowledged leadership in the annual Combined Federal Campaign/Peninsula United Fund drives. That's a fact of which we can be justifiably proud. We contribute about 10 percent of the total for these drives, and we do it with an early one day campaign which sets the pace for the entire Tidewater area.

I think we do this because we care very deeply about the future of the Peninsula. Most of us own a small piece of it. We make our homes, raise our families, and have our friends and neighbors here. The quality of life here is a very personal thing to us -- the quality of life for everyone. We've shown that we're ready to do more than our share to see that the Peninsula remains a good place to live.

Last year when we exceeded our CFC quota I promised to look into the charitable agencies which we help support and their use of our funds. During the year several articles appeared in the Researcher featuring some of these agencies. Next week we will have a CFC Forum in the Activities Building with a panel of officials from CFC supported agencies. In addition, Jess Ross and others of our administrative staff have collected data on PUF-type drives in other areas for purposes of comparison.

While there still is much to learn about the total CFC program, I have seen enough to convince me that our continued strong support is fully justified. In fact, if we were to falter in our position of leadership I would fear for the success of the entire CFC/PUF drive.

What goals should we set for ourselves in this drive? During the past two years our average gift has risen dramatically to nearly $34 per pledge in 1969 and is unmatched in this area. I think it would be unreasonable to expect large additional increases at this time. Accordingly, I would like to recommend the following for this year's CFC drive. If we each increase our pledge by 5 percent it will cost us on the average only $1.50 more per year but it will help provide a 5 percent cost of living increase for the hard pressed staffs of organizations supported by CFC/PUF. This is a goal of CFC/PUF this year. Since we each have been receiving cost of living increases, I hope that we can see our way clear to pass this consideration along.

I have been warned that to set a CFC goal for Langley which shows only a 5 percent increase is likely to lead to backsliding. I don't think so. I think that after careful thought you will agree that this is a year to consolidate our considerable gains of the past two years and that a 5 percent average increase is a reasonable part of such a consolidation. I urge your strong support of this plan and this year's CFC drive. A great many people are depending on us and we don't want to let them down.
**HAPPENINGS**

NEW HEIRESS...Word has been received at the Center that Linda Cannon, Procurement Division, became the mother of a six-pound, fifteen-ounce daughter, Michele Lynn, on September 11.

FIRST AID COURSES...A number of employees have expressed an interest in taking a course in first aid. A course in Basic First Aid will be offered at Thomas Nelson Community College on Thursdays from 7 to 9 p.m., starting October 8 and continuing through November 12. Registration will be held at 6:30 p.m. on October 8 at the college. A course in Advanced First Aid will be offered at Thomas Nelson on Thursdays from 7 to 9 p.m., starting November 19 and continuing through December 17. Registration will be held at the college on November 19, at 6:30 p.m. There is no charge for the two courses.

HAUNTED HOUSE...Once again the Junior League is sponsoring a haunted house which will be open during the Halloween week. A number of organizations are furnishing different rooms. Plans are being made to make a maze in the garage and breezeway and the Activities Association has been asked to assist in lighting and sound effects. Persons interested in working on this project are asked to contact Jackie Miller, 2948.

LEAVES FOR HEADQUARTERS...Francis T. Hoban, who has been head of the Research and Development Budget Group at Langley, has transferred to Washington Headquarters where he will be Staff Assistant to the Administrator (Deputy Administrator, or Associate Deputy Administrator). A native of Minersville, Pennsylvania, Hoban received his B.S. degree in Aeronautical Administration from Parks College of Aeronautical Technology, St. Louis University, and his M.A. degree from George Washington University. He joined the Center staff in 1963 and transferred to OART Headquarters in 1964. He returned to Langley in 1965.

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

RODEO SHOW: The Longhorn Rodeo, sanctioned by the International Rodeo Association, will be at the Hampton Roads Coliseum October 15 through October 18. Special discount tickets are offered for the October 15 and October 16 performances. Discount mail order forms for these performances may be picked up at the Cafeterias, Credit Union Office, or the Activities Building.

TENNIS NEWS...Erica Nicholson won the NASA Women's Tennis Championship by defeating Shirley Sargent 6-2, 6-0. Shirley reached the finals by defeating Edith Gregory 18-16, 6-3 and Erica reached the finals by defeating Betty Baker 6-0, 6-0.

**Can You Solve This Problem?**

A rapid technique is needed for measuring the size and concentration of flue-born particulates from fossil fuel combustion. In-situ techniques are desirable. The device should have a sampling rate in excess of 1 cubic foot/min., be able to detect particle sizes from 1.01-60 microns, be amenable to analysis of particulates in stack gases with velocities up to 120 ft./sec. and temperatures up to 900 degrees F., and be relatively inexpensive. Refer to AP-38. Contact the Technology Utilization Office, 3281, for the problem statement or if you have a contribution.
BENEFIT ASSOCIATION REDUCES RATES AND BROADENS COVERAGE

The NASA Employees Benefit Association has announced the following changes in its insurance programs:

**DEPENDENT INSURANCE** - Class A providing $2,000 of coverage on the spouse is being consolidated with Class B which provides $2,500 coverage on the spouse. In addition, rates for the dependent insurance are being reduced as follows:

<table>
<thead>
<tr>
<th>CLASS</th>
<th>FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$2,000</td>
<td>$2.70</td>
</tr>
<tr>
<td>B</td>
<td>$2,500</td>
<td>$3.15</td>
</tr>
<tr>
<td>C</td>
<td>$5,000</td>
<td>$4.65</td>
</tr>
</tbody>
</table>

These changes are effective for the quarter beginning October 1. Modifications to individual insurance certificates will be sent to each participant by October 1, and will, in part, read as follows:

**SCHEDULE OF INSURANCE WITH RESPECT TO DEPENDENT SPOUSES**

<table>
<thead>
<tr>
<th>Class</th>
<th>Unit</th>
<th>Life Insurance</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Employee whose basic annual earnings are:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-4 A Less than $12,000 $2,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-12 B $12,000 and over $5,000</td>
</tr>
</tbody>
</table>

**TRAVEL ACCIDENT INSURANCE** - Plan II (business travel) has been broadened to cover passengers and technical personnel on NASA administrative and program support aircraft. There is no change in the present rate of $0.65 per annum per thousand of coverage.

A new Plan III is being offered to cover pilots and crews of administrative and program support aircraft at a rate of $3 per annum per thousand of coverage.

A new Plan IV is being offered to cover pilots and crews of proficiency type aircraft (single engine jets, etc.) at a rate of $6 per annum per thousand of coverage.

Finally, single trip coverage is being offered to employees and others traveling as passengers or technicians on administrative or program support aircraft, and who are not covered under the annual travel accident plan. The rate for this insurance is $5 per trip for $100,000 of coverage.

**TRIP INSURANCE APPLICATIONS** - Request for trip insurance forms may be obtained at the Employees Services Branch Office, Room 101, Building 587, extension 2273; and the Meterology Office, Room 137, Building 1144, extension 2273; and the Meterology Office, Room 137, Building 1144, extension 2273.

**REGULAR LIFE INSURANCE** - The present rate of $1.30 per thousand per quarter of regular life insurance is being continued without change.

**CAFE MENU**

The following menu will be served in the cafeterias during the week of September 21:

- Monday - Tomato-barley soup, roast veal with dressing, barbecued cubes of pork over rice, fried fish sticks, Spanish franks. Snack bar - Soup, hot dogs, hot pastrami, German potato cakes.
- Tuesday - Minestrone soup, country-style steak, baked lasagna, sauteed chicken livers, broiled luncheon meat. Snack bar - Soup, broiled luncheon meat, steak sandwich.
- Wednesday - Puree of bean soup, Spanish pot roast, baked ham, broiled fish, western omelette. Snack bar - Soup, barbecued pork, baked ham, fried eggplant.
- Thursday - Chicken gumbo, grilled pork chops, beef stew, fried chicken, Austrian ravioli. Snack bar - Soup, hamburgers, hot roast beef, French fries.
- Friday - Manhattan clam chowder, roast beef, seafood Newburg, smoked pork sausage, fish cakes. Snack bar - Soup, fish, hot corned beef, German potato cakes.

The menu for the week of September 28 is as follows:

- Monday - Cream of tomato soup, braised beef tips, stuffed shrimp, minute steak, franks and beans. Snack bar - Soup, hot dogs, steak, French fries.
- Tuesday - French onion soup, roast fresh ham, fried scallops, livers and onions, baked hash. Snack bar - Soup, barbecued pork, hot pastrami, German potato cakes.
- Wednesday - Chicken-rice soup, baked corned beef, chili con carne, chicken cacciatore with spaghetti, broiled fish. Snack bar - Soup, hamburgers, hot corned beef.
- Thursday - Vegetable-beef soup, roast beef, grilled smoked ham, chicken croquettes, macaroni and wiener. Snack bar - Soup, ham and egg, hot roast beef, French fries.
- Friday - Egg drop soup, beef stroganoff, stuffed flounder, Salisbury steak, beef ravioli. Snack bar - Soup, sea dog, flying saucer, French fries.
INTEREST RATE INCREASED AGAIN

Secretary of the Treasury David M. Kennedy, acting to implement a law signed by President Nixon, announced that a 1/2 percent bonus will be added to the interest rate paid to longer-term holders of United States Savings Bonds.

This bonus will raise the effective interest rate on new bonds, when held to maturity, from 5 to 5-1/2 percent.

The increase, which is retroactive to June 1, 1970, will also result in improved yields on outstanding Series E and Series H Bonds.

The millions of Americans who own Savings Bonds -- including those 10 million persons who purchase them regularly through Payroll Savings Plans -- will now have an extra incentive to hold onto them. For those who have not yet purchased Savings Bonds, the increase provides the added attraction of a bonus on their savings, savings that make an important contribution to the sound financing of our nation's government, Secretary Kennedy said.

The Secretary noted that the bonus provides a means of increasing the return to longer-term savers at a time of generally high interest rates. While the Treasury will retain flexibility to modify the bonus on future sales and extensions, Secretary Kennedy emphasized that all Bonds now held or newly purchased are assured of receiving the full 1/2 percent bonus through their next maturity.

EDGE TO ADDRESS ASME

Philip M. Edge, Assistant Head of the Acoustics Branch, Dynamic Loads Division, will be guest speaker at a meeting of the Hampton Roads Section of the American Society of Mechanical Engineers on Wednesday, September 30, at Althaus Restaurant, Newmarket Shopping Center.

Edge, who has been a member of the Langley staff since 1942 will speak on “Human Response to Noise.”

A graduate of Georgia Institute of Technology, Edge has had an active role in national programs concerned with aircraft noise and related noise environmental problems.

The meeting will be preceded by a social period at 6:30 p.m., followed by dinner at 7:15 and the meeting at 8 o’clock.

Associate with men of good quality, if you esteem your own reputation; for it is better to be alone than in bad company.

- Washington

ISA GROUP TO HEAR BUCK

Donald S. Buck, Director of Safety for U.S. Continental Army Command, will address the Tidewater Section of the Instrument Society of America on Wednesday, September 23 at the Longhorn Steak House on Mercury Boulevard.

Buck will speak on “Attitude: The Key to Action” which deals with human factors which contribute to automobile accidents.

Buck was educated at Purdue and Indiana Universities and after receiving an Army commission, began his traffic safety work as chief of motor vehicle safety for the Army’s Chief of Transportation during World War II. In his present position he manages all safety programs throughout the Army’s largest field command.

Recognized as an authority in his field, Buck has written and lectured extensively on traffic safety and serves on many national safety committees. He is credited with the design of a widely used portable driver test device known at the "Porto-Clinic," which tests driver reaction times, color recognition, depth perception, etc. For his work in preventing traffic accidents, he received the Marcus A. Dow Award, the nation’s top award for traffic safety.

Guests are invited to attend the meeting which will start at 6:30 p.m. with a social period, followed by a steak dinner at 7:15 and the talk at 8 o’clock. For dinner reservations contact Jim Monteith, 3492, or Andy Kantsios, 3234.

VOLUNTEER TUTORS NEEDED

For the past two years Langley Center staff members have been teaching classes in the General Education Development program sponsored by the Newport News Office of Economic Opportunity.

Participating Langley personnel include Robert Lee, AMPD; Ralph Muraca, FVSD; Gale Harvey, AMPD; Wendell Ayres, SSRD; Dewey Smith, FVSD; Rudeen Smith, FSRD; and Brooks Drew, FVSD.

The program is designed to give adults an opportunity to obtain the equivalent of a four-year high school diploma which is accepted by business, industry, civil service commission, U.S. armed forces, licensing bureaus, and many institutions of higher learning.

The program has grown, largely through the efforts of Center volunteers, from 20 students in 1968-69 to 140 students for the coming year.

English, mathematics, and reading comprehension are taught. This year’s program will require at least 20 volunteer tutors. Requirements for tutors are patience, concern, one free night per week, and basic skills in reading or arithmetic. Classes will be held on Tuesdays and Thursdays from 7 to 9 p.m. If you are willing to help, please contact Robert Lee, 2840, or Jim Mullins, 2457.

A good listener is not only popular everywhere, but after a while he knows something.

- Wilson Mizner

Necessity is often the spur to genius.

- Balzac
EMPLOYEES RECEIVE AWARDS

Eight staff members, pictured here with their supervisors, recently received cash awards for suggestions under the Incentive Awards Program.

The recipients and their suggestions are as follows:

Sidney F. Pauls, Space Systems Division - $85 for a suggestion relative to having travelers going to California purchase their tickets for intrastate travel after arrival there in order to save on travel costs.

Viggo G. Dereng, Fabrication, and James E. Pleasants, Flight Vehicles and Systems - $200 (joint award) for the design of a vortex breech that insures a supply of hot gas free of burning propellant particles from explosively operated, pressure actuated device.

Maxwell F. McNear, Flight Instrumentation - $55 for an improved method for polishing silicone wafers which allows inexperienced personnel to obtain optical quality surfaces in a short time.

Harold W. Wood, Flight Instrumentation - $25 for suggesting the use of a simple weighing technique to determine the amount of liquid nitrogen in a dewar.

Willie E. Wright and Mickey R. Gardner, Research Support Division - $200 (joint award) for the design and fabrication of four timing circuits which canceled the need to purchase three additional Beckman/Berkeley Electronic Counters and released one for other use.

Robert C. Speight and Godwin C. White, Research Support Division - $110 (joint award) for the design and construction of clamps which provide a positive method for securing combustor stagnation T.C. probes used in the 8-Foot High-Temperature Structures Tunnel and which decrease installation time.

QUESTIONNAIRES RETURNED

A total of 793 copies of the "Opinion Poll of Langley Researcher" have been returned to the Researcher Office. A vast amount of helpful information was contained in the questionnaires and the Langley Researcher Advisory Committee is making a comprehensive study of the suggestions which ranged in scope from running pictures to color to featuring a psychoanalysis column.

A total of 69 questions for the Question and Answer column were submitted. It is hoped that this figure will not discourage others from submitting additional questions as questions selected for publication will be based on the general interest and concern to the largest number of staff members.

A series of articles on the response to the various questions asked on the questionnaire, with the possible use of a few direct quotes, will start in the Oct. 2 Researcher.
SPECIAL RECOGNITION: Axel T. Mattson, Assistant Chief of Space Systems Research Division, recently received special recognition from the Educational Programs Division, NASA Headquarters, for his participation over an eight-year period in the International Science Fair. Mattson was present at the above picture taken during the Apollo 11 moon mission. The photograph is signed by the three Apollo 11 astronauts and by Administrator Dr. Thomas O. Paine. On making the award on behalf of the Educational Programs Division, Julian Scheer, NASA's Assistant Administrator for Public Affairs, wrote, "We are deeply indebted to you as one of the judges for your wholehearted cooperation and sincere concern for our services to young people. We also are aware of the importance of your individual efforts; the time, talent, and energy you gave so generously for eight years contributed in no small measure to the success of the program.

MERIT PROMOTION NOTICE

Clerical rosters are being established to fill anticipated vacancies created by the Center's forthcoming reorganization as well as future clerical vacancies.

Secretary, GS-6 and GS-7 - open continuously
Clerk-Stenographer, GS-5 and Clerk-Typist, GS-5 - open continuously

Vacancy announcements opening September 21 are:
Contract Administrator, Procurement Division, Contract Administration Section, GS-1102-11, Announcement No. 70-60 - closing date October 2.
Supervisory Engineering Technician, Research Support Division, Building Equipment Service Section, GS-802-9 or 10, Announcement No. 70-61 - closing date Oct. 2.
Supervisory Engineering Technician, Research Support Division, Research Equipment Mechanical Section, GS-802-9 or 10, Announcement No. 70-62 - closing date Oct. 2.
Engineering Technician, Research Support Division, Plant Electrical Section, GS-802-9, Announcement No. 70-63 - closing date Oct. 2.
Engineering Technician, Research Support Division, Utilities Operations Section, GS-802-7, Announcement No. 70-64 - closing date Oct. 2.
Management Technician, Personnel Division, Management Analysis Office, GS-7, Announcement No. 70-65 - closing date Oct. 2.

SWAP AND SHOP

FREE
Kittens - gray striped and black and white - male and female. Vanasse, 851-2046.

FOUND
Slide rule in Building 1244 parking lot. Yates, 3231.

WANTED
Used spinet piano. Doyle, 838-7833.
Alternate driver from Norfolk to W.A. on 7:30 shift. Tom Coe, 3581 or Norfolk 587-3365.
Fifth driver from Hidenwood to W.A. on 8 shift. Spritzer, 3512 or 596-8762.
Two alternate drivers from Fox Hill area to W.A. on 8 shift. Kelly, 3798 or 3415.

FOR SALE
Two VPI vs. Memphis State football tickets, game scheduled September 26, 1:30 p.m. at Lane Stadium, Blacksburg - $12 ($2 less than individual tickets.) Moore, 851-2223.
Gasoline powered suction pump, over 7,000 gph capacity, two-inch intake and discharge, Hanson, 851-1669.
Boy's 26-inch Schwinn bicycle - $16; 36 hp VW engine, complete - $150. Scheiman, 851-2177.
1.5 cubic-foot refrigerator - $50. Shearer, 851-6154.
Two wood screen doors with hardware - $12. Youngblood, 877-224.
Sunfish sailboat. Glenny, 596-2568.
Components of complete stereo system with the exception of speakers. Dennard, 723-2365 after 5 p.m.
15-foot fiberglass runabout with 40 hp Evinrude electric start motor and trailer - $600. Tyeryar, 868-0861.
Bundy coronet; Westinghouse refrigerator - $45. Appleton, 898-6415.
Soligor UF cd's exposure meter, ASA 6-6400, f/1-32 - $10; Argus C-3 35 mm camera, f/3.5 50 mm Argus lens with case - $15. Bowman, 898-5650.
Wrought-iron twin/bunk beds with ladder, rail and mattresses; solid maple 5-drawer chest - $50. Smith, 244-3804.
Antique cane back sofa - $20; window cornices - $3; odd chair - $5; green love seat - $45. Hudgins, 722-7336.

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To be conscious that you are ignorant is a great step to knowledge. - Disraeli

Every great advance in science has issued from a new audacity of imagination. - John Dewey

Aerospace Engineer (AST, Control and Guidance Systems), Viking Project Office, GS-861-11, 12, or 13, previously advertised under Announcement No. 70-56, is reopened to accept applications until Sept. 25.
Consult your bulletin board for detailed information.
SUBJECT SEARCH ONE OF SERVICES OFFERED BY LIBRARY

Shakespeare said, “The play’s the thing.” At Langley Research Center, many of the Technical Library users say, “The subject’s the thing,” and in many cases, some form of subject search is the first logical approach to the solution of an information problem.

To assist them in their work, they have the following resources: a large subject card file on reports through 1963; an extensive keyword index on documents and magazine articles from 1964 to the present time; an excellent collection of indexing and abstracting publications and reference books; a card file and keyword index on books; and a computer terminal tied to one of the Scientific and Technical Information Facility computers in College Park, Maryland.

These “tools of the trade” are available to the Library user as well as to the librarians. However, in some areas there are problems for the casual user caused by the quantity of information or the complexity of the system. If the user does not wish to turn his problem over to the subject people completely, it is suggested that he use one of the subject specialists as a guide.

A special word on the computer terminal or RECON. This system has been undergoing program development and debugging for some 18 months. It has just recently been working well enough that some of the Library customers may wish to try their hand at an online subject search. Staff members are encouraged to drop by the Library for a demonstration of RECON so they can see how this new concept might serve their needs.

Available tools, such as the indexing and abstracting publications, permit many searches to be extended beyond the limits of the Langley collection or the NASA system itself. Also, the subject reference staff may on occasion make use of outside specialized information centers.

EYE INJURIES ON INCREASE

During recent months there has been an upward surge in eye injuries to LRC personnel. Since August 1, 1969, 65 work producing employees have suffered such an injury.

For the most part these injuries were caused from foreign bodies, foreign solutions, abrasions, burns, lacerations, irritations and inflammations. Forty-three of the injured personnel required the services of eye specialists. This means that the efficiency of their services to the government was greatly hampered.

Safety glasses or goggles would have prevented, in all probability, a great many of the injuries. They are available through Employees Services Branch, extension 2605, and are required in many areas.

LIFE SUPPORT EXPERIMENT
(Continued from page 1)

W. Johnson, and Charles W. McKee, all of Space Systems Research Division.

Showing no apparent ill effects, the crew -- John H. Hall, 25; Wilson Wong, 23; Terry Donlon, 31, and Stephen G. Dennis, 22 -- walked from the simulator to a nearby area for the beginning of an intensive medical examination.

The experiment, in addition to evaluating the life support system, was designed to obtain data on physiological and psychological effects of long-term confinement; ascertain the ability of the crew to operate, maintain and repair equipment; produce information on the role of man in performing in-flight experiments and to minimize the amount of stored, expendable materials placed in the simulator.
PUTTING WORDS INTO PEOPLES' MOUTHS

TECHNOLOGY UTILIZATION NEWS

The important science of nutrition is being greatly augmented by the space program. Since the first Mercury flight almost ten years ago, a wealth of space-food utilization experience has been accumulated through the Manned Space Flight Program. An astronaut's diet must be carefully studied and planned to provide him with the sustenance to fulfill his mission, especially when the rigors of a space environment such as prolonged zero-gravity have to be considered.

New methods of packaging, preserving, and dehydrating food have been developed which may have great impact on our food industry here on Earth. Long-duration missions may eventually incorporate biological or physicochemical systems for synthetic food production.

Serious famine in certain areas of the world is a very real possibility in the foreseeable future because of increasing population growth and diminishing areas of arable land. Any increase in our understanding of ways to produce, store, and distribute food will be of tremendous importance to all nations. The space program is thus building improved national health through its research in nutrition and is providing us with better means to control our destiny.

QUESTIONS AND ANSWERS

C. In the course of my work I quite frequently receive mail from various companies containing advertising or other technical material. Almost without fail each piece of mail has been opened when I receive it. I would like to know: Who opens it? Why do they open it? Is this practice legal? What do they look for? What happens when whatever it is that they are looking for is found?

A. The policy of the Langley Research Center with respect to the handling of incoming mail is cited in LRC Management Instruction 1500.4, dated June 11, 1969. The Instruction discourages employees from using Langley as a mailing address for personal mail. While the handling of all mail received at the Center is semi-automated, an attempt is made to segregate items which have the distinct appearance of personal mail, and these are forwarded to the addressee unopened. Mail which has the appearance of business correspondence, even though addressed to an individual, is opened. This is done to insure that proper official action is taken when necessary. In such cases, a copy of the correspondence is always furnished the addressee. The decision to consider all business type correspondence as official mail was made after it was determined that proper action was not being taken by some individuals to respond to the correspondence, or, in some cases, the responses were making commitments in the name of the Center which were not proper.

The present system of handling mail at Langley has improved the control of correspondence. There is no other reason for the policy. It will be noted that the LRC Management Instruction specifically suggests that personnel of the Center have personal mail directed to a mailing address other than the Center.

C. Why do female employees, eligible for retirement, not have the privilege of survivor annuity for their husbands except when the husband is dependent on her for support? Isn't this discrimination because of sex? Don't we receive announcements frequently stressing there shall be no discrimination because of sex?

A. Female employees eligible for retirement have the same privilege upon retirement of providing a survivor annuity for a spouse that male employees enjoy.

According to Civil Service Retirement regulations, it is still true that widowers of female employees dying while still actively employed qualify for annuity only if (1) they had been married to the employee for at least two years immediately preceding her death or have been the father of a child born of the marriage with the employee and (2) have received more than 1/2 his support from the employee, and (3) at the time of the employee’s death be incapable of self support by reason of physical or mental disability.

There is a bill H.R.466 currently under consideration in the House that would, if passed, provide equal treatment for the survivors of both men and women employees who die in service.

People seldom improve when they have no other model but themselves to copy after.

--Goldsmith

NASA SP-142, entitled Aerospace Food Technology, covers many of the facets of aerospace food provisioning. Several copies of this publication are available from the Library or the T.U. Office, 3281.
PEOPLE ARE DEPENDING ON US - GIVE YOUR FAIR SHARE TOMORROW

On Tuesday 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, according to Jess G. Ross, Chairman of the Center’s effort.

Because of the reorganization of the Center which will be effective October 4, Ross stressed the importance of completing the drive as soon as possible. For campaign purposes, the present organizational units will be used.

In a meeting with campaign workers, Edgar M. Cortright, Center Director, explained that he does not want the reorganization to interfere in any way with the drive as he considers this community effort one of the Center’s most important undertakings.

A kick-off meeting for the drive was held last Tuesday, when division workers met in the Activities Building to ask questions of officials from CFC supported agencies. Members of the panel included Harry Shoff, Associate Director of the Peninsula United Fund; Sylvia Zucker, Executive Director of the Peninsula Association for Retarded Children; Clifford Pleasants, Executive Director of the Peninsula Cerebral Palsy Association; Charles Lee, State Campaign Director of the National Health Agencies; and Ann Helfand, International Service Agencies.

Members of the panel discussed the operations of their respective organizations and answered pertinent questions from the audience.

A total of 73 different organizations are participants in the Combined Federal Campaign. This includes 38 Peninsula United Fund organizations; 20 chapters under the Williamsburg United Fund; 11 agencies under the National Health Agencies; and 4 International Service Agencies.

Included in the Health Agencies are: United Cerebral Palsy Association of Metropolitan Hampton Roads; American Cancer Society; American Heart Association; Muscular Dystrophy Association of America; National Cystic Fibrosis Research Foundation; National Foundation - March of Dimes; National Multiple Sclerosis Society; National Easter Seal Society for Crippled Children and Adults; National Society for the Prevention of Blindness; National Kidney Foundation; and the Arthritis Foundation.

The International Service Agencies are CARE, Radio Free Europe, Project HOPE, and American-Korean Foundation.

Last year Center employees contributed a record total of $123,000 to the Combined Federal Campaign. This represented an average of nearly $34 per pledge.

In his message to the staff, Cortright said, ‘If we each increase our pledge by 5 percent it will cost us on the average only $1.50 more per year but it will help provide a 5 percent cost of living increase for the hard pressed staffs of organizations supported by CFC/PUF.’

Ross pointed out that an easy, painless way of giving to (Continued on page 2)
LAUNCH CAMPAIGN: The heads of the three labor unions at the Center helped launch the Center’s Combined Federal Campaign with their donations to Jess G. Ross (second from right), Chairman of the Center’s campaign effort. Making their contributions are (from left): John D. Antinori Jr., President of the International Association of Machinists and Aerospace Workers; H. Preston Watkins, President of the American Federation of Government Employees; and James Sinclair, President of the Pattern Makers’ Association. The general staff will be solicited tomorrow.

COMBINED FEDERAL CAMPAIGN
(Continued from page 1)

this one-drive campaign is through payroll deduction. Last year 74 percent of the staff elected to use the payroll payment plan.

The payroll payment plan is available to all civilian employees, except those with a temporary appointment of less than one year, and to all members of the Armed Forces who are assigned in this area. The Government has set the following ground rules to keep down payroll withholding costs:

1. Minimum allotment per payday is 50¢, if you are paid every two weeks or twice a month, or $1 if you are paid monthly. Above these minimums, allotments may be in any amount.

2. Withholding in the amount authorized will be for a full year beginning the first pay period in January 1971. You may discontinue the allotment at an earlier date upon written request to the payroll office, but you cannot change the amount or begin payroll payment again in 1971.

3. Contributors have the privilege of designating their contributions.

4. By using a sealed envelope you may make a confident gift.

5. Undesignated funds will be divided among the organizations on a percentage basis: 82.7% to United Fund with 2.5% of this going to Williamsburg; 11.6% to National Health; and 5.7% to International Services.

TURN IN REPORTS PROMPTLY

All division leaders are requested to turn in their reports to Eleanor Cole and Helen Willey, financial chairmen, as soon as possible after the one-day drive tomorrow. The two financial chairmen are located in a trailer located in the parking lot directly behind the Headquarters Building. The trailer number is 120T, the mail stop is 109, and the telephone number is 2971.

He who waits to do a great deal of good at once, will never do anything. --Samuel Johnson

Our true nationality is mankind. -- H. G. Wells

The age of chivalry has gone; the age of humanity has come. -- Charles Sumner
AWARDS CEREMONY SPEAKER: Neil Armstrong, Commander of the Apollo 11 moon mission, will be guest speaker at the Center’s Annual Awards Ceremony which will be held October 14 at 1:30 p.m. in the NASA Hangar, Building 1244. Each year the Center sets aside a special day in Oct. for purposes of presenting length of service awards to employees and of recognizing individuals and groups at Langley for outstanding achievements which they have made toward realizing the mission of the Center and of NASA.

MAJOR ORGANIZATIONAL CHANGES ANNOUNCED; EFFECTIVE OCTOBER 4

Major changes in the Langley Research Center’s organization, which will become effective October 4, have been announced by Director Edgar M. Cortright. "This reorganization, which is keyed to the future," Cortright said, "is designed with several important objectives in mind. We are consolidating our research talents and focusing them on NASA’s roles and missions for the 1970’s. We are giving increased attention to the future growth of the Langley Research Center and to its relationships with other organizations. And we are moving some of our most promising young men into positions of management responsibility where they can exercise research leadership."

Four major research directorates are being established in Aeronautics, Space, Electronics, and Structures. They will be headed by Laurence K. Loftin, Jr., Director for Aeronautics; Clifford H. Nelson, Director for Space; George B. Graves, Jr., Director for Electronics; and Dr. George W. Brooks, Director for Structures.

The four research directorates will be supported by three Center-wide directorates in the areas of Systems Engineering and Operation, Administration, and Center Development. Percy J. Crain will be Director for Systems Engineering; T. Melvin Butler, Director for Administration; and Eugene C. Draley, Director for Center Development.

Oran W. Nicks, Associate Administrator for Advanced Research and Technology (Acting), NASA Headquarters, will join the Center as Deputy Director in early November.

In a meeting with Langley senior staff officials, Cortright outlined some of the future NASA goals with which the Center is closely identified.

These include an expanded aeronautics program with increased emphasis on civil aircraft; a new era of manned (Continued on page 5)
HAPPENINGS

LIBRARY NOTICE. . .The Technical Library requests that staff members changing locations and/or jobs in the present reorganization return excess material to the Library without asking for lists of loan charges. The number of items charged out is too great to permit Library staff members to respond immediately to such requests.

NAGS. . .The Hampton Roads Branch of the National Association of Government Secretaries will meet October 8 at 6:30 p.m. at the Ramada Inn, Route 17, Newport News. All secretarial and clerical personnel are invited to attend. Contact Bernice Barrack, LRC coordinator, 838-1660, for information and reservations.

COURSE FOR YOUNG BOATMEN. . .The Hampton Roads Power Squadron will teach a power boat safety course especially suited for children 10 to 15 years of age. Classes will be held on four successive Saturdays from 10 a.m. to noon at the squadron classrooms, 915 G St., Hampton, starting October 3. The course is the same as the New York State course, which is mandatory for children 10 to 15 years old who operate boats in New York. The class will be limited to 50 students. Tuition is free. Contact J. R. Davidson, 3524, for additional information.

FESTIVAL OF HARMONY. . .The Hampton Roads Chapter of the Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America, Inc. will present its sixth annual Festival of Harmony on Saturday, October 17 at 8 p.m. in the Bethel High School auditorium. Headliners this year are the Chapter's own 30-man Hampton Roads Chorus and the Citations from Louisville, Kentucky, who recently were judged finalists in International competition held in Atlantic City. Also featured will be the Nightcaps from Alexandria and the Noteworthy Four and the Crab-Towners from Hampton. Proceeds from the show will be used for the purchase of equipment for the Peninsula Speech and Hearing Clinic. Tickets are available from the following NASA Barbershoppers: Roy Henley, Research Support; John McFall, AMPD; Bill Tennis, Fabrication; and John Tripp, Instrument Research.

TURKEY SHOOT. . .The Langley Rod and Gun Club will hold a turkey shoot on Sunday, October 4, from 1 to 4:30 p.m. at Building 1007. A fee of one dollar per round will be charged and 12-gauge shells will be furnished. Center staff members are invited to come out and try their luck.

BOATING ENTHUSIASTS. . .The U.S. Coast Guard Auxiliary's free public education course in basic seamanship is again being offered by Flotilla 61 of Hampton. This eight-lesson course will begin at 7 p.m. on Tuesday, October 6, at Flotilla Home Base, 523 Bridge St. The class will meet each Tuesday and Thursday evening through October 29. All hands are eligible for enrollment and may do so simply by attending the first session on October 6. For further information contact W. W. Bailey, 851-7464.

SEMINAR FOR CAREER WOMEN. . .In recent years the Peninsula Chapter of the National Secretaries Association (International) has sponsored a series of seminars for career women aimed at keeping the working woman informed and up to date on current events and developments. This year plans have been made for a five-week seminar to be held each Monday at Thomas Nelson Community College, beginning Monday, October 5 at 7:30 p.m. The theme of the seminar is The Role of Today's Woman in Finance, Industry, Public Life, Family Life, and Fashion. Registration fee is $10 and all interested women are invited to attend.

LIBRARY NOTICE. The Technical Library has prepared a bibliography on aerodynamics covering books published from 1966 to date. Copies may be obtained by calling 2171 and asking for LL-BIBL-2.

FISH STORY: A group of Center fishermen took a trip to Oregon Inlet recently and brought back photographic evidence to back up some of their fish stories. A sleepy crew (upper left) head for fishing grounds before sunup. Enjoying the early hour are (from left): Harry Thompson, Roger Winebarger, Andy Wright, and Joe Pride. Pride (upper right) tells about the one that got away. The first mate (lower left) holds a sailfish caught by Winebarger. Posing with their catch (lower right) of wahoos, dolphins, tuna and other assorted marine life are (kneeling) Dick Kurtz and Capt. Sam Stokes with his son. Standing - Pride, Wright, Thompson, and Winebarger.
JACKSON NAMED OART HEAD

Roy P. Jackson, Vice President and Assistant General Manager of the Aircraft Division of the Northrop Corporation, has been appointed Associate Administrator for NASA's Office of Advanced Research and Technology (OART), effective Nov. 2.

OART, one of four major Headquarters offices which direct NASA's research and development programs, has the responsibility for providing the technology to meet the nation's future requirements in aeronautics and space exploration. OART projects cover a broad range from aeronautical research to space power.

Four of NASA's Field installations -- Ames, Langley, Lewis, and Flight Research -- carry out their programs in aeronautics and space under OART's leadership.

Jackson is a native of San Francisco. He was graduated from Stanford University with distinction, receiving an AB degree in Mechanical Engineering with an Aeronautical option.

While serving in the Navy during World War II, he was assigned as a section head in the 7-foot x 10-foot wind tunnel at Ames.

He joined Northrop in 1953 and has directed a wide variety of aeronautical and space system efforts.

RADIO BLACKOUT TEST SCHEDULED

At press time Wednesday, Langley Research Center was scheduled to launch an atmosphere entry flight experiment aboard a Scout vehicle from Wallops Island. The purpose of the experiment was to study ways of preventing loss of radio signals from spacecraft returning to Earth.

The flight test, designated RAM C-C, is the third and last in the RAM series and is a continuation of NASA's Project RAM (Radio Attenuation Measurements) to study the problem of communicating through the ionized gas (plasma sheath) created around a spacecraft reentering the Earth's atmosphere at high speeds.

RAM C-C was scheduled to carry several interrelated on-board experiments. Two liquids -- water and Freon E-3 -- were to be ejected into the plasma sheath to restore communications during the blackout period.

Water helps to restore communications by cooling the plasma. Freon E-3 (similar to the coolant in refrigerators) is an electrophilic liquid which attracts free electrons and thus reduces their numbers.

The relative effectiveness of the two liquids were to be measured by on-board plasma diagnostic instruments. The results of the flight will be combined with information from previous flight and laboratory experiments and theoretical studies to provide a better understanding of the problem of communicating through a plasma sheath.

Norman D. Akey, FID, is the Langley Project Manager and R. D. English is Project Manager for Scout. Other Langley staff members associated with the project are: Lyle C.

(Continued on page 6)

TECHNOLOGY AWARD: Quinton C. Davis (left), Fabrication Division, recently received a $25 new technology cash award for his Tech Brief 70-10103 entitled "Water Surface Depth Instrument." The award was presented by Dr. John E. Durham, Associate Director.

CAFETERIA MENU

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

Monday - Cream of celery soup, hot roast beef, baked ham, sauteed chicken livers, Spanish franks. Snack bar - Soup, hot dogs, baked ham, German potato cakes.

Tuesday - Minestrone soup, country style steak, veal cutlet, spaghetti and meat sauce, chili-mac. Snack bar - Soup, hamburgers, steak, French fries.

Wednesday - Puree of bean soup, chopped steak, baked lasagna, fillet of flounder, Austrian ravioli. Snack bar - Soup, fish, Lou's satellite special, French fries.

Thursday - Chicken-noodle soup, chicken and dumplings, grilled pork steak, broiled fish, western omelette. Snack bar - Soup, ham and egg, turkey, French fries.

Friday - Manhattan clam chowder, hot roast beef, chicken pie, shrimp creole, grilled cheese. Snack bar - Soup, hot roast beef, grilled cheese, French fries.

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

Monday - Split green pea soup, roast veal, barbecued pork, fried fish sticks, cheese omelette. Snack bar - Soup, barbecued pork, hot pastrami, French fries.

Tuesday - Vegetable-beef soup, roast beef, grilled pork steak, creamed dried beef, tamale pie. Snack bar - Soup, hamburgers, hot roast beef, German potato cakes.

Wednesday - Creamed potato soup, braised beef tips, fried chicken, broiled fish, franks and beans. Snack bar - Soup, hot dogs, steak sandwich, French fries.

Thursday - Chicken-rice soup, grilled rib eye steak, beef stew, chicken chow mein, fish cakes. Snack bar - Soup, fish sandwich, flying saucer, French fries.

Friday - Cream of tomato soup, boiled ham, stuffed flounder, minute steak, chili con carne. Snack bar - Soup, sea dog, baked ham, French fries.

There is nothing so stupid as an educated man, if you get off the thing that he was educated in. - Will Rogers
BARIAUM RELEASE FLIGHT TEST

On October 6 Langley Research Center will flight test a liquid chemical barium release payload on a Nike-Tomahawk sounding rocket launched at Wallops Island.

The primary objective of the test is to measure the yield of free barium from the payload. The experiment will be the first to use liquid fluorine. A fuel tank in the payload will contain hydrazine mixed with barium salts. The fluorine oxidizer will be carried in a separate tank at a temperature of about 320 degrees below zero F. The fuel and oxidizer are hypergolic in that they burn on contact and the barium is released in a trail near apogee.

Hal T. Baber, AMPD, is project manager. Other Langley staff members associated with the project are: David Adamson, project scientist; B. W. Lewis, payload chemistry; W. L. Kitchen, optical instrumentation and radar; R. D. Averitt, technical project engineer; Clarence F. Breen, pyrotechnics and safety; R. W. Buchan, assistant technical project engineer; J. E. Michael, electrical systems engineer; S. L. Pearce, engineering design; R. A. Smith and H. C. Myers, electrical technicians.

METAL GROUP MEETS OCT. 12

Dr. Om Johari, Illinois Institute of Technology, will be guest speaker at a meeting of the Hampton Roads Section of the American Society for Metals on October 12 at 6:15 p.m. at Sammy's and Steve's House of Beef, 10753 Jefferson Ave.

Dr. Johari will speak on "Fracture and Failure Analysis with the Scanning Electron Microscope." He will give a brief outline of the working principle and advantages and disadvantages of scanning electron microscope.

Dr. Johari received his bachelor's degree from Indian Institute of Technology and his M.S. and Ph.D. degrees from Drexel Institute of Technology.
space flight with permanent space stations supplied by reusable space shuttles; scientific exploration of the planets; and the maintenance of NASA's basic research skills which are the foundation for future progress.

"It is clear that a major resurgence of research in aeronautics in all speed ranges is required," said Cortright, "and Langley intends to lead the way. One important result of such research will be a commercially practical vertical and short take-off aircraft to help solve our national transportation crisis." A new Low Speed Aircraft Division headed by John P. Campbell will lead this effort at the Center.

Still another promising aircraft concept is the sonic transport which is based on Langley's "supercritical wing." A new generation of transcontinental transports may well develop from this concept, and Langley is leading a project to develop a research aircraft along these lines. This work will be centered about an Advanced Technology Transport Office headed by William J. Alford, Jr.

"These modern aircraft, as well as spacecraft of the future, are critically dependent on lightweight structures," the Director emphasized, "and composite materials show great promise here." A new Materials Division led by William A. Brooks, Jr., will concentrate on this area.

A new Environmental and Space Sciences Division is being created from the considerable scientific talent already existing at Langley. The chief of this division has not yet been selected and a nation-wide search is now underway for candidates.

In recognition of its unique status as the Center's largest single project, the Viking Office will report directly to Cortright.

The new Directorate for Center Development is being established to assist the Director in the planning, execution and review of tasks whose scope encompasses the interests of all or most of the other directorates. The staff of the Directorate, under Eugene C. Draley, will include several of Langley's most experienced and capable research leaders, and will bring their collective expertise to bear on such problems as research and facilities planning, Center growth, professional development, research standards, and relationships with universities, industry and other government organizations.

Initial assignments to the Directorate include Dr. Samuel Katzoff, Chief Scientist; Philip Donely, Chief Engineer; and I. Edward Garrick, Chief Mathematical Scientist.

New positions are being established to assist the Directors for Structures and Space. Richard R. Heldenfels will become Assistant Director for Structures; and Herbert A. Wilson, Jr., Assistant Director for Space. A number of existing research divisions are being renamed to reflect more accurately the scope of their responsibilities, and the tasks of several are being relocated among the newly established divisions.

Other newly appointed division chiefs are as follows: James E. Stitt, Chief of Flight Instrumentation Division; Roger A. Anderson, Chief of Structures Division; John P. Reeder, Chief of Research Aircraft Flight Division; Don D. Davis, Jr., Chief of Space Technology Division (formerly Applied Materials and Physics Division); Vernon L. Alley, Jr., Chief of Systems Engineering Division (formerly Flight Vehicles and Systems Division); Andrew G. Swanson, Chief of Programs and Resources Division.
QUESTIONNAIRES TALLIED

The Langley Researcher Advisory Committee has checked the 709 copies of the “Opinion Poll of Langley Researcher” which have been returned to the Researcher Office and the results have been tallied.

Based on the number of people who answered the questions, with a few direct quotes, the results by percentages are as follows:

How extensively do you read the Researcher? Thoroughly - 60%; partially - 29%; slightly - 11%.

What is your opinion of the Question and Answer column? Concerning the questions 88% thought they were good; 10% were indifferent; and 2% thought they were bad. Commenting on the answers 79% thought they were good, 10% indifferent; 2% bad; and 9% thought that at times the answers were somewhat evasive.

Some of the favorable remarks made concerning the Question and Answer column were: It’s great, I have had a lot of questions answered... Many misunderstandings or gripes are cleared up and answered. Very good, needed something like this for sometime. It gives us a chance to ask a question when we would not know who to ask.

Some of the unfavorable remarks were: Questions good, answers unfortunately illustrate the red tape and how one’s hands are tied by procedures. They sound canned. It is easily recognizable when questions are manufactured. Not interested in hearing others gripes... Would be good if questions are asked by employees and not a setup of questions by Researcher staff. (Editor’s Note: All questions used have been legitimate questions which have been submitted by employees. With a backlog of approximately 75 questions, canned material is not necessary.)

What is your opinion of the gag photos? 70% thought they were good; 10% were indifferent; and 20% felt they were bad.

Some of the favorable remarks were: Hilarious, we can all use more humor in our work... first intellectual endeavor since the beginning. I enjoy them, but it is especially nice to learn that Langley officials can “take a joke” and not be offended. They are a pleasant addition to the Researcher and something that has improved morale. People turn to them first - like kids to the comic section. Enjoyable and good taste... Fantastic, that has been the biggest improvement... Groovy... refreshing... cute.

Some of the unfavorable remarks were: Luckily, the cartoon writers don’t depend on writing for their bread. Poor taste... Sometimes flippant, sometimes degrading, always embarrassing. Terrible, they must be stopped. Waste of space... Corny and ought to be discontinued. Some seem embarrassing... They gag! Some good, some crude.

A total of 92% of those who answered the question preferred the ads listed in one column.

Concerning the question on major news items 53% preferred them Langley oriented, 49% NASA-wide, and 4% other type news.

The Langley lite of the Month or a similar personality column was favored by 70% with 17% voting indifferent, and 13% against the column. Quite a few objected to the name of the column so the heading will probably be changed. The main objection seemed to be that it sounded too much like an award column rather than a personality feature.

What is your general opinion of the Langley Researcher? 87% made favorable remarks; 10% were indifferent; and 3% thought it was bad.

AIAA TO HEAR ZENO KLINKER

The Hampton Roads Section of the American Institute of Aeronautics and Astronautics will present Zeno Klinker and his hilarious program of the funny side of the conquest of air and space entitled “High–er’ n A Kite” at its ladies night meeting on October 14 in the Activities Building.

Klinker is one of Hollywood’s top comedy writers. He is in his 24th year with Edgar Bergen, still writing the jokes for Charlie McCarthy.

Klinker Kre–ating Komedy Kuips and Kraz

His program will include film clips of some of the wackiest air machines ever invented and will be as fascinating to the ladies as to the men. Those who attended his last visit to the local AIAA section in 1966 won’t want to miss his return visit since his program is continually being revised and updated.

The meeting will begin with a social period at 6:30 p.m., followed by a buffet dinner at 7:15. Cost will be four dollars per person and reservations may be made with William C. Woods, 851-5331; Thomas Foughner, 838-4177, or Robert O. Schade, 838-1985.

BLACKOUT TEST SCHEDULED

(Continued from page 3)

Schroeder, payload experimenter; W. Linwood Jones, experimenter; Dr. Calvin T. Swift, experimenter; Louis Hunt, instrumentation systems engineer; William L. Weaver, mission analysis engineer; James W. Cheely, technical project engineer; O. Vernon Marshall, mechanical engineer; Sylvester Kubalak, launch and range operations coordinator; Virgil L. Ball, pyrotechnic engineer; Clyde J. May, electrical engineer.

Also Larry R. Tant, launch vehicle coordinator; Sam Sokol, range systems manager; Aubrey E. Cross, electrostatic probe technician and assistant experimenter; Kenneth W. Crocker, mechanical technician; Charles Fuchs, mechanical technician; Clyde J. Morgan, electrical technician; Stark L. Castellaw, microwave reflectometer technician; Thomas H. Leffel, mechanical technician; Jacob E. Garver, pyrotechnic technician; W. Robert Young, x-band telemetry engineer; and Robert F. Emond, radar recording engineer.

Those in favor of the Researcher used adjectives and superlatives ranging from good to excellent and the greatest. Some of the unfavorable remarks were: Terrible, the whole Base could blow up and it never would be reported... Publication of front office... Stop being a house organ, use integrity... Strongly tied to administrative desires... Sometimes a waste of government money... It is more a management propaganda vehicle than an employee service, except for the menu.
CREDIT UNION DAY PLANNED

On Thursday, October 15, some 40,000,000 Credit Union members, world-wide, will celebrate International Credit Union Day. The Langley Federal Credit Union will do its part by hosting an open house between 10 a.m. and 3 p.m. The occasion will also mark the fourth anniversary of its present location.

All members, actual and potential, are cordially invited to attend. Pete Korycinski, program chairman, and his capable assistants, Fred Schmidt, Larry Brumfield, and Tom Reilly, have spared no effort to make the occasion a memorable one. Refreshments, to include coffee, coca-cola, and various types of doughnuts, will be served with favors for all and door prizes for the lucky few. Plan to attend. In the meantime, just circle the date: Thursday, October 15. Members of the official family will be on hand to renew old acquaintanceships and to make you welcome.

EMPLOYEES RECEIVE AWARDS

Five staff members, pictured here with their supervisors, recently received cash awards for suggestions under the Incentive Awards Program.

The recipients and their suggestions are as follows:

Francis Dvorak, Research Support Division - $30 for the design of a filter assembly spacer which effects an improvement in operational and maintenance procedures for a hydraulic power supply system.

John D. Thompson, Fabrication - $25 for a suggestion relative to the use of a polaroid camera in conjunction with a contour projector in order to obtain a permanent record.


Gerry L. Maynor, Fabrication - $35 for a suggestion relative to the fabrication of a dust seal to keep chips from lodging in the spindle of the Tape-o-matic machine.

Harold V. Stanley, Fabrication - $30 for devising a method of containing radioactive chips during milling operations.

No man is rich whose expenditure exceeds his means; and no one is poor whose incomings exceed his outgoings.

--Haliburton

The manner of your speaking is full as important as the matter, as more people have ears to be tickled than understandings to judge.

--Chesterfield
QUESTIONS AND ANSWERS

Q. Why doesn’t LRC pay for job related commercial correspondence courses when other NASA centers do?

A. A large number of correspondence courses are offered by the departments of the Army, Navy and Air Force and are available to NASA employees at no cost. In most cases a course can be found that will meet the training needs of the interested employee. Another factor is that, statistically, a large number of correspondence enrollees fail to complete courses, therefore, tuition funds would be better utilized when applied to job-related courses taught in local colleges, universities, and local adult education programs.

Q. Since cost reduction and economy seems to be the byword today, is Langley considering eliminating some of the contract services and in particular the taxi service. It seems we could get along very well without the over abundance of taxis now in use at Langley. The shuttle bus system in use about 7 or 8 years ago was a great deal less costly and sufficient. Maybe we should return to the shuttle bus system?

A. Each year the need for continuation of individual contract services is reviewed and such a review was recently conducted with respect to the use of taxi services at the Center. In reviewing the cost of taxis versus shuttle bus, there are many factors to consider besides the actual contract cost.

The present taxi service is more efficient in providing realistic point to point service with a minimum of lost time. Very often the shuttle bus did not operate on an efficient schedule and much time was lost in waiting, and this could be particularly bad in inclement weather. More time was lost at the transfer points, as, for example, when someone was going from the Lunar Landing area or the HPTA to the East Area.

It was the consensus of the reviewer and this was confirmed by Center management that the present service provides the most efficient means of transporting individuals from point to point. It may be that circumstances will change and a future review will serve to cause a reconsideration of that decision.

PUTTING WORDS INTO PEOPLES’ MOUTHS

Instrumentation is required for rapid clinical diagnosis of diseased dental pulp tissue by detection of electrical nerve potentials in diseased teeth. Penetration of the tooth or gum is not permissible. System sensitivity range band pass 10Hz to 5KHz; input impedance about ten megohms. Refer to UMKC-5. Contact the T. U. Office, extension 3281, for the problem statement or if you have a contribution.

$15 each. Hunter, 596-2872.
3-bedroom, 1-1/2-bath, brick split-level with attached garage - $26,600. Bosta, 838-0162.
24-foot Columbia Challenger auxiliary sloop, fully equipped for racing and cruising - $5,000; also 1961 Valiant station wagon - $100. Singleton, 723-3735.
Take over payments on Certified Food Plan with freezer; also apartment size electric stove - $40. Vanasse, 851-2046.
Venetian blinds - 30 x 52, 54 x 52, and 40 x 52 - $2 each; antique satin drapes 60 x 72 and 40 x 72 - $4 pair; two cornices 58 and 74 inches long - $3 each. Martin, 866-9496.
DIRECTOR THANKS STAFF

The overwhelming response of the Langley Research Center to the 1971 Combined Federal Campaign is now a matter of record. I know you share my deep sense of pride in the Center and its staff, which has again shown its real concern for community needs and for the quality of life on the Peninsula.

May I take this opportunity to extend my personal thanks to Jess Ross and all his able assistants, and to each one of you who so generously helped make this campaign such a resounding success.

LANGLEY HOST TO THREE-DAY RADIO BLACKOUT SYMPOSIUM

A three-day technical symposium on the blackout of radio communications with spacecraft and missiles during atmosphere entry was held at the Center Tuesday, Wednesday, and Thursday.

The symposium was the fourth in a series to bring together representatives of various organizations throughout the United States who are working on various technical aspects of the problem.

Edgar M. Cortright, Center Director, and Clifford H. Nelson, Director for Space, opened the symposium on Tuesday morning. Paul W. Huber, Hypersonic Vehicles Division, was general chairman for the symposium, and Dr. John S. Evans, HVD, and William F. Croswell, Flight Instrumentation Division, served as session chairmen.

Langley papers presented at the symposium included the following:

Overview of RAM Reentry Measurements Program by Norman D. Akey, Flight Instrumentation; Reentry Plasma Measurement Using a Four Frequency Reflectometer by William L. Grantham, FID; Electrostatic Probe Measurements of Plasma Surrounding Three 25,000 Ft/Sec Reentry Flight Experiments by W. Linwood Jones and Aubrey Cross, FID; The RAM C-C S-Band Diagnostic Experiment by C. T. Swift, Fred B. Beck and John Thomson, FID; Effects of Entry Plasma on RAM C VHF Telemetry Antennas by W. F. Croswell and W. Linwood Jones, FID; Comparison of Theoretical and Experimental Electron Density for RAM C Flights by C. J. Schexnayder, J. S. Evans, and P. W. Huber, HVD; and Flight Measurements at 25,000 Ft/Sec of Plasma Alleviation by Water and Electrophilic Injection by L. C. Schroeder, FID.

A complete loss of voice, telemetry, and navigational signals occurs between almost all reentering vehicles and (Continued on page 3)

LANGLEY STAFF SETS NEW RECORD IN 1971 CFC EFFORT

As of press time Wednesday, Langley Research Center staff members had again broken all previous records by contributing a total of $133,229.39 to the Combined Federal Campaign.

Jess Ross, Chairman of the Center's effort, pointed out that with a goal of $115,000 this year, staff members were asked to give five percent more than last year and they responded with double that amount. Last year Center employees set a record by donating $123,000.

In special ceremonies held at the Center, Dr. John E. Duberg, Associate Director, made a special report on the campaign to Representative Thomas N. Downing. Rep. Downing is co-chairman of the Federal Division of the CFC drive along with Captain William J. Maddocks, Commanding Officer, Naval Weapons Station.

Rep. Downing said, "I am very proud of all NASA employees and hopefully this will set a pace for the other federal installations and offices in CFC."

Organizational units reporting 100 percent participation in the effort include: Office of Director, Office of Assistant Director for Administration, Administrative Services Division, Personnel Division, Scout Office, and Office, Chief of Engineering and Technical Services.

Ross urged all division coordinators to turn in their final reports as soon as possible to Eleanor Cole and Helen Wiley, financial chairmen.

CFC CEREMONIES: In special ceremonies held last week at the Center Dr. John E. Duberg (center), Associate Director, made a special report on the progress of the Center's Combined Federal Campaign to Representative Thomas N. Downing (right). Looking on is Jess Ross, Chairman of the Center effort.
HAPPENINGS

NEWLYWEDS...Wedding bells rang on September 26 when Mallory James, Instrument Research Division, took his vows with Chris Davis, York County.

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

TIME CHANGE...Effective at 2 a.m. on Sunday, October 25, Daylight Saving Time will end in this area. Accordingly, at 2 a.m. on October 26, all clocks will be moved back one hour to conform to Eastern Standard Time.

UNWANTED FILM...Many people who have old film stored away do not realize film should be sent to the Photo Lab. The reels can usually be reused and silver recovered from the film. Presently there is a shortage of 35 mm reels, 100 and 400 feet size. With the reorganization, much storage material may be thrown out so send unwanted film to Childs, Photo Lab, Building 1192A. Mark package "Waste Film."

PUBLIC MEETING...The League of Women Voters and the Hampton Branch of the American Association of University Women are cosponsoring a public meeting on the proposed changes in the Virginia State Constitution October 29 at 8 p.m. at the Virginia State School, Shell and Aberdeen Roads. The speakers will be State Senator Hunter B. Andrews and Delegates Richard Bagley and John Gray. All staff members are invited to attend.

BRANCH PARTY: Members of Reentry Physics Branch recently had a get together on the grounds of the Activities Building. Plenty of food and games were the main attractions of the day. A large amount of the credit for the success of the feast went to Ken Holley (lower right) who is described as one of the best steak cooks on the Peninsula.

TURKEY SHOOT...The Activities Association's annual Turkey Shoot will be held Saturday, November 7 on the grounds of the Activities Building. Matches will start at 9 a.m. and continue until dark. Ammunition will be furnished for 12, 16, and 20 gauge guns. Bring your own gun and ammunition if different from that mentioned. The cost will be 50 cents per shot. Refreshments will be available in the Activities Building so plan to make it an all-day affair. You may also view your favorite football game of the day on TV in the lounge. A large number of turkeys will be given away during a special drawing. Persons interested in working at the turkey shoot are requested to contact Bob Satterthwaite, 2675.

NEW HEIR...Celebrating the birth of a seven-pound son, Todd Connelly, on October 9 is James W. Ramsey, Facilities and Equipment Engineering 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.
RADIO BLACKOUT SYMPOSIUM
(Continued from page 1)

ground stations or tracking ships. This "radio blackout" is caused by the free electrons which are present about the vehicle as a result of the intense heating of the air in the shock wave formed at the vehicle nose, or in friction of the air with the skin of the vehicle.

The blackout problem has plagued mission designers of both spacecraft and missiles since the earliest spacecraft flights, and many adjustments to the location of tracking stations and to the onboard data and control systems must be made due to the inability to maintain communications during the reentry period.

At the Langley Plasma Sheath Symposium, scientists and engineers discussed new advances in their research which are aimed at achieving the two main goals of the effort.

The first is to be able to accurately predict the amount of radio blackout to be expected for some of the newer space mission concepts and the second goal of the research is to develop more efficient systems which can be used on the vehicles for the purpose of reducing or completely eliminating the blackout period.

Langley Research Center has conducted a number of flight experiments to study the blackout problem and ways by which it can be reduced. The most recent flight in the program, called Project RAM, was made from Wallops Island on September 30, and the reentry occurred near Bermuda where ships, aircraft, and ground stations received research data. This data was discussed at the symposium.

DID YOU KNOW that the "mini" has made its way into the electronic world? Miniaturized timing devices developed by the Langley Research Center weigh less, cost less, and occupy less valuable room in spacecraft. The "mini" version also contributes to the technical versatility of complex circuitry and saves money in operating costs.

MARS LANDER: This photo of a mockup of the Viking Mars lander might give some idea of how the actual spacecraft will look when it settles on the surface of the Red Planet. The spacecraft, scheduled for launch in 1975, will be capable of orbiting Mars and of separating a lander capsule which will soft land on Mars.

SPECIAL AWARD: The Group on Antennas and Propagation of the Institute of Electrical and Electronics Engineers has awarded Certificates of Achievement to (from left): Stark L. Castellaw Jr., Dr. Calvin T. Swift, and Paul B. Gooderum, all of Flight Instrumentation, for their paper on "Experimental Investigation of a Plasma-Covered, Axially-Slotted Cylinder Antenna." The award is given annually to the authors whose papers are published in the Group Transactions and are considered to be significant contributions to the field. The particular research described in the award winning paper is the first plasma-antenna experiment where quantitative agreement with a theoretical model for predicting antenna pattern changes as a function of plasma properties was demonstrated.

MERIT PROMOTION NOTICE
Vacancy announcements opening October 19 and closing October 30 are as follows:

AST, Technical Management, Programs and Resources Division, R and D Programs Group, GS-1301.1-11, 12, or 13 with promotional opportunity, Announcements No. 70-90, 70-92, and 70-93 - four positions.

Clerk (Budget), Programs and Resources Division, R and D Programs Group, GS-301-5 with promotional opportunity, two positions, Announcement No. 70-94.

Program Management Specialist, Programs and Resources Division, R and D Programs Group, GS-301-13 with promotional opportunity, Announcement No. 70-95.

Operations Research Analyst, Programs and Resources Division, GS-1515-12 with promotional opportunity, Announcement No. 70-96.


The following announcements in the Viking Project Office were previously advertised and are reopened to accept applications until October 23:

Aerospace Engineer (AST, Flight Systems), GS-861-12 or 13, Announcement No. 70-52.

Aerospace Engineer (AST, Reliability), GS-861-13, Announcement No. 70-51.

AST, Data Systems, GS-1301.1-11, 12, or 13, Announcement No. 70-54.

AST, Measurement and Instrumentation Systems, GS-1301.1-12 or 13, Announcement No. 70-58.

Consult your bulletin board for detailed information on the new announcements.
LONG, LONG AGO....

While looking over some old issues of Air Scoop (predecessor of Langley Researcher), we ran across a few interesting items that made news 25 years ago. We realize that one group of our readers will sigh “those were the good ole days” and another group will exclaim “crazy, man, I wasn’t even born then!” Anyway, here’s what was happening 25 years ago.

For the benefit of those who weren’t around in 1945, we were involved in World War II and certain items were rationed. An article in Air Scoop stated that Center employees were included in the cigarette rationing program being instituted at the base Post Exchange. Employees were advised to obtain ration cards from Personnel. The ration card entitled the person to whom it was issued to buy one package of cigarettes for each day.

The big war news concerned the fact that the Bell jet propelled P-59, which was tested at Langley, was being used by the Russians against Germany. The new jet was described as looking like a cross between a P-63 and an A-20 (without propellers, of course).

On its way from the factory to the front, the Airacomet visited the Center. Full-Scale Tunnel ran a series of clean-up tests on the airplane and were able to assist in getting its speed to a point where it was more than 400 miles per hour.

HAUNTED HOUSE TO OPEN

A Haunted House will be presented by the Guild of Peninsula Junior Nature Museum and Planetarium, Inc., the week of October 24 through October 31. The house is located at 6138 Jefferson Avenue (two blocks north of Newmarket Shopping Center).

The Activities Association is assisting with decorating the house and tickets are available at the Activities Office, Building 1222, for 50 cents each.

The house will be open on weekdays from 3:30 p.m. to 9 p.m., on Saturday from 10 a.m. to 9 p.m.; on Sunday from 2 p.m. to 9 p.m.; and on Oct. 30 from 10 a.m. to 9 p.m.

DID YOU KNOW that if you feel yourself slipping on ice, etc., you may be able to avoid a serious injury by going limp and slumping loosely down?

REMEMBER WHEN? Many staff members will remember this scene which was so familiar 25 years ago in the East Cafeteria. Perhaps you can still recognize some of the staff members when they were young, green engineers, technicians, secretaries, and computers. For a starter, the gentleman at the reserved table is the late Starr Truscott. The cartoon was drawn by Dot Severance.

TENNIS CHAMPS: The NASA Tennis Club held its mixed doubles championship match last week and Barbara Folkner and Lou Shackelford (back of net) defeated Betty Baker and Jack Butler 6-0, 6-1.
Robert A. Champine, Head of the Pilots Section, Research Aircraft Flight Division, was one of the nation's first test pilots to fly faster than the speed of sound. He made his supersonic flights in the X-1 and D-558 supersonic research aircraft. The X-1 was the rocket aircraft that first carried a civilian pilot beyond the once-feared sound barrier in 1948.

When not flight testing sophisticated research aircraft, Champine prefers to spend his spare time at a more leisurely pace -- cruising in his Cessna 190 which he owns with Norman Crabill, Viking Project Office, and Bill Barnes of Dare. The five-place aircraft has a continental 240 hp radial engine and cruises in excess of 140 mph.

Champine has extensive research piloting experience, both in the military and with NASA, in all types of flight vehicles. He has flown many of the more difficult aircraft of a newer field such as VTOL and has flown test-bed or one-of-a-kind aircraft such as the VZ-2, XV-4A, XV-5A, CL-84, and the XC-142. He has accumulated over 8,000 hours in over 100 types of aircraft over 25 years of flying, 22 years of which have been with NASA. He has obtained a very large amount of valuable data and contributed significantly to the knowledge of supersonic, subsonic, low speed, helicopter and VTOL flight.

A native of St. Paul, Minnesota, Champine was graduated from the University of Minnesota in 1943 with the degree of Bachelor of Science in Aeronautical Engineering. While attending college, he began primary flight training under the Civilian Pilot Training Program and was later commissioned a Naval Reserve Officer.

After serving a year at the Naval Air Station, Seattle, Washington, he resigned his commission to enter flight training as a naval cadet. He received his wings and commission in 1946 and served as a fighter pilot and later with a ferry squadron. He is now a Commander in the Naval Reserve Training Unit, Norfolk.

When is 'park' not 'park'?

WHEN IS ‘PARK’ NOT ‘PARK’?

When is park really not park? According to the experience of one of our staff members, it's when you put your car in park and end up having to chase it down the street.

Duane McSmith, Safety Officer, pointed out that automatic transmissions have a position marked ‘Park’ and there is considerable emphasis in safety literature instructing drivers to use and have confidence in this safety feature.

This is fine, except the mechanical linkage and internal mechanical pin must be properly adjusted and have minimum wear for this feature to be trustworthy.

It is not uncommon for the transmission to slip out of ‘Park’ into ‘Reverse’ or ‘Low’ and with the motor running your car is off and running, according to McSmith.

Use ‘Park’ but don’t totally depend on it. Your confidence can be improved if the linkage is checked and maintained. Of course, you are in a much safer condition with the emergency brake on, the transmission in ‘Park’ and the motor off.

You might consider this when loading or unloading your boat on the trailer.

EMPLOYEES DONATE BLOOD.

The Bloodmobile visited the Center on September 23 and staff members donated a total of 160 pints of blood.

Andrew R. Wineman topped the donors by reaching the six-gallon mark. Henry Heyson and Jack Ashe completed their quotas for four gallons and Earle Koch and William Carroll received three-gallon pins.

One gallon donors were Clemans Powell, William C. Wood, Robert B. Davis, James L. Dillon, Richard Morris, Carroll Williams, Joseph Drozdowski, James Leiffer, and Tony L. Parrott.

Assisting during the visit were Dr. B. E. Hunt and Dr. Ted Gray.

The next Bloodmobile visit to the Center will be on Dec. 2. Staff members who wish to donate blood and who have not registered for the program may do so by calling East Dispensary, extension 2243.

DID YOU KNOW that in a lightning storm, if your hair stands on end and your skin tingles, you may be experiencing an electrical charge indicating that lightning is about to strike you? Drop to the ground immediately.

DID YOU KNOW that foot trouble is six to ten times more common in women than in men? It is even more common in workers who don't wear safety shoes when the job calls for them.

He was released from active duty in 1947 and immediately joined the Langley Center staff. He was transferred to NASA's Flight Research Center for a year and a half and returned to Langley in 1950.

Champine's hobby of building model airplanes earned him a trip to Weisbaden, Germany, in 1955 as a member of the United States team in an international model contest.

He is a member of the American Helicopter Society, the Soaring Society of America, and the National Aeronautical Association.

Champine makes his home in Yorktown with his wife and six children.
GOLF WINNERS: Winners of the golf tournament held Oct. 1 are (from left): Sumner Leadbetter, winner of third flight; Gene Naumann, NASA Golf Association Champion, winner of the second flight and winner of low putts; Lemuel Forrest, runner-up in second flight; Bill Rouse, runner-up in first flight; and Bill Lassiter, low gross winner and winner of first flight. Absent when the picture was taken was Harry Mann, runner-up in third flight. - Photo by Fred Jones

NAUMANNN WINS GOLF TITLE
The NASA Golf Association held its fourth tournament of the year on Thursday, October 1, at the Langley Golf Course. Fifty-two players teed off for the NASA Golf Championship of 1970 and for $148 in prizes.

Gene Naumann is the new NASA Golf Association Champion with an 80-16-64. Gene also took low net in the second flight and low putts with 28. Bill Lassiter was low gross winner with a 76.

Tournament results according to flights were as follows:
First Flight - Lassiter 76-9-67 and Bill Rouse 79-12-67.
Third Flight - Sumner Leadbetter 93-26-67 and Harry Mann 90-21-69.

The next match will be played Tuesday, October 27 against the Norfolk Naval Shipyard at the Suffolk Golf Course.

NASA GOLF TEAM WINS MATCHES
The NASA Golf Team scored wins in its last two matches. On September 12 at Hampton Court Club NASA defeated VEPCO 19-1/2 to 4-1/2. All trophies were won by NASA golfers as follows: Low gross - Jerry Deaton, 77; runner-up low gross - Bernie Garrett, 79; low net - Tom Bales, 84-16-68; and runner-up low net - Walt Olstad, 83-13-70.

On September 26 at Gloucester NASA again showed its excellence by defeating Horn Brothers 14-10. NASA again took all the sliver with the following winners: Low gross - Jim Jones, 76 (won on the second hole of a sudden death playoff with teammate Howard Carter); runner-up low gross-Carter, 76; low net - Bob Keller, 90-23-67; and runner-up low net - Reed Hall, 91-24-67.

The reason why so few good books are written is that so few people who can write know anything. - Walter Bagehot

NASA TO USE METRIC SYSTEM
In 1790 Thomas Jefferson, then Secretary of State, suggested that the United States adopt the metric system. Had the Congress acted promptly on the proposal this country would have been the first nation to use it.

As it turned out, the new French Republic voted the metric system in 1792, and it looks as if the U.S. will be one of the last major countries to do so.

NASA has picked up where Jefferson left off and has become the first federal agency to make the metric system the primary method of expressing measurement.

NASA’s Technical Reports, Technical Notes, Technical Memoranda, Contractor Reports, and Special Publications are covered by an agency directive. It requires that these documents scheduled for publication 60 days or more after the issuance of this directive comply with the new policy. This puts the beginning date about November 14.

NASA’s actions is, in part, a result of its role in assisting the U.S. Bureau of Standards in a recent study to determine the impact on the nation of the increasing use of the worldwide metric system.

Among the nations of the world, only the U.S., Great Britain, Canada, Australia, and New Zealand continue to use the English system, and Great Britain is now converting to the metric system and the Commonwealth nations intend to follow.

The English System uses inches and feet as a measure of length, ounces and pounds to measure weight, and the Fahrenheit degree as a unit of temperature. The Metric System, on the other hand, is simpler because it deals in decimals, or multiples of ten. In this system, units of length are expressed in meters, weight in grams, and the Celsius degree (Centigrade thermometer) as a unit of temperature.

Officials at NASA are strong advocates of the metric system, feeling that it is more efficient for science and engineering.

Can You Solve This Problem?
An improved technique is needed for preparing standard concentrations of CO and CH4 for use in dynamically calibrating CO and hydrocarbon analyzers. The system must be capable of accurately delivering microliter quantities of CO and CH4 into an air stream, be reproducible, stable, temperature and pressure sensitive, relatively inexpensive, and portable. Refer to AP-50. Contact the Technology Utilization Office, extension 3261, for the problem statement or if you have a contribution.

CONGRATULATIONS
The following persons are to be congratulated for their contributions or suggestions to the Technology Utilization Office toward the solution of biomedical and public sector problems: John R. Davidson, John McFall, Emanuel Rind, George F. Pezdirz, Sue K. Seward, Gilbert H. Walker, R. Gale Wilson, Charles B. King, and George L. Meidinger.

DID YOU KNOW that most fire victims die from smoke inhalation, not from burns?

Any man will make a mistake; none but a fool will stick to it.

Those who have few things to attend to are great babblers; for the less men think, the more they talk. - Montesquieu
**EXPLORER POST MEETS OCT. 21**
An organizational meeting of the NASA-Langley Research Center Explorer Post No. 36 will be held Wednesday, Oct. 21 at 7:30 p.m. in the Activities Building (Building 1222).
This Explorer Post is open to all young people, both male and female, who are 15 years old (or 14 and in the ninth grade or higher) and not more than 21 years old, and are interested in exploring NASA related interest areas. The overall Explorer program, which is career oriented, will be explained at the organizational meeting, and the various interest groups will be presented and formed. Registration and refreshments will conclude the program. Parents of Explorers are invited to attend.
This is the fourth year the Center has sponsored an Explorer Post. Last year the NASA Post had a peak enrollment of 72, representing eleven high schools and three junior high schools throughout the Peninsula. The six interest groups formed were Aeronautics; Computer Science; Optics; Space Biology, Life Support, and Human Factors; Electronic Circuity; and Electronic Computers. Each study group was lead by scientists, engineers, and technicians with specialties in the subject area.
Staff members assisting in last year’s program included Joseph R. Chambers, William P. Gilbert, James Kelly, Harry, Pilgrim, Ward Schoonover, Dr. Robert Fulton, Benson Dexter, Jim Anderson, Roger V. Butler, George B. Boyles, Archibald R. Sinclair, Robert B. Spiers, Joseph H. Goad, Robert W. Johnson, Dr. Randall M. Chambers, Dr. Thomas Wilson, Dr. Judd Wilkins, Carmen E. Batten, William M. Phillips Jr., Carl E. Copeland, William M. Willoughby, Donald E. Plizbeck, and Malcolm P. Clark, Post Advisor.
For further information call John Witherspoon, Post Advisor for 1970-71, extension 2611, or Malcolm Clark, 2517.

**CAFETERIA MENU**
The following menu will be served in the cafeterias during the week of October 19:
- **Monday** - Cream of potato soup, simmered corned beef and cabbage, roast pork, fried fish, baked hash. Snack bar - Soup, hamburger, cheeseburger, corned beef, French fries.
- **Tuesday** - Eggdrop soup, roast beef, grilled smoked ham, chicken chop suey, Irish omelette. Snack bar - Soup, ham and egg, hot roast beef.
- **Wednesday** - Tomato-barley soup, country-style steak, smoked piga-in-a-pone, chicken livers, Spanish frankfurters. Snack bar - Soup, hot dogs, steak sandwich, German potato cakes.
- **Thursday** - Chicken gumbo, seafood Newburg, meat loaf, fried chicken, grilled cheese and bacon. Snack bar - Soup, barbecued pork, flying saucer, French fries.
- **Friday** - Clam chowder, pot roast of beef, fried oysters, stuffed pepper, broiled luncheon meat. Snack bar - Soup, broiled luncheon meat, hot roast beef, French fries.
The menu for the week of October 26 is as follows:
- **Monday** - Puree of bean soup, pepper steak, fried fantail shrimp, knockwurst, Austrian ravioli. Snack bar - Soup, fish sandwich, steak sandwich, French fries.
- **Tuesday** - Cream of tomato soup, grilled pork chops, fried scallops, spaghetti and meat sauce, tamale pie. Snack bar - Soup, hot dogs, hot pastrami, German potato cakes.
- **Wednesday** - Vegetable-beef soup, roast beef, broiled fish, baked lasagna, chili-mac. Snack bar - Soup, hamburgers, hot roast beef, fried eggplant.

**TECHNOLOGY AWARD:** Charles W. Meissner Jr., Flight Instrument Division, recently received a $25 technology cash award for his Tech Brief 69-10479 entitled "Literal Read-out of Identification Signals in Morse Code." The award was presented by Dr. John E. Duberg, Associate Director. Tech Briefs summarize new inventions, innovations, or improvements having potential industrial applications and are published through NASA’s Technology Utilization Program for nation-wide distribution. Numerous private companies subscribe to this service as a means of incorporating new materials, techniques, manufacturing processes or inventions made through aerospace research.

**TECHNOLOGY UTILIZATION NEWS**
The first and most important step in the process of effective technology transfer is to adequately describe or document the new or improved device, method, or technique involved. Without a suitable title or “handle,” it is difficult to properly identify and evaluate reportable items of new technology. Valuable gems of technology may thus be overlooked or delayed if not given the documentation they deserve.
When submitting reportable items of new technology, particularly where patent disclosures are not involved, consult your T. U. Office or T. U. monitor in your division about “How to Submit.” A format is available to cover the salient points of documenting reportable items. It is a well recognized fact that the most creative innovators are often not the best technical writers, so don’t be bashful in submitting your ideas.
Your T. U. Office is anxious to help you get your new gems of Technology into its pipeline to industry via Tech Briefs, compilations, or surveys in the SP-5000 series of Special Publications. If you build a better mousetrap, the world will indeed beat a pathway to your door by way of the T. U. Program.

- **Thursday** - Chicken-rice soup, chicken and dumplings, baked ham, Salisbury steak, fish cakes. Snack bar - Soup, barbecued pork, flying saucer, French fries.
- **Friday** - Cream of mushroom soup, slices of barbecued beef, stuffed flounder, chicken chow mein, baked hash. Snack bar - Soup, ham and egg, slices of barbecued beef.
Questions And Answers

Q. When is the exiting traffic problem at the West Area Main Gate going to be corrected? Five lanes of traffic now merge into two. The problem stems from two lanes of traffic from North Taylor Road merging into the two lanes of traffic on Walcott Road. When only one lane of traffic from both North Taylor and South Taylor Roads merge with the Walcott traffic the traffic flow is much smoother and faster.

A. Action has been taken to paint a double solid yellow line down the middle of Taylor Road from its intersection with Walcott Road extending beyond the entrance to Building 1293 parking lot. This street marking is one of many such recommendations made as a result of a recent Center-wide traffic survey; however, in view of the problem created by a double lane of merging vehicles, this action has been implemented immediately. Center employees who are now using the north bound lane of North Taylor Road to exit Gate 4 in the afternoon are requested to refrain from this practice of forming a double lane.

Q. What is the status of alcoholic beverages being served by the Activities Association after working hours? I know a memorandum was submitted to management almost a year ago asking for permission. To my knowledge the Association has yet to receive a reply.

A. The Langley Activities Association request for permission to dispense mixed alcoholic beverages after duty hours, on occasions, at select social functions has been approved as of August 10, 1970.

Q. Who pays for meals of visiting dignitaries?

A. The large majority of Center visitors pay for their own meals. A very few distinguished guests of LRC are hosted from a special fund exclusive of the NASA-LRC Exchange fund.

Q. From what source(s) does the Langley Exchange Council get its funds?

A. The Langley Exchange derives its funds solely through the operation of the cafeterias and from vending machines. All funds are non-Government and are officially classified as "non-appropriated funds."

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small speaker in finished wooden case - $10.
C. W. Brooks, 244-3064.


The following books are for sale from the NASA Exchange, extension 3511, Building 1218: Schaum’s Outline Series - Vector Analysis and Fluid Mechanics and Hydraulics. 1963 Tempest, 4-cylinder - $175. Price, 898-6868.
1964 37-foot Trojan with new engines, all accessories - $15,000. Johnston, 596-8910 after 6 p.m.
1/2 horsepower shallow well jet pump with check valve, float valve, pressure switch, grounded cord; also assorted lengths of 1-1/4-inch flexible plastic pipe with fittings. J. M. Price, 877-7912 after 3 p.m.

IN GOD we trust - all else should be checked for safety.

To get into the best society nowadays, one has either to feed people, amuse people, or shock people. - Wilde
GUEST SPEAKER: Neil A. Armstrong, the first man to walk on the Moon, was guest speaker at the Center’s annual awards ceremony which was held October 14 in the NASA Hangar. Shown in the background are I. Edward Garrick, who received a diamond-studded 40-year service pin, and Edgar M. Cortright (right), Center Director.

SCOUT CONTRACT AWARDED

NASA has combined contract activities in the Scout launch vehicle program into a single procurement action covering a three-year period starting November 1.

A fixed-price-incentive-type contract with award fee features for efficient management and superior technical performance has been awarded to LTV Aerospace Corporation, Missiles and Space Division, Dallas, Texas. It is valued at $24,587,976.

Purpose of the single package contract is to effect administrative economies and consolidate a variety of support and manufacturing services which have been performed under separate contracts with LTV Aerospace Corp.

The contractor will furnish NASA a range of services which will include: project direction; payload coordination; preflight planning; data reduction and analysis; systems engineering; reliability assurance; standardization and configuration control; vehicle modification, checkout, delivery and launch support; San Marco engineering support; training; logistics support; hardware development; and maintenance of ground support equipment at the various Scout launch sites.

Scout, the United States’ only orbital launch vehicle using all solid fuel rockets, is the outgrowth of a development program begun by the Langley Research Center in 1958. First launch occurred at Wallops Island in July 1960, and the

(Continued on page 3)

HYPersonic RESEARCH ENGINE: First wind tunnel tests of a Hypersonic Research Engine under development by NASA took place at Langley Research Center last week. Tom F. Bonner, Systems Engineering Division, checks the engine which is installed in the 8-foot High Temperature Structures Tunnel which produces a stream of hot gases moving at eight times the speed of sound -- more than 5,000 mph. The wind tunnel tests are intended to demonstrate that the flightweight engine, cooled by liquid hydrogen, can repeatedly withstand the intense thermal strains of flight at Mach 8.

The research engine was built for NASA under contract by the AiResearch Manufacturing Co., Los Angeles. The research program is under the overall guidance of Langley’s Director for Aeronautics, Laurence K. Loftin Jr. and is headed by Dr. Kennedy F. Rubert.

(Continued on page 3)
HAPPENINGS

APPRECIATION NIGHT. . . The Activities Association will have its workers appreciation night Saturday, November 21 at the Activities Building. All carnival workers are invited. Those planning to attend are requested to send their names to Bob Satterthwaite, MS 317; Jeanette George, MS 142, or Herb Boulter, MS 236, by November 6.

TURKEY SHOOT. . . Center sharpshooters are reminded that the Activities Association’s annual turkey shoot will be held Saturday, November 7 at the Activities Building. Matches will start at 9 a.m. and continue until dark. Ammunition will be furnished for 12, 16, and 20 gauge guns. Bring your own firearm and ammunition if different from that furnished. The cost will be 50 cents per shot. A number of turkeys will be given away during a special drawing. These tickets may be purchased from your representative for 25 cents each. Persons interested in working at the turkey shoot are requested to contact Bob Satterwaite, 2675. Refreshments will be available in the Activities Building and you may view your favorite football game of the day on TV in the lounge, so plan to make it an all-day affair.

DIAPER LINE. . . Weighing in at seven pounds, six ounces on September 18 was William Daniel, new son of Roland William Lee, Personnel Division. . . Passing out cigars and candy is David L. Gray. He and his wife, Nancy, both of Instrument Research Division, became proud parents of a seven-pound, fifteen-ounce son, David L. Jr., on October 1. Arriving just in time to make the Researcher deadline was Roland Thayer Sheets Jr. He weighed in at six pounds, six ounces on October 22 and the proud parents are Betty, Full-Scale Research Division, and Thayer Sheets, Personnel Division.

SEES REGRETS. . . Wilma S. Betts, who retired from the Procurement Division a couple of years ago, sent her re-

HAUNTED HOUSE: Preparing out-of-this-world creatures for the Haunted House which is on display at 6138 Jefferson Avenue through tomorrow are (from left): Frances Rose, Betty Farmer, Dariene Dillon, and Shirley Brown, all of Analysis and Computation Division.

SEEING IS BELIEVING? Not necessarily so. George Wyatt, Research Support Division, seems to be struggling to hold one end of an 80-foot-long helium storage bottle which weighs 5.34 tons. Actually the bottles are all firmly placed on the trailer.

Sends regrets that she was unable to attend the Center’s Honor Awards Program. She wrote, “I am sorry to say that time and distance will prevent my attending, but my thoughts will be with you. I am enjoying my retirement but I do miss the friendly relationships I experienced during my association with Langley Research Center.” Mrs. Betts, who now lives in Hacienda Heights, California, was known to many staff members as the lady who collected the insurance premiums.

AIE HEARS STAFF MEMBERS

Anshal I. Neihouse, Office of Director for Administration, was one of the keynote speakers at the two-day conference of the American Institute of Industrial Engineers which ends today in Williamsburg. Host for the annual conference is the Southeastern Virginia Chapter.

The theme of the conference is “Profits” and Neihouse spoke yesterday on “Profits from Space Exploration.”

At a session held yesterday afternoon on cost reduction, Edward T. Maher, Chief of Management Support Division, spoke on “Federal Government Cost Reduction Program.” Glen Ford, also of Management Support Division and past president of the Southeastern Virginia Chapter, served as panel moderator.

Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23635, 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

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CAFETERIA MENU

The following menu will be served in the cafeterias during the week of November 2:

Monday - Tomato-barley soup, roast pork, braised beef tips, Polish sausage, franks and beans, Snack bar - Soup, hot dogs, hot corned beef.

Tuesday - Split green pea soup, broiled smoked ham, Spanish pot roast, creamed dried beef on biscuit, cheese omelette. Snack bar - Soup, ham and egg sandwich, roast beef, fried eggplant.

Wednesday - Cream of potato soup, chopped steak, fried fish, barbecued pork chunks, chili con carne. Snack bar - Soup, barbecued pork, Lou's satellite special French fries.

Thursday - Chicken gumbo, hot roast beef sandwich, meat loaf, fried chicken, grilled cheese. Snack bar - Soup, grilled cheese, steak, French fries.

Friday - Manhattan clam chowder, fried oysters, broiled fish, liver and onions, macaroni and wiener. Snack bar - Soup, hamburgers, baked ham, French fries.

The menu for the week of November 9 is as follows:

Monday - Puree of bean soup, baked ham, beef stew, Salisbury steak, western omelette. Snack bar - Soup, ham and egg, flying saucer, French fries.

Tuesday - Cream of celery soup, roast beef, grilled pork steak, clam croquettes, Spanish franks. Snack bar - Soup, hot dogs, roast beef, German potato cakes.

Wednesday - HOLIDAY

Thursday - Vegetable-beef soup, beef stroganoff, stuffed flounder, minute steak, Austrian ravioli. Snack bar - Soup, cheeseburger, steak sandwich, French fries.

Friday - Chicken-noodle soup, chicken and dumplings, baked hash, chuckwagon steak, broiled fish. Snack bar - Soup, fish sandwich, chuckwagon steak, French fries.

TECHNOLOGY UTILIZATION NEWS

Langley Tech Brief 70-10520 entitled "Nondestructive Spot Tests Allow Rapid Identification of Metals" by Maywood Wilson, Fabrication Division, is proving to be very popular throughout America's industries. Since its publication on September 21 more than 200 inquiries have been directed to the T. U. Office for the backup information or Technical Support Package (TSP). The TSP outlines step-by-step procedures for identifying a variety of metals and alloys in only a few minutes. Positive identification of alloys is a must in quality control and reliability assurance of space vehicles.

Such response to a Tech Brief indicates a real need in industry for such transferable technology and this Tech Brief with its associated TSP will no doubt prove to be a most useful medium to effect this transfer. It will probably qualify for special technology awards in excess of the initial $25 that Wilson will receive.

This is only one example of the numerous transfers of technology from NASA to users outside the aerospace industry. Stay on the alert for items of new technology and report them to the T. U. Office.

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One machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man.

--Elbert Hubbard

The true, strong, and sound mind is the mind that can embrace equally great things and small. --Samuel Johnson

EXPLORER POST WINS AWARD: Kurt Runge, President of the Center-sponsored Explorer Post 36, displays Explorer Olympics plaque to General Knowledge Quiz participants Linda Dixon, Dorris Ragsdale, and Jane Nelson. Post 36, with only four participants in the quiz, amassed enough points to wind third place overall in the Explorer Olympics held October 2 and 3. Not present for the picture was Mark Chambers, the fourth participant, who was in Houston attending the National Explorer Conference and Symposium. There are still a few openings in Post 36 which held its organizational meeting on October 21. For further information call extensions 2611 or 2567.

SCOUT CONTRACT AWARDED

(Continued from page 1)

Scout became operational in March 1962. Scout has now accumulated a history of 69 launches, carrying payloads of the United States and several other nations on Earth-orbital, space probe and reentry missions.

LTV Aerospace Corporation has been associated with the Scout program since its beginning.

Launch sites for Scout are maintained at Wallops Station on the east coast; at the Western Test Range, Lompoc, California, on the west coast; and on an off-shore platform near the equator off the east coast of Africa. The equatorial launch site is operated by the Italian government as a part of its San Marco space research program.

The contract will be managed for NASA by the Langley Research Center through the Scout Project Office headed by Roland D. English.

Can You Solve This Problem?

Thousands of children classified as mentally retarded are believed to be suffering not from mental retardation but from hearing difficulties. If hearing defects can be identified early in infancy, many youngsters may be prevented from becoming mental retardates. A system has been developed to provide averaged EEG signals during periods of auditory stimulation, but its major problem is that of substantially reducing its size. Contact the Technology Utilization Office, extension 3281, for the specifications of the instruments in the system requiring miniaturization or for additional information. Refer to D-1.
STAFF MEMBERS RECEIVE SPECIAL ACHIEVEMENT AWARDS

Brian Pritchard, C. H. McLellan, Ed Harrison, E. M. Cortright
Norman D. Akey
Vernon L. Alley

Wilbert C. Falk
Herbert F. Hardrath
Paul W. Huber

Louis H. Hunt Jr.
Raymond C. Montgomery
Albin O. Pearson

Robert T. Swann
William L. Weaver
John W. Young, Albert A. Schy, E. M. Cortright
ANNUAL AWARDS CEREMONY
(Continued from page 1)

Amethyst-studded pins representing 35 years of Federal service were received by Joe Bosta Jr. and Hovis G. Carter, both of Operations Support Division; Blake W. Corson Jr., High Speed Aircraft Division; Anshal I. Neibhouse, Office of Director for Administration; Charles C. Shuffelbarger, Space Systems Division; Thomas R. Turner, Low-Speed Aircraft Division; and James C. Tingle, Personnel Division.

Eighty-nine Center employees were honored for 30 years of Government service and 144 were cited for 25 years of service.

Seven Group Achievement Awards and 15 Special Achievement Awards were presented. Group Achievement Awards were presented to the following:

The Regenerative Life Support System Technical Management Group was cited "for outstanding performance in the technical direction and operation of the first test of a closed life support system that successfully supported four men in a simulated mission for 90 days." Members of the group were Dr. Randall M. Chambers, William N. Gardner, David C. Grana, Robert W. Johnson, Charles W. McKee, Albin O. Pearson, Dan C. Popma, Dr. Rayford T. Saucer, and Dr. Judd R. Wilkins.

Ray M. Burcher, Claude F. Burge, James W. Campbell, Elliott S. Gay, George F. Lemke, Ralph E. Moscater, Harold L. Shaw, and W. Kent Smith, members of the Volunteer Ambulance Team, were cited "for providing outstanding, vital, and humanitarian emergency first aid and ambulance service to Langley Research Center employees."

The Langley HL-10 Research Team was recognized "for sustained research and development of the Langley HL-10 lifting entry vehicle, culminating in a research vehicle that has successfully met or exceeded all goals in actual piloted flight operations conducted by NASA's Flight Research Center."

Members of the team were James C. Dunavant, William B. Kemp, Charles L. Ladson, Eugene S. Love, Linwood W. McKinney, Martin T. Moul, John W. Paulson, Robert W. Rainey, and Sandy M. Stubbs.

Robert A. Champine, Henry L. Kelly, Robert L. Mundie, Norman R. Richardson, Robert O. Schade, William J. Snyder, Jerry J. Thibodeaux, and Louis P. Tosti, members of the XC-142 VTOL Airplane Flight Research Team, were honored "in recognition of outstanding teamwork and performance in conducting, in a highly successful manner, the low-speed flight-research program with the XC-142 tilt-wing VTOL aircraft."

The Apollo XIII Investigation Support Group was cited "for imaginative and quick response in providing theoretical and experimental investigations in support of the Apollo XIII Review Board thus contributing to the rapid determination of the cause of the Apollo XIII accident." Dr. George W. Brooks, Director for Structures, accepted the award on behalf of the following divisions: Analysis and Computation, Applied Materials and Physics, Aero-Physics, Dynamic Loads, Fabrication, Flight Vehicles and Systems, Instrument Research, Research Models and Facilitites, Research Support, Structures Research, and Technical Information and Utilization - Photographic Branch.

An award for development of methods for computing the heating on blunt hypervelocity reentry bodies was presented to Elden S. Cornell, Dr. Wayne D. Erickson, Ralph A. Falanga, L. Bernard Garrett, Randolph A. Graves, Dr. G. Louis

AUTOGRAF HOUNDS: Following the Center's awards ceremony Neil Armstrong was flooded by requests for autographs. Here he signs a program for Robert C. Spencer and his wife while Julia Wheary waits her turn. Spencer was the recipient of a 40-year service pin.

Smith, Edward M. Sullivan, and John T. Suttles. They were cited "for outstanding accomplishment in the development of a system of analytical methods for the computation of complex flow phenomena about blunt ablating bodies at velocities typical of manned return from interplanetary flight."

The RAM C Project Group was honored "in recognition of the outstanding and dedicated effort of the RAM C Project Group in significantly contributing to the basic understanding of radio frequency transmission through the ionized plasma sheath that surrounds hypersonic reentry vehicles."

The award was accepted by Norman D. Akey on behalf of the following organizational units: Aero-Physics, Analysis and Computation, Applied Materials and Physics, Fabrication, Flight Instrumentation, Flight Vehicles and Systems, Procurement, and Scout Project Office.

Special Achievement Awards were presented to the following individuals for outstanding contributions in their special fields of endeavor, resulting in the advancement of the aeronautical and space sciences:


A fool may ask more questions in an hour than a wise man can answer in seven years. --English Proverb

DID YOU KNOW that radial tires, unless paired on the same axle can cause serious vehicle handling difficulties, sometimes with fatal results? NEVER use a lone radial tire.

DID YOU KNOW that the skin of an average adult human being measures about 17 square feet, ranges in thickness from 1/8 to 1/32 of an inch, and weighs about 6 pounds?
REMEMBER WHEN? This cartoon which was drawn by Dot Severance, Air Scoop Art Editor in 1945, will bring back many memories to staff members who still reminisce about the Green Cow Dance days. You may recognize some of your co-workers in their young, party-going days. For a start, the singer on stage with the band is Tiny Hutton, former Air Scoop Editor and now Administrative Assistant to Representative Thomas N. Downing. The wolves lined up at right are (starting at center): Axel Mattson, Special Assistant, Office of Director for Center Development; Dick Dingledein, Space Systems Division; Hank Fedziuk, Chief of Technical Information and Utilization Division; John Houbolt, formerly of Space Mechanics Division and now Vice President of Aeronautical Research Associates of Princeton; and Reginald “Buck” Barber, formerly of Procurement Division and now assigned to Washington Headquarters.

LONG, LONG AGO....

Back in the 1940s one of the first names that a new employee heard mentioned in connection with social functions was that of the Noble Order of the Green Cow - forerunner of the Activities Association. He soon found out what the organization did when he attended one of their dances at the Hampton Armory.

The Green Cow’s fascinating history dates back to the 1920s. In the early days when the 60 or 70 employees of LMAL (Langley Memorial Aeronautical Laboratory) carried on all their activities in five buildings, every new man had to fall victim to a little horseplay to see whether or not he was a good fellow. This sometimes took the form of a dose of itching powder or a brush with a booster magneto and was always referred to as being initiated into the Noble Order of the Green Cow. The name was brought in by a junior engineer whose alma mater had had an organization with a similar one.

The first time that dances came into the picture was the occasion of the opening of the Service Building (Building 586) in 1925. The staff thought that the dances should be continued and a committee was set up to make the plans. They then transferred the name to their group. The organization began to get so large that a lot of the personal touch was lost and the horseplay died out.

As the Laboratory grew, so did the Green Cow, and its activities along with it. The membership ran to several hundred who got together about once every month for a dance. Membership was open to any employee of the Laboratory and the yearly fee was $3.50.
MERIT PROMOTION NOTICE
Vacancy announcements opening November 2 and closing November 13 are as follows:

- Head, Materials Processing and Development Section of the Structural Fabrication Branch, Fabrication Division - Supervisory Engineering Technician, GS-802-12 with promotional opportunity, Announcement No. 70-104.
- Payroll Clerk, Financial Management Division, Voucher Processing Branch, GS-544-4 or 5, Announcement No. 70-105.

The following announcements are amended and reopened effective November 2 and will close November 6:
- Aerospace Engineer (AST, Reliability), Viking Project Office, amended to GS-861-12 or 13, Announcement No. 70-51.
- Engineering Technician, Operations Support Division, Electrical Support Branch, Plant Electrical Section, amended to GS-802-8 or 9, Announcement No. 70-63.

EXAMS OPEN FOR SUMMER JOBS
The federal government is accepting applications for the 1971 test required for certain summer jobs. Passing the examination will qualify students for office jobs that pay $79.20 to $112.40 per week.

Three nationwide examinations are being given for summer employment in Federal installations. Filing dates and the scheduled dates for examinations are as follows: December 4 with exam scheduled January 9, January 8 with exam set for February 13, and February 3 with exam scheduled March 13.

Candidates who want to take the test should ask for a copy of Announcement No. 414 Summer Jobs in Federal Agencies, which may be obtained from high school counselors, college placement offices, major post offices, and federal job information centers.

For further information call Employment Office, 2583.

CONTRACT SIGNED: T. Melvin Butler (right), Director for Administration, and Donald B. Everitt, Director of Administration, College of Hampton Roads, sign a college work-study program contract whereby college students in the local area are assigned to part-time duty at the Center. Looking on is Jane A. Swartzwelder, coordinator of the Center's work-study program and also Federal Woman's Woman's Coordinator.

SWAP AND SHOP
FOUND
Pair of black-rimmed prescription glasses in black case from White Optical Co. - found in Activities Building parking lot Oct. 10. Marek, 2014.

LOST

WANTED
Fifth driver from Williamsburg to W.A. on 8 shift. Maiden, 2134.

FOR SALE


1967 Chevrolet half-ton fleetwide truck with insulated shell camper. Mullins, 851-2234.

8 x 24-foot Troutwood mobile home - furnished, carpeted, air conditioned. Lee, 722-6762 after 5 p.m.

Two 8 x 14 snow tires mounted on Chevrolet wheels - $30. Dingeldein, 596-3207.

66 x 100-foot ocean side lots at Nags Head, N.C. Callis, 539-7915 after 6 p.m.

Girl's 20-inch Schwinn bicycle with training wheels - $10. Guy, 723-1235

Rat Terrier puppies. Harvey, 595-0026 after 4:30 p.m. on week days and all day Saturday and Sunday.

12-gauge (3-inch magnum) shotgun with 26-inch modified and improved cyl. barrels - $80. Ellison, 877-5512.

Twin bed with springs and innerspring mattress. Wetterling, 596-2063.


BROCHURES AVAILABLE: The Awards Program Office has on hand a limited number of the following brochures: 1970 LRC Honor Awards Ceremony and The Awards Program at LRC. Employees desiring copies may call 2214.
PUTTING WORDS INTO PEOPLES’ MOUTHS

ACCORDING TO MY CALCULATIONS, IT WAS LAID BY A 3,000-POUND CHICKEN!

FIRE PREVENTION "NO NO’S"
DO NOT allow combustibles to pile up, BUT keep work and storage areas clean and orderly.
DO NOT empty ashtrays into wastebasket, BUT leave them for charforce to dump.
DO NOT throw matches or smoking materials into wastebasket.
DO NOT use hot plates, etc., on wood or other burnable surfaces such as desks, cabinets, tables, etc.
DO NOT dispose of oily rags, etc., in other than approved safety containers.
DO NOT allow light bulbs to rest against burnable materials.
DO NOT use electrical equipment with frayed wiring, BUT contact electrician for replacement cord.
DO NOT insert improper or overrated fuses in fuse boxes.

Questions And Answers

Q. Are there any NASA directives or regulations that prohibit the wearing of pant suits (not casual slacks) by female employees? If not, may they be worn?
A. To our knowledge there are no NASA directives or regulations governing the dress of employees. There are, however, some areas in which safety or other practical considerations dictate the wearing of certain types of apparel, and, in some shop-type work areas, female employees have, as a matter of choice, worn slacks for many years. It is felt that no single rule can cover all situations -- what may be appropriate for one employee could, because of appearance, be inappropriate for another employee. In addition there are some types of casual clothes such as "short-shorts" and tight slacks that are clearly inappropriate for the work environment. If, in the performance of her duties, an employee comes into a great deal of contact with outsiders and employees from other areas of the Center, she must dress more carefully than an employee who seldom comes into contact with the public or other employees.
As a guiding principle, the Center expects its employees to dress in a manner which will not bring discredit to the Center. In deciding whether or not a pants outfit is appropriate in a particular work situation, the employee should consult her supervisor and be guided by the supervisor’s feelings in the matter.

Q. The color photographs on the new badges are fading badly. What, if anything, will be done about this?
A. Center officials have been concerned for some time now over the fading of the new color photographs, but as yet no solution to this problem has been discovered. It is believed that initial damage to the photographs occurs during the lamination process due to the heating, and that other damage results from exposure to sunlight and fluorescent lights. The fading problem has been under study by the Polaroid Company and a report of their findings is expected in the very near future. Center officials have requested a copy of this report. In the meantime, officials have contacted the Arlington, Virginia, Polaroid representative and he has offered to forward some sample sheets of the Polaroid ID laminating plastic which acts as an ultra violet filter. It is planned to use the Polaroid laminating plastic in some tests and also to continue with the in-house investigations to determine the minimum temperature we can use and still insure proper lamination of the badges.

Q. Where does the money obtained from the vending machines in the various buildings go? What is it used for?
A. The money obtained from vending machines is divided between the Activities Association and the Cafeterias. It is used to reduce the price of meals served by the Cafeterias to Center employees and by the Activities Association for employee activities.

The world is like a board with holes in it, and the square men have got into the round holes, and the round into the square.
---Bishop Berkeley

If you would be wealthy, think of saving as well as of getting.
- Franklin

As long as war is regarded as wicked, it will always have its fascination. When it is looked upon as vulgar, it will cease to be popular.
---Wilde
WELCOME ABOARD: Oran W. Nicks, who assumed his new duties as Deputy Director of Langley Research Center early this month, acknowledges the welcome given him by management officials at a luncheon held Monday at the Center. Presiding at the affair was Edgar M. Cortright (right), Center Director.

CHILDREN'S PARTY DECEMBER 20

Plans are being made for the annual Children's Christmas Party sponsored by the Activities Association. The party will be held Sunday, December 20 at the Activities Building.

The first show will begin at 1:30 p.m. and will feature Bungles, a local TV personality and one of the favorite clowns of all children. He will be there to play games and to meet each child. There will also be a surprise visit from Kelly's Dragon who is fast becoming a great attraction with boys and girls.

The second show beginning at 3:15 p.m. will feature another popular favorite with the children - Ronald McDonald. He will be there to meet, play games, and hand out favors to the children.

Jolly Ole Saint Nick, all the way from the north pole, will arrive with gifts for each child.

Tickets are 50¢ each for children and adults and are available at the Activities Building. There are a limited number of tickets available and they will be sold on a first-come-first-served basis.

Anyone interested in helping during the party or who can play the piano, please contact Jeanette George, 3518.

SUPERCRITICAL WING ARRIVES AT FLIGHT CENTER FOR TESTS

A new aircraft wing that may permit jet transport aircraft of the future to cruise substantially faster has been delivered to NASA for future flight tests. Called the NASA supercritical wing, it arrived last week at NASA's Flight Research Center, Edwards, California.

The wing was shipped from the North American Rockwell Corporation, Los Angeles, where it has been under construction for the past year under a $1.8 million NASA contract.

The supercritical wing was developed at Langley Research Center in wind tunnels under the direction of Dr. Richard T. Whitcomb, Head of 8-Foot Tunnels Branch, High-Speed Aircraft Division.

Because the upper surface of a conventional wing is curved, air flows over the surface at a faster speed than the aircraft is traveling. This causes a negative pressure that helps create lift that enables flight.

At the cruise speed of modern day jet transport aircraft, approximately Mach 0.8 or about 530 mph at a cruising altitude of 35,000 feet, the air flowing over the upper surface eventually reaches supersonic speed. When this happens, local shock waves are generated that cause significant increases in aerodynamic drag and a resulting loss of efficiency. Severe buffeting can also occur.

In the past, the most widely used method to delay the rise in drag was to sweep the wings. However, excessive wing sweep can increase the structural weight, create low speed buffeting and reduce the lift that enables flight.

The flight program will use an F-8 jet aircraft made available to the Flight Research Center by the U.S. Navy.
FAREWELL: Donna Sloan (left), who has transferred to the Office of the Director, was honored recently at a farewell luncheon by her co-workers in Aerospace Equipment Section, Systems Engineering Division. Gathered around the honored guest are (from left): Erskine White, Rufus Dail, Dave Butler, James Howell, Dennis Dicus, John Buckley, Hugh Haliday, Tom Bonner, Thelma Abraham, Reid Hull, B. B. Brown, Tom Barrtron, section head; Bill Falk, Donna Sloan, Phil Ranson, John Mulqueen, Bob Green, Nat Watson, Olie Olsen, Vernon Marshall, Obie Bradley, and Jack Cheely.

Happenings

APPRECIATION NIGHT. Carnival workers are reminded that the Activities Association will have its workers appreciation night Saturday, November 21 at the Activities Building. All carnival workers are invited. Those planning to attend are requested to send their names to Bob Satterthwaite, MS 317; Jeanette George, MS 142, or Herb Boulter, MS 236, by November 16.

NEW ARRIVALS. Word has been received at the Center that Linda Sutherland, Personnel, became the mother of an eight-pound, seven-ounce daughter, Jennifer Lynn, on Nov. 2. Weighing in at nine pounds, eleven ounces on October 24 was James William, new son of Asa Shaw, Procurement. Announcing the birth of a seven-pound, four-ounce daughter, Dawn Michele, on October 23 is David Dearing, Scout Project Office.

GOLF NEWS. The NASA Golf Association held its second match of the year with the Norfolk Naval Yard on October 21 at the Suffolk Golf Course. Playing under rainy skies, NASA was defeated by Norfolk 20-13. Under these adverse conditions, Jim Howell scored a 76 while Dan Bridges was runner-up with 83. This was the last tournament of the 1970 season. Tentative plans are being made to hold election of officers during the last week in November.

AFGE NOTICE. The NASA Lodge 2755 American Federation of Government Employees will meet on Wednesday, November 25 at 7:30 p.m. at the Central Labor Union Hall.

NASA JEWELRY. Tie tacks, tie bars, charms, and necklaces with the NASA symbol can now be purchased from the Activities Association's bookkeeper, Building 1222.

COIN CLUB. The Langley Research Center Coin Club will meet Wednesday, November 18 at the Activities Building. Doors will open at 7 p.m. and the meeting will be held at 7:30. An ANA slide program on U.S. type coins will be held. There will be three separate raffle items - U.S. proof sets for 1970, 1961, and 1962. Guests are invited and the club still has associate memberships available for those interested.

NEED MORE COPIES? Since the Center’s reorganization, a number of organizational units have complained that they are not getting enough copies of the Researcher. Groups who are not receiving enough copies for each employee are requested to call the Researcher Office, 3116.

COFFEE SPOON CAUSES HEPATITIS

Five cases of infectious hepatitis were recently reported to have resulted from the use of a communal spoon in an office coffee pool at a NASA center. This occurrence emphasizes the necessity for care in the use of equipment and supplies in office canteens.

Food items should be in tightly closed containers or sealed wrappers and refuse should be carefully disposed of. Disposable coffee cups and stirrers are desirable. Where ceramic or china cups and metal spoons are used, thorough cleaning should be assured.

Communal use of utensils or cups without adequate sterilization encourages transmission of colds, flu and more serious illnesses, particularly in the respiratory disease season.
SEMINAR SERIES PLANNED

The Gas Physics Section of Hypersonic Vehicles Division has been conducting a survey of research done in the field of air pollution control or abatement. The purpose of this survey has been to determine those areas and problems within the field which are important and which are amenable to analysis and solution using the capabilities as well as the experimental facilities available at the Center.

In order to facilitate this effort a seminar series of six lecturer-consultants, prominent in their fields, has been planned. The lecturer-consultants will visit the Center and during a one to two-hour lecture in the morning, will address persons actively interested in studies in the field of air pollution control. During the afternoon, the speakers will be available for more informal discussions with interested individuals.

The lectures will be held in the conference room of Building 1212 at 10 a.m. The first lecture was held Tuesday. The schedule for the remaining lectures are as follows:

November 16 - "Supersonic Transport and Pollution of the Upper Atmosphere" by Lester Machta, Air Resources Laboratory, Environmental Science Services Administration, Silver Springs, Maryland.

November 23 - "Chemistry of Air Pollution" by A. P. Altshuller, Division of Chemistry and Physics, NAPCA, Research Triangle Park, North Carolina.

January 4 - "Pollution Work at MIT" by James A. Fay, Massachusetts Institute of Technology, Cambridge.

January 12 - "General and Urban Modeling" by Arthur C. Stern, Department of Environmental Sciences and Engineering, University of North Carolina.

February 5 - "Laboratory Simulation of Atmospheric Effects" by Jack E. Cermac, Fluid Mechanics Program, Colorado State University.

It is hoped that these talks will result in a broad and balanced understanding of the state of the art of air pollution research and its relationship to the disciplines of fluid dynamics, equilibrium and non-equilibrium chemistry, radiation, convective transfer, turbulence and diffusion, and experimental and theoretical modeling techniques. It is also hoped that new directions will be pointed out regarding the application of Langley's talents and future research efforts.

TECHNOLOGY AWARD: David Smith (center), Instrument Research Division, was recently presented a $25 award for his Tech Brief 70-10298, ‘Hall Effect Transducer.’ T. Melvin Butler, Director for Administration, is shown presenting the award while John Samos, T. U. Officer, looks on. The initial $25 award is automatically given on a published Tech Brief. It is the first step in the T. U. Awards system which leads to higher awards ($250 minimum up to $100,000) in the event of technology having great impact on industry.

SUPERCRITICAL WING TESTS

(Continued from page 1)

flying problems, and even increase the runway length requirements for take off and landing.

On the supercritical wing, the upper surface is flattened to slow the speed of air flowing across the surface. This delays onset of the adverse shock waves until the airplane itself is traveling at a higher speed. To compensate for the resulting loss of lift from flattening the upper surface, the rear portion of the bottom edge has been shaped in the form of a concave curve.

Langley wind tunnel tests indicate that the new airfoil shape could allow highly efficient cruise flight near the speed of sound, approximately 660 mph at a cruising altitude of 35,000 feet.

If the improved efficiency measured in the wind tunnels can be achieved in flight, it should be possible for future aircraft to cruise at the higher speeds with no increase in fuel usage. This advantage could be converted into increased range and/or, by carrying less fuel, greater payload resulting in lower operating costs per mile.

The flight test wing is 43-feet long and shaped to simulate a wing intended for use on a commercial jet transport. It will be instrumented and installed on an extensively modified F-8 at Flight Research Center. Installation and ground testing will take several months and first flight is not expected until early next spring.

Prime purpose of the flight test program is to verify the wind tunnel predictions and to explore the operational potential of the supercritical wing in flight. Additional studies will determine the sensitivity of the new wing shape to contour variations associated with manufacturing processes and deformations due to loads induced in flight.

FALSE FRIENDS are like our shadow, keeping close to us when we walk in the sunshine, but leaving us the instant we cross into the shade.

- Bovee
EMPLOYEES RECEIVE AWARDS

Seventeen staff members, pictured at left, recently received cash awards for suggestions under the Incentive Awards Program.

The recipients and their suggestions are as follows:

Thomas C. Meador Jr., Fabrication - $200 for a suggestion relative to the substitution of mathematical solutions obtained on the electronic calculator for graphic solutions in certain heat-transfer problems thus effecting a man-hour savings.

Robert K. Lenning, Research Support - $170 for the modification of existing A/N electrical connectors to permit quick disconnect.

Maxwell F. McNear, Flight Instrumentation - $230 for an improved method for spectrophotometric investigation of doped silicon at cryogenic temperatures which allows for more rapid and more accurate temperature control.

Tommy C. Steele, Research Support - $125 for the use of a spherical goniometer in which axes are independent for positioning a crystal for ion implantation and channeling studies thus permitting continuation of a research program.

Billy Holliday, Research Support - $50 for the design of a speed control circuit for an existing servo-amplifier which permits control of the maximum motor speed in either direction of rotation and achieves excellent results in research testing.

Gene A. Wagner, Research Support - $225 for the implementation of the voltage divider system to replace transducers as a means of identifying data acquisition channels thus improving the identification of pressure orifice data and the use of Beckman channels.

Courtney E. Russ Jr., Instrument Research, and William R. Messick, Fabrication (joint award) - $130 each for a remote-controlled method of changing neutral density filters in an optical radar detection system which results in man-hour savings and increased test data.

Raymond C. Scholz, Research Support - $140 for the use of inexpensive brake light switches as pressure sensitive switches on test vehicles thus resolving a research problem and effecting a cost savings.

Howard E. Price, Research Support - $220 for the use of grease-coated tape on the screen in front of the cooling coils in order to remove the dust particles in the 8-Foot Transonic Pressure Tunnel circuit.

Horace E. Van Sciver, Research Support - $210 for a method of stopping and destroying split sabots before they hit the target, allowing only the projectile to hit the target, thus making almost every shot a useful data point.

Marvin G. Taylor, Research Support - $200 for the design of a Faraday cup array which allows for ion implantation of four individual samples without breaking vacuum thus effecting a man-hour savings and increased reliability of experiments.


Kenneth W. Crocker, Fabrication - $300 for a new method used in the wiring and checkout setup for RAM C-C by which all components are exposed from all sides thus facilitating all phases of the buildup and checkout payload.

Winfrey E. Arnold Jr., Fabrication - $105 for a suggestion relative to using in-house capabilities to replace burned out parts in the 3500°F air atmosphere furnace system.

Max B. Bryan, Research Support - $275 for the design of a pickoff gear assembly for the Planet Drive Feedback Unit of the Attitude Control Simulator Facility which greatly improved the feedback signal and made the unit operational.

A. Gary Price, Research Support - $125 for the construction of a new type of air bearing arrester which saves man-hours for model setup, balance, and test.

RECEIVES AWARD: Roland W. Lee (seated left), Classification and Organization Branch, Personnel, receives a check for $25 from Robert A. Myers for his suggestion relative to the construction of portable temporary fire alarm panels which will provide a swift alarm. Offering their congratulations are standing (from left): Marge Simonton, Thelma Fowlkes, Mary Carmines, Carol McDaniel, Steve Devan, and John LeDeaux.

Down to Earth

We've talked about the metric system before, but never really got down to the long and short of it.

One of its attractions is its simplicity -- everything goes by 10ths. This contrasts with the eights and twelfths and quarters and heaven knows what-all that makes up ounces and pounds, quarters and pints, inches, feet and yards.

The unit of length is a meter. Its multiples are 10 meters, a dekameter; 100 meters, a hectometer; 1,000 meters, a kilometer. The meter divides into tenths, the decimeter; hundredths, the centimeter; thousandths, the millimeter.

The unit of capacity is the liter. Deka-, hecto-, and kilo make 10, 100, and 1,000 liters; deci-, centi-and milli- creates tenths and hundredths and thousandths.

The gram is the unit of weight and the prefixes are added as before.

Many grocery store items, if you look at the small print, now carry metric weights as well as English. A quart of milk is .9463 liters. Or looked at another way, a liter is 1.0567 quarts. A pound of butter is 2536 kilograms. A kilogram is 2.2046 pounds.

People who deal in apothecary weights should feel relieved. They can throw out all of the grains, scruples, drams, ounces and pounds and substitute grams.

For horse racers there are 201.1684 meters to a furlong. And girl watchers can look forward to measurements like 91.44-66.04-91.44.
VISITS CENTER: Colonel Jean Claude Wanner (second from left), who will soon assume the duties of Technical Director of ONERA which is the French equivalent of NASA, visited the Center recently and toured a number of research facilities. Shown above with Colonel Wanner are (from left): Edgar M. Cortright, Center Director; Dr. John E. Duberg, Associate Director; Captain Claude Lievens, French Air Force; and Laurence K. Loftin Jr., Director for Aeronautics.

CREDIT UNION JUMPS THE GUN

Not really -- it just seems that way. For the first time, the Annual Meeting drums started beating in November and still it will be difficult to do the occasion justice. Be that as it may, James W. Powell, Office of the Comptroller, Headquarters TAC, is $15.35 richer thereby. That was his reward for correctly identifying, as such, the initials AM which appeared earlier this week in the REPORTER notice. The 35 cents, mentioned as a clue, ties in with its being the 35th Annual Meeting.

Place, date, and the method of distributing tickets have already been decided upon, but members do not have to worry about these matters just yet. There will be ample notice later. Still, a mental note to reserve Monday night, February 15, might be in order.

The big news, currently, is that the Board is going all out to make this 35th meeting a special one -- one that is both entertaining and rewarding. There will be a different format in 1971 with everything streamlined and clicking at a faster pace.

The business portion will be reduced to its essential elements while on the lighter side there will be the award-winning Lions Jug Band of Hampton for your enjoyment, selected souvenirs of the occasion for your use and pleasure, and door prizes galore for your winning. The latter items, as of now, already include a 23-inch color television console and 35 commemorative family-size hams. In short, the 35th Annual Meeting will be a memorable one. Be there!

ACD WINS FOOTBALL TITLE

ACD won the NASA Touch Football League championship as they trounced the Boozers 38-6. An all star versus league champion game will be played November 21 at 9:30 a.m. at Kecoughtan High School.

Members of the all star team are: Jim Gardner, ACD; George Lawrence and Ed Philips, Boozers; Dave Throckmorton, Jim Dieudonne, and John Wallace, Charlie Brown's; Floyd Howard and John Hoppe, Bombers; Kam Kerse, KNADS; Ron Reeves and Len Credeur, FID; and Bill Wilkens, C & S.
The following menu will be served in the cafeterias during the week of November 16:

**Monday** - Minestrone soup, simmered corned beef and cabbage, fried shrimp, sautéed chicken livers, broiled pork luncheon meat. Snack bar - Soup, broiled pork luncheon meat, hot corned beef, French fries.

**Tuesday** - Cream of mushroom soup, barbecued spare-ribs, veal cutlet, smoked pork sausage, Irish omelette. Snack bar - Soup, barbecued pork, steak, French fries.

**Wednesday** - Vegetable-beef soup, pot roast, broiled smoked ham, spaghetti and meat sauce, franks and beans. Snack bar - Soup, hot dogs, smoked ham, German potato cakes.

**Thursday** - Chicken-rice soup, grilled rib eye steak, roast pork, chicken pie, fish cakes. Snack bar - Soup, fish, steak, French fries.

**Friday** - Manhattan clam chowder, roast beef, barbecued pork, fried flounder, deviled crab, chili-mac. Snack bar - Soup, barbecued pork, hot roast beef, deviled crab.

NOTICE: A Thanksgiving holiday meal will not be served in the cafeterias this year. The menu for the week of Nov. 23 is as follows:

**Monday** - French-onion soup, braised lamb shank, grilled pork steak, meat loaf, macaroni and wiener. Snack bar - Soup, hot dog, hot pastrami, fried eggplant.

**Tuesday** - Split green pea soup, country-style steak, fried scallops, creamed dried beef on toast, baked hash. Snack bar - Soup, barbecued pork, steak, French fries.

**Wednesday** - Purée of bean soup, baked Smithfield ham, fried oysters, minute steak, tamale pie. Snack bar - Soup, hamburger, sliced ham, French fries.

**Thursday** - **HOLIDAY**

**Friday** - Cream of tomato soup, grilled pork chops, stuffed flounder, Polish sausage, grilled cheese. Snack bar - Soup, grilled cheese, flying saucer, French fries.

**CAFE неторя menu**

**NEW PRESIDENT:** Rear Admiral J. O. Cobb, USN, Commandant Fifth Naval District, was elected President of the Federal Executive Association of Greater Tidewater Area of Virginia during a luncheon meeting held recently at the Center. Edgar M. Cortright, Center Director and Acting President of the Association, congratulates Admiral Cobb.

**NASA TENPIN BOWLING NEWS**

In the NASA Tenpin League Short Circuits lead League A with 25 wins and 11 losses and 5-Rebels are first in League B with 23 wins and 9 losses.

**TEAM**

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**LEAGUE B**

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**TURKEY WINNERS ANNOUNCED**

A total of 108 turkeys were won at the Activities Association's annual Turkey Shoot held last Saturday. Winners may pickup their turkeys after 3:30 p.m. on Tuesday, November 24 at the Activities Building.

Sharpshooters who won in the matches were as follows:


**THERE IS nothing by which men display their character so much as in what they consider ridiculous. --Goethe**

Questions and Answers

Q. Who decides who should have Executive Physicals at government expense and why shouldn't other employees get this free medical service?

A. The Center currently furnishes two types of physical examinations for selected employees. These examinations are performed by local physicians through a contract with LRC. One type of examination is under the so-called Executive Physical Program. Since this program was instituted about five years ago, the number of employees examined has increased from 50 a year to 150 a year. All employees occupying NASA excepted and GS-16 positions regardless of organizational assignments are eligible for these physicals. The balance of the physicals are available to employees at the level of division chief, project office head, and, based on funds and the time of the physician, any remaining examinations are made available to branch heads who are selected on the basis of grade level and age.

The other type of examinations are furnished to employees in certain occupations. These are job-related examinations and range from complete physical examinations for firefighters, divers, high steel workers, and radiation workers, to a specific examination such as an annual eye examination for laser workers. There are some 300-400 examinations of this type performed each year.

Decisions regarding which groups of employees are to be examined are made by the Director based on recommendations by the safety and occupational health officials. Currently there is no program which would make physicals available to all employees.

Q. How many questions have you decided were unsuitable to give answers? Publish some!

A. Before the Langley Researcher questionnaires were distributed to staff members, only two questions received by the staff had not been answered. One question involved the inadequacies of the air conditioning system in a particular building. The persons responsible for its operation were contacted and they stated that everything short of installing a completely new system was being done to clear up the problem. At last report, the system was working satisfactorily.

The other question was: What are the names of the Newport News and Hampton council members? The question was received two weeks before Newport News was scheduled to elect a completely new council and we felt it had been adequately covered by the local press.

Since the questionnaires have been returned, approximately 80 new questions have been received. So far, none of these have been ruled unsuitable to answer with the exception of this particularly humorous one -- What did the cafeteria do for food supply during the garbage strike?

STAFF MEMBERS HONORED TODAY

Four Center staff members will be honored at the NASA Annual Awards Ceremony which will be held at 2:30 p.m. today in Washington, D.C.

NASA Medals for Exceptional Service will be presented to John P. Campbell, Chief of Low-Speed Aircraft Division, and Eugene S. Love, Chief of Space Systems Division.

Milner H. Eskew and Maurice K. Morin, both of Analysis and Computation Division, will receive NASA Medals for Exceptional Scientific Achievement.

FROGS LAUNCHED BY SCOUT

The Orbiting Frog Otolith (OFO) was one of two spacecraft launched on a single Scout vehicle by NASA from Wallops Station Monday at 1 a.m. EST. Also on board the solid-propellant Scout was the Radiation Meteoroid (RM) spacecraft to demonstrate and evaluate improved instrumentation and to gather near-Earth data of scientific interest.

NASA officials said the two spacecraft separated from their Scout rocket successfully nine minutes after liftoff and went into independent orbits.

Two male bullfrogs (Rana Catesbiana) were scheduled to be monitored in OFO for about five days alternately in the weightlessness of space and during period of partial gravity created by spinning them up to 50 revolutions per minute, producing a one-half g acceleration condition.

A BOTANY LESSON - If we had paid no more attention to our plants than we have to our children, we would now be living in a jungle of weeds.

-- Luther Burbank
GOVERNMENT TO PAY LARGER SHARE OF HEALTH PREMIUMS

Recent legislation raising the Government's share of the cost of premiums of plans under the Federal Employees Health Benefits program will generally offset premium increases taking effect next January and result in small reductions in premium costs to the majority of enrolled employees and annuitants, the Civil Service Commission announced this month.

The Government's biweekly contribution will increase January from $1.68 to $3.46 for self enrollment and from $4.10 to $8.64 for family enrollment. About 73 percent of enrolled employees and annuitants will have their share of the biweekly costs slightly reduced, although most of the participating plans will increase premiums for the 1971 contract year.

If the Government contribution had not been increased from the present 23 percent of the premium to 40 percent beginning in 1971, the continuing upward trend of health care and health insurance costs would have significantly increased expenses for all enrollees. The new law which increased the.

(Continued on page 5)

NASA HONORS STAFF MEMBERS AT CEREMONY IN WASHINGTON

Four Center staff members received special awards at NASA's 12th Annual Awards Ceremony which was held November 13 in Washington, D.C. The awards were presented by Dr. George M. Low, acting NASA Administrator.

John P. Campbell, Chief of Low-Speed Aircraft Division, received the NASA Medal for Exceptional Service for "major technical contributions in the development of V/STOL technology leading to the development of the XC-142 and CL-84 airplanes and to the external flow jet flap for STOL aircraft."

Eugene S. Love, Chief of Space Systems Division, was presented the Exceptional Service Medal for "his pioneering leadership in the initiation and direction of research in the fields of supersonic and hypersonic flow, atmospheric entry, space flight, flight mechanics and aerothermodynamics leading to the feasibility of advanced manned space flight systems."

Milner H. Eskew and Maurice K. Morin, both of Analysis

(Continued on page 4)
PLANNING TO RESIGN OR RETIRE? Anyone planning to resign or retire within the near future is requested to notify the Employment Office, extension 2272, as soon as possible.

COIN CLUB. The Langley Research Center Coin Club will meet at the Activities Building on Thursday, December 3, with doors opening at 7 p.m. The program will include an ANA film “A Trip Thru the Denver Mint,” a display of type and foreign coins, and a raffle of three separate gold sovereigns. Members or others interested in displaying material should call Bob Wright, 3234, or Sonny Anglin, 2231. Guests are invited to attend.

SKYWATCHERS. The Langley Skywatchers Club will meet on Wednesday, December 9 at 8 p.m. at the Peninsula Nature Museum and Planetarium located just off of J. Clyde Morris Boulevard. A talk on “The Question of Life on Mars” will be given by Dr. Gerald A. Soffen, Project Scientist for Viking.

CHORAL SOCIETY. The Peninsula Choral Society will present “Sacred Service” by Ernest Bloch on Monday, Dec. 7 at 8:15 p.m. at Warwick High School auditorium. Staff members who will sing with the group are Mary Catlett, Hypersonic Vehicles Division, and Stanley Pearson, Instrument Research Division. George W. Bayley is conductor and guest soloist is Charles Lowery. Admission is two dollars for adults and 50 cents for enlisted men and students. Tickets will be available at the door.

BASKETBALL NOTICE. Teams or individuals interested in playing in the NASA Basketball League this year are requested to contact Jim Gardner, 2035 or 3088.

NOTICE: Will the person who borrowed a Johns and Frame liquid nitrogen controller please return it or contact Ted Larson, 2406.

WORDLY RICHES are like nuts: many clothes are torn in getting them, many a tooth broken in cracking them, but never a belly filled with eating them. --Venning
OART VISITOR: Roy P. Jackson, who was recently appointed Associate Administrator, OART, NASA Headquarters, made a two-day visit to the Center last week. One of the places he visited was the 8-Foot Transonic Tunnel (above) where he inspected a Hypersonic Research Engine. Members of the group are (from left): Roger A. Anderson, Chief of Structures Division; Robert R. Howell, Head of High-Temperature Branch; Oran W. Nicks, Langley Deputy Director; Jackson, Edgar M. Cortright, Langley Director; and Dr. George W. Brooks, Langley Director for Space. In the photo at right Jackson (right) discusses F-15 models in the Unitary Tunnel with Jack F. Runckel, Assistant Head of 16-Foot Transonic Tunnel Branch; Lowell E. Hasel, Head of Performance Analysis Branch; and Edwin C. Kilgore, Deputy Associate Administrator (Management), NASA Headquarters.

**Are You Fit to Drive?**

The statistics on highway accidents are awesome, and accidents don’t always happen to the other person. Every driver counts. As we prepare ourselves for the hazards of winter driving, medical association officials recommend that every driver ask himself: “Am I fit to drive?”

Many factors can affect your driving ability. It isn’t just a myth that emotional stability has a significant effect on how you function behind the wheel. If you yell at the kids and kick the dog as you leave the house in the morning, your chances of driving safely are greatly reduced. Doctors agree that anger, depression, or worry may all contribute to an accident if the driver is unable to keep his mind on the road.

Certain common drugs, such as cold tablets or sedatives, may dull your reflexes and impair your coordination while driving. If you’re not sure how you will react to a certain drug, it’s best to consult your doctor about the side effects it may have.

And don’t be too sure that one drink for the road isn’t too many. There is ample evidence that even one or two drinks can produce a definite impairment of judgment and coordination in many people. Drugs, alcohol, lack of sleep, tension are all factors to consider before you start out in your car.

In addition, physical disorders often impair driving ability even if they don’t prevent the individual from leading a normal life. Poor eyesight, a heart condition, diabetes, or a neurological disorder may make you a menace on the highway. Your doctor can best tell you whether or not your driving ability is affected by your physical condition.

So before you get behind the wheel, be sure you’re fit to drive. It may save your life.

---De Finod

**MEN’S FAME is like their hair, which grows after they are dead, and with just as little use to them.** ---Villiers

---Tidewater Motorist
Some Traffic Facts

A number of questions have been received by the Researcher concerning the traffic situation on the base. A recent reconnaissance traffic engineering study was conducted by the Traffic Engineering Division of the U.S. Army Transportation Engineering Agency, Military Traffic Management and Terminal Service, Fort Eustis, and it is hoped that some of their findings and recommendations will satisfactorily answer some of the questions asked.

A study of the on base traffic at Gate 4 (intersection of Walcott and Taylor Roads) showed that congestion at this intersection was noted only during the period 4:35 to 4:50 p.m. When the congestion was near its maximum level lines of traffic on Walcott Road extended from the intersection northeast to and onto Freeman Road. Delays associated with this line amounted to about 1-1/2 minutes.

During the peak period the line on the northern leg of Taylor Road extended northward from Walcott Road some 900 feet to Durand Road. Average delays in this line were about 2 minutes per vehicle. Delays on the east leg of Taylor Road also averaged about 2 minutes per vehicle and extended to and into the exit of the parking lot serving Building 1244.

The survey pointed out that although there are significant delays during the evening-peak period on the three outbound approaches, they are not unusual for the conditions wherein four approach lanes must merge into two lanes through the gate. The relatively equal delays as well as the lack of accidents attested to the courteous driving of employees on all approaches who readily permitted traffic to merge or cross.

It was suggested that lane lines and stop lines be installed on the appropriate approaches to aid motorists but the lack of these lines was not considered a critical deficiency.

Future articles on the survey will cover the off base situation at Gate 4 and the problems and suggested solutions at Gate 5.

NASA HONORS STAFF MEMBERS

(Continued from page 1)

and Computation Division, received NASA Exceptional Scientific Achievement awards. Eskew received his award for "his outstanding technical contributions to the design of subsystems hardware for the Langley Research Center digital computer complex" and Morin was cited for "his outstanding technical contributions to the systems design and operation systems software for the Langley Research Center digital computer complex." Vice-President Spiro T. Agnew presented NASA's highest award -- the NASA Distinguished Service Medal -- to nine Apollo astronauts and Dr. Thomas O. Paine, former Administrator.


WE CONFESSION our little faults only to persuade others that we have no great ones. - La Rochefoucauld

WORKSHOP: A three-day education and training workshop was held at the Center last week for the purpose of effecting improvements in employee development planning, practices, and procedures throughout the agency. The conference was attended by Center supervisors and Supervisory Employee Development Specialists from other NASA installations. Attending from NASA Headquarters were (from left): Boyd C. Myers II, Chairman of the workshop and Deputy Assistant Administrator for Administration; S. Walter Hixon Jr., former head of Langley's Training Branch and now Acting Director of Personnel Development; Richard C. McCurdy, Associate Administrator for Organization and Management; and Grove Webster, Director of Personnel.

SEMINAR ON ACOUSTICS PLANNED

Dr. D. J. Mead, University of Southampton, England, will conduct a two-day seminar on Acoustics on Monday and Tuesday, December 7 and 8. Both sessions will be held at 12:45 p.m. in Building 1229, Room 236.

On Monday Dr. Mead will speak on "The Damping of Structural Vibrations." He will describe the use of damping to reduce the resonant vibrations of structures. Added damping can provide an efficient means of reducing the stress response of aerospace structures to broad-band excitation such as jet noise and turbulent boundary layers. Different methods of increasing the damping of a structure will be described and recent work on multi-layered visco-elastic beams will be reviewed.

The subject on Tuesday will be "Wave Propagation in Periodic Structures." A new method of analyzing the response of periodically stiffened structures to travelling random pressure fields will be described. The method which is based on wave propagation can be used for highly damped structures as well as more conventional designs. Application of the method to the problem of sound radiation from vibrating structures will also be discussed.

Dr. Mead is a Reader in Aeronautics and Astronautics at the University of Southampton where he has worked for many years on damping and response of aerospace structures to random pressures.

He will be available for discussion of specific problems and applications during his two-day visit.

A BOOK may be compared to your neighbor: if it be good, it cannot last too long; if bad, you cannot get rid of it too early. - Brooke
**NEW RATES FOR FEDERAL EMPLOYEES HEALTH BENEFITS**

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**EMPLOYEES RECEIVE HONORARY AWARDS**

Five staff members recently received Honorary Suggestion Awards under the Center’s Incentive Awards Program.

The award is in the form of a certificate which becomes a permanent part of the employee’s personnel record. It gives recognition to an individual who has made a suggestion that has been accepted and put into use. The Honorary Suggestion Award is presented when a cash award is inappropriate because the suggestion is related to the employee’s regular duties.

Awards were presented to the following:

Elizabeth P. Reed, Management Support Division, for her suggestion relative to a change in the format in typing equations in order to expedite technical reports and papers.

Edgar Kersey Jr., Space Technology Division, for the construction of a new type of air bearing arrester which saves man hours for model setup, balance, and test.

Carl W. Roberts and Paul H. Wooddell, Instrument Research Division, shared the award for jointly suggesting the use of a double shunt span technique to obtain tunnel sensitivities for strain-gage bridge force balances.

Raymond L. Clark, Fabrication Division, for the modification of an old double compartmented vacuum chamber for use as a 4-foot diameter by 3-foot long single compartment chamber.

---

**THE DIMINUTIVE** chains of habit are generally too small to be felt, till they are too strong to be broken.

AS A CURE for worrying, work is better than whiskey.

--- Thomas A. Edison

**HEALTH PREMIUM CHANGES**

(Continued from page 1)

Government contribution also calls for annual adjustment to keep the Government’s share of the cost at the 40 percent level. In the past, increases in premium rates have been borne by the enrollees alone.

Major benefit changes in the two biggest plans are as follows:

Governmentwide Blue Cross-Blue Shield - Benefits now payable for rabies shots without regard to the previous 72-hour limitation. Benefits payable for in-hospital medical care rendered concurrently by different doctors when the insurer determines that such care is required. Benefits now payable for covered service related to abortions and ectopic pregnancies for self-only as well as family subscribers.

Low-option maternity benefits increased from $100 to $150 for hospital expense; from $12 to $20 for anesthetics; and from $75 to $125 for normal delivery.

Governmentwide Aetna - Cutting of or removal of corns, caluses, or toenails by a podiatrist for people under treatment for a metabolic disease or a peripheral-vascular disease no longer required to be prescribed by a doctor of medicine. Professional services rendered personally by a qualified psychologist in mental and nervous disorder cases no longer need to be provided in accordance with instructions from a specialist in psychiatry or neurosurgery.

---

**MARRIAGE RESEMBLES** a pair of shears, so joined that they cannot be separated, often moving in opposite directions, yet always punishing anyone who comes between them.

--- Sidney Smith

---

**AMY**

I HOPE OUR STOCKINGS ARE STUFFED WITH U.S. SAVINGS BONDS!

ME TOO! THEY'RE COOL!

THEY'RE GIFTS THAT GROW AND GROW AND GROW!

THEY'RE PRACTICAL AS WELL AS PATRIOTIC!

IT BEARS LOOKING INTO...

AND THEY NEVER REQUIRE WATERING OR FEEDING.

I WONDER IF THEY TASTE LIKE BONES?

---
CHRISTMAS FUN: Ronald McDonald (above sketch) will be featured at the 3:15 p.m. show for the Children’s Christmas Party which will be sponsored by the Activities Association on Sunday, December 20 at the Activities Building. The first show will begin at 1:30 p.m. and will star Bungles. Kelly’s Dragon will also visit the party. Tickets are 50 cents for children and adults and are on sale at the Activities Building. Children of contract employees are invited to attend.

TECHNOLOGY UTILIZATION NEWS

The transfer of aerospace technology is especially exciting when it occurs in the areas of obvious benefit to mankind such as the biomedical field. This transfer is continuing to be promoted by NASA’s pioneering approach through the use of multi-disciplinary task teams.

In addition to biomedical problems, public sector problems such as air and water pollution, law enforcement and mine safety are also being matched to solutions which exist in our growing stockpile of new technology.

The results so far are very promising and your continued participation in this program is solicited. The Technology Applications Team approach provides access to the scientific and engineering expertise here at Langley and facilitates the innovative secondary applications of our aerospace related technology.

Read “Can You Solve This Problem” posted in the NASA cafeterias and also printed in the Langley Research. For details on how you can match your favorite solution to existing problems, contact the T. U. Office, extension 3281.

--Buy U.S. Savings Bonds--

SWAP AND SHOP

FOUND

20-year service pin. Bryan, 3725.

WANTED

Ride from Williamsburg to W.A. on 8 shift. Brenda Majette, 3802 or 229-0728.

Alternate drivers from Hidenwood to W.A. on 8 shift. Young, 3621.

FOR SALE

AKC registered Golden Retriever pups, good hunting dogs, excellent pets. MacConochie, 898-5557.

Boy’s 24-inch Spyder-type bicycle with 5-speed gears, deluxe model, used one year - $33; Eldon triple-deck auto race set, electric powered, variable speed control and lane changing, 24 feet of track mounted on portable 4-foot by 6-foot base - $18. Hanson, 851-1669.

Full set of pro-quality golf clubs, 4 woods, 8 irons - $75; deluxe Bag Boy cart - $15; bag - $5; 30 top balls and 70 practice balls - $15; size 9 shoes - $5 - or all for $85; also boy’s full-size Schwinn English bike - $20 and new $4400 Conn theatre organ for $3000. Gibson, 826-2678.

Man’s hockey ice skates size 11 - $10; lady’s ice skates size 6 - $7. Githens, 723-5324.


Blonde and red human hair wigs, stands and cases - $20 each. Kern, 898-6598.

AKC registered small Dachshund pups, 6 weeks old, shots, no worms. Hogge, 868-9551 after 5 p.m.

Hi-riser boy’s Swinger bike with banana seat and sissy bar - $18.50; also twin adjustable bed frame with maple finish headboard - $10. Childs, 898-6719.


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90-DAY MANNED TEST SYMPOSIUM: Preliminary results of a 90-day manned space laboratory test were reviewed at the Center last week during a two-day symposium. The life support system tests were conducted last summer at the McDonnell Douglas Astronautics Company. The four college students (above) who spent 90 days in the 40-foot long by 12-foot diameter space simulator discuss their experience with Clifford H. Nelson (center), Langley Director for Space. Crew members are (from left): Terry Donlon, Wilson Wong, John G. Hall, and Stephen G. Dennis. Research team officials (right) who attended the symposium are (from left): John K. Jackson, McDonnell Douglas Program Manager for the 90-day test; Dr. W. L. Jones, Director of Environmental Systems and Effects Division, OART, NASA Headquarters; A. L. Pearson, Langley’s Program Manager for the 90-day test; and Dr. K. H. Houghton, Chief Engineer, Biotechnology and Power Department, McDonnell Douglas.

The following menu will be served in the cafeterias during the week of November 3:

Monday - Puree of bean soup, roast pork, Salisbury steak, knockwurst, fish cakes. Snack bar - Soup, hamburgers, hot corned beef, French fries.
Tuesday - Cream of tomato soup, pot roast of beef, barbecued spareribs, clam croquettes, chili con carne. Snack bar - Soup, ham and egg sandwich, roast beef, French fries.
Wednesday - Vegetable-beef soup, chopped steak, broiled fish, fried chicken, Austrian ravioli. Snack bar - Soup, barbecued pork, Lou's satellite special, French fries.
Thursday - Chicken-noodle soup, chicken and dumplings, baked ham, fried fish, baked hash. Snack bar - Soup, hot dogs, baked ham, French fries.
Friday - Manhattan clam chowder, hot roast beef sandwich, fried oysters, minute steak, cheese omelette, deviled crab. Snack bar - Soup, fish sandwich, steak sandwich, deviled crab, French fries.

The menu for the week of December 7 is as follows:

Monday - Cream of mushroom soup, corned beef and cabbage, fried shrimp, sauteed chicken livers over rice, tamale pie, Snack bar - Soup, hamburgers, hot corned beef, French fries.
Tuesday - French-onion soup, Spanish pot roast, grilled smoked ham, meat loaf, macaroni and wiener. Snack bar - Soup, hot dogs, roast beef, German potato cakes.
Wednesday - Vegetable-beef soup, country-style steak, barbecued cubes of pork over rice, broiled fish, chili con carne. Snack bar - Soup, barbecued pork, steak sandwich, French fries.
Thursday - Chicken-noodle soup, grilled pork chops, salmon loaf, chicken chow mein, grilled cheese sandwich. Snack bar - Soup, grilled cheese, hot pastrami.
Friday - Manhattan clam chowder, roast beef, fried fillet of flounder, liver and onions, franks and beans. Snack bar - Soup, fish sandwich, hot roast beef, French fries.
**Words in People's Mouths**

**Can You Solve This Problem?**

A radioactive microcell counting technique for diagnosis and treatment of leukemic disorders is needed. The technique desired is to detect the amount of tritiated thymidine uptake by rapidly growing malignant leukemic bone marrow cells. A possible approach may be a microbeta particle detector (3H or 14C) adapted to microscope and microlocator slides. Refer to LVA-2. Contact the T. U. Office, extension 3281, for the problem statement or if you have a contribution.

**TEARS** are the safety valve of the heart when too much pressure is laid on it. --Albert Smith

**LEISURE** is a beautiful garment, but it will not do for constant wear.

**Questions and Answers**

The following questions concerning double doors in NASA buildings have been received:

Q. Most of the buildings have the right door fastened so it will not open without considerable force or trouble. Why don't all of the right hand doors (facing from inside) open? Public buildings have to use outward opening doors for fire safety.

Q. The cafeteria (Building 1213) has two sets of doors at each entrance. The inner set is unlocked and one door of the outer set is unlocked. Over the past few months I have called this to the attention of the facility coordinator, the assistant facility coordinator, and the manager. Each has said they would "look into it." My question is, shouldn't all of these doors be unlocked for safety reasons? If so, why haven't they been opened?

Q. Why don't you get a decent answer on the question about locking one half of all the double doors?

A. The following memorandum dated November 17, 1970, and signed by T. Melvin Butler, Director for Administration, has been sent to all facility coordinators and section heads: "In many of the Center's facilities it has become a practice to lock only one of the double entrance doors. Double doors have been installed as a safety feature; they are considered necessary in order to permit rapid exit by large numbers of persons from the building in the event of an emergency. Also, by leaving one door locked, persons frequently collide with the locked door, because they assume that the door is unlocked and will swing open when pushed. Facility Coordinators are requested to assure that both double doors are unlocked when an entrance or exit is in use."

Q. Since Langley is notoriously short of secretaries, why not establish a typing pool in the West Area (similar to the highly successful East Steno Pool) to provide West Area typing services? This pool, which could be staffed by taking one or more secretaries from each division, would allow the remaining secretaries to concentrate on answering phones, filing, and other routine administrative duties for more organizational elements.

A. Edward T. Maher, Chief of Management Support Division, explained, "The idea of establishing a West Area Typing Center similar to the one which now operates in the East Area was contemplated as part of the recently announced plan to alleviate the secretarial shortage, but personnel limitations have not permitted its establishment up to this time. Of course, many organizations located in the West Area currently send typing to the East Area Typing Center and they may continue to do so until a similar Center can be established in the West Area. The East Area Typing Center is located in Building 587, Mail Stop 320, telephone 2553.''

Editor's Note: A number of questions have been received concerning the traffic situation on and off the base. In an effort to answer some of these questions the first in a series of articles entitled "Some Traffic Facts" starts in this issue on page 4.

**VALUES** - A laugh is worth one hundred groans in any market. - Charles Lamb

**HAPPINESS** is a perfume you cannot pour on others without getting a few drops on yourself.
BUNGLES, a local TV personality, will be on hand to entertain the children at the annual Christmas Party which will be held at the Activities Building on Sunday afternoon.

CHILDREN’S PARTY DECEMBER 20

Tickets are still available for the Children's Christmas Party which will be held Sunday at the Activities Building.

Bungles and Kelly's Dragon will be there at 1:30 p.m. to join all the boys and girls in games and laughter.

At the 3:15 p.m. show, Ronald McDonald will hand out favors and play games with the children.

Each show ends with the arrival of Jolly Ole Saint Nick loaded down with gifts for all the children.

Tickets are 50 cents each for children and adults and are on sale at the Activities Building.

Anyone interested in helping during the party, please contact Jeanette George, 3518.

NEW YEAR'S DANCE PLANNED

The Activities Association will close its 1970 social season with the annual New Year’s Eve Dance on Thursday, December 31 at the Activities Building.

Music will be furnished by The Progressions.

The evening events will start at 9 p.m. and continue until the New Year is one hour old. At the stroke of midnight, Father Time will make his exit and the New Year will arrive on the scene.

Tickets are $10 per couple including set-ups and favors. Only a limited number of tickets will be sold and they may be purchased at the Activities Building. Reservations may be made only with ticket purchase and no reservations will be held past 10 p.m.

LAUNCH OF APOLLO 14 MOON MISSION SET FOR JANUARY

Apollo 14, the sixth United States manned flight to the Moon and the fourth with a Moon-landing objective, is scheduled to lift off from Kennedy Space Center on January 31.

Prime crewmen are Spacecraft Commander Alan B. Shepard, Command Module Pilot Stuart A. Roosa, and Lunar Module Pilot Edgar D. Mitchell.

Shepard was the United States’ first man in space. He flew Freedom 7, a suborbital mission in Project Mercury, on May 5, 1961. He recently returned to space-flight status after being grounded for several years because of an inner ear disorder. Roosa and Mitchell will be making their first space flight.

Apollo 14 has as its objective exploration of the hilly uplands region 15 miles north of the rim of the Fra Mauro crater. The crew plans to bring back lunar materials which scientists believe were dredged up from deep inside the Moon when a smaller moon or larger meteorite impacted into it four to five billion years ago.

During the two planned lunar surface excursions, Shepard and Mitchell will employ on the Moon a two-wheeled cart to carry cameras, film magazines, lunar tools, containers, and lunar sample bags. The cart, officially called Mobile Equipment Transporter but nicknamed the “Rickshaw,” will be delivered to the lunar surface attached to the outside of the lunar module descent stage.

Apollo 14: Members of the prime crew of the Apollo 14 lunar landing mission are (from left): Stuart A. Roosa, command module pilot; Alan B. Shepard Jr., commander; and Edgar D. Mitchell, lunar module pilot. The launch date has been set for January 31.
Happenings

CALENDAR NOTICE. Officials of the Stock Section announced that requests for 1971 desk and wall calendars should be submitted by Wednesday, December 16. Sections are asked to take an inventory as to the number of calendars needed and report it to their division office. The division office will forward the order to the Stock Section. 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. 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. 7510-926-4787; executive folding pad, size 3-3/4 x 5-7/8 inches, No. 7510-926-4792; tear off pad, size 5 x 8 inches, No. 7510-926-4797; wall calendar board, No. 7510-781-2455; and executive calendar stand, size 6-1/8 x 7-5/8 inches, No. 7520-162-6156.

LIBRARY CLOSED. The NASA Technical Library will not be open the evening of Thursday, December 24.

AFGE NOTICE. The NASA Lodge 2755 American Federation of Government Employees will not meet during the month of December. The next meeting will be held on Jan. 27.

PROJECT TRANSITION: James A. Vulku (center) is congratulated by A. Fred Waynick (left), Head of Data Processing Branch, and Edward A. Howe, Chief of Financial Management Division, upon his satisfactory completion of a three-month training program in computer programming. The object of the program, which is called Project Transition, is to provide specialized training to enlisted men approximately three months before their separation from the military service to equip them to obtain jobs in the private sector. The enlisted man requests training in the field in which he wishes to enter and the military enters into an agreement with the agency able to provide training in that particular field. Vulku is the first to complete this type of training. He devoted four hours each day for the three-month period, spending the remaining four hours at his home base, Fort Monroe.

NASA JEWELRY. A large selection of NASA jewelry is still available at the Activities Building. Included are the following items: tie bar - $2.20, tie tac - $1.75, charm - $1.75, necklace with plain emblem - $2.25, necklace with disc and emblem - $3.00, and bracelet with charm - $2.25. All are made of polished rhodium with bright enamel accents. For further information call Kathi Warfel, 2058.

RETURN LIBRARY MATERIAL. Due to the recent reorganization, many staff members have changed their area of research and may have library materials which are no longer needed by them. Offices may also have material that was left in their office when these changes were made. If anyone has material which is not in use or that is not charged to them, please return it to the Library, M.S. 185, so it may be placed back into circulation.
TECHNOLOGY UTILIZATION NEWS

Engineering sciences as well as pure sciences are literally being boosted by the nation's space program. In an effort to speed new space technology into our classrooms, the Technology Utilization Division has prepared a number of Educational Monographs suitable for science and engineering classes at the advanced undergraduate and graduate levels. Three categories of these valuable instructional supplements are still available from your T. U. Office, as follows:

THERMODYNAMICS
TD-1-67 Calculation of Complex Chemical Equilibrium
TD-2-68 Thermodynamic Equations, Data and Techniques for Preparing Properties Compilation
TD-3-67 Critical Flow of Real Gases Through Nozzles
TD-4-67 Thermodynamic Consistency of Vapor-Liquid Solubility Data
TD-5-68 Computer Program for Thermodynamic Performance of Brayton Cycle Space Power Systems
TD-6-68 Enthalpies of Co-Existing Equilibrium Vapor and Liquid Mixtures from Solubility Data and Equation of State Calculations
TD-8-68 Thermodynamics of Space Flight

HEAT TRANSFER
HT-1-67 Calculation of Radiant Heat Exchange
HT-2-67 A Generalized Correlation of Vaporization Times of Drops in Film Boiling on a Flat Plate
HT-3-67 Method of Estimating Ratio of Absorptance to Emittance
HT-4-67 Formulas for Radiant Heat Transfer Between Non-Gray Parallel Plates of Polished Refractory Materials
HT-5-67 Pool Boiling Heat Transfer at Reduced Gravity
HT-7-67 The Method of Zones for the Calculation of Temperature Distribution
HT-8-67 Heat Pipes and Vapor Chambers for Thermal Control of Spacecraft

CONTROL SYSTEMS
CS-1-67 An Example of Compensation Network Design
CS-2-67 An Application of Root Locus Technique to Lunar Vehicle Control
CS-3-67 An Example of Nuclear Rocket Control Design
CS-4-67 An Example of Bang-Bang Control System Design
CS-5-67 Controller Design for Nonlinear and Time Varying Plants
CS-6-67 An Example of Optimal Control Design

IT'S all right to hold a conversation, but you should let go of it now and then.

The menu for the week of December 21 is as follows:

Monday - Braised beef tips, roast fresh ham, clam croquettes, franks and beans. Snack bar - Soup, hot dogs, hot corned beef, fried eggplant.
Tuesday - Cream of tomato soup, fried oysters, Salisbury steak, ham loaf, cheese omelette. Snack bar - Soup, hamburgers, slices of smoked ham, French fries.
Wednesday - Beef broth soup, baked ham, fried shrimp, stuffed flounder, minute steak, grilled cheese and bacon. Snack bar - Soup, grilled cheese and bacon, steak sandwich, French fries.
Thursday - Chicken gumbo soup, roast ribs of beef, beef stew, fried chicken, chili-mac. Snack bar - Soup, hot dogs, hot corned beef, French fries.
Friday - Vegetable-beef soup, pot roast of beef, grilled pork steak, fried fish, broiled luncheon meat. Snack bar - Soup, slices of luncheon meat, roast beef, French fries.

THEME: The Apollo 14 crew will be the first astronauts to use the Modular Equipment Transporter (MET) on the lunar surface. Nicknamed the "Rickshaw", the MET will be used as a portable workbench.

NEW EQUIPMENT: The Apollo 14 crew will be the first astronauts to use the Modular Equipment Transporter (MET) on the lunar surface. Nicknamed the "Rickshaw", the MET will be used as a portable workbench.

MERIT PROMOTION NOTICE

The following Merit Promotion is reannounced to accept applications until December 18:

AST, Technical Management, Programs and Resources Division, R and D Programs Group (Directorate for Electronics), GS-1301.1-11, 12, or 13 with promotional opportunity, Announcement No. 70-92. (Applicants who previously applied need not reapply as they will be automatically considered).

The Secretarial Rosters established September 14, 1970, for Clerk-Stenographer, GS-5, Clerk-Typist, GS-5, Secretary, GS-5, GS-6, and GS-7 with promotional opportunity are still in effect and applications are being accepted.

CAFETERIA MENU

The following menu will be served in the cafeterias during the week of December 14:

Monday - Beef broth soup, Swiss steak, breaded veal cutlet, smoked pork sausage, devilled crab, western omelette. Snack bar - Soup, ham and egg sandwich, breaded veal cutlet, French fries.
Tuesday - Minestrone soup, baked ham, fried shrimp, spaghetti with meat sauce, baked hash. Snack bar - Soup, hamburgers, sliced baked ham, French fries.
Wednesday - Puree of bean soup, barbecued spareribs, stuffed flounder, minute steak, grilled cheese and bacon. Snack bar - Soup, grilled cheese and bacon, steak sandwich, French fries.
Thursday - Chicken gumbo soup, roast ribs of beef, beef stew, fried chicken, chili-mac. Snack bar - Soup, hot dogs, hot corned beef, French fries.
Friday - Vegetable-beef soup, pot roast of beef, grilled pork steak, fried fish, broiled luncheon meat. Snack bar - Soup, slices of luncheon meat, roast beef, French fries.

LANGLEY RESEARCHER, DECEMBER 11, 1970

Page Three
Some Traffic Facts

A recent reconnaissance traffic engineering study made on the traffic situation on and off the base confirmed staff members' complaints that traffic operations at Gate 5, known locally as Drummonds Corner, are indeed extremely complex. The report pointed out there are 26 possible movements in this intersection and the only movement expressly forbidden is a left turn from Stratton Road.

It was also reported that movements to and from the commercial facilities further complicated the operation of this intersection.

During the morning-peak period, congestion was observed on Semple Farm Road extending from Wythe Creek Road to and onto Magruder Boulevard some 1,150 feet west at Wythe Creek Road. Delays associated with these lines amounted to about 2 to 3 minutes per vehicle. This congestion lasted from about 7:30 to 8 a.m. with the higher delay lasting from 7:40 to 7:50 a.m.

Evening-peak-period congestion was noted primarily from 4:35 to 4:55 p.m. with corresponding delays of about 4 minutes per vehicle on the Stratton Road approach to this intersection. Lines during this period extended on Stratton Road from Wythe Creek Road some 1,200 feet (about 50 vehicles) eastward through Gate 5 into the NASA area.

Four accidents were recorded at this intersection between January and July 1970.

The original intent of Gate 5, according to base officials, was to provide access/egress for contractor-type vehicles during periods of construction. However, once open, it was quickly adopted by base-oriented motorists.

The report pointed out that the problem at this location involves the traffic delays during peak periods could be remedied by providing positive control for all movements. Because of the intersectional geometry, the curvilinear approach on Armistead Avenue from the south, and the present number of potential vehicle conflicts, such action would require reconstruction of a magnitude not justified solely by the delays.

Since local authorities do not plan early modification of this intersection nor are their plans conducive to an entrance at this point, the report suggested that Gate 5 be re-located on Armistead Avenue.

The most desirable location, according to the report, would be some 1,500 feet southwest of the present gate at the extension of the on-base unnamed roadway southeast of Building 1251. Such a location for Gate 5 would provide substantial improvement over the present site by providing simpler traffic movements and control which are associated with a standard T or four-way intersection.

On Armistead Avenue, it was suggested that consideration be given to locating the new Gate 5 connector directly across from Research Road, the roadway which travels through the industrial park, located west of the NASA area, to Magruder Boulevard. This road, when completed, would provide excellent access between the new gate and Magruder Boulevard and eliminate the necessity of traveling through Drummonds Corner.

It was further suggested that existing Gate 5 be permanently closed subsequent to the completion of the new gate.

A check with Center officials revealed that plans are now underway to relocate Gate 5. Construction of the recommended roadway and gate must be coordinated with local

long, long ago...

While thumbing through the first Christmas issue (1942) of the LMAL Bulletin, predecessor of Langley Researcher, we ran across the following bits of news which were reminiscent of the "good (?) old days!"

Christmas Day, December 25, 1942, will be observed as an exception to the present custom of working on holidays. In accordance with policy heretofore followed with regard to work on holidays during the war, New Year's Day, Jan. 1, 1943, will not be observed as a holiday. Employees desiring to be excused from duty on New Year's Day will submit written applications to the Engineer-in-Charge, asking to be excused and stating the circumstances which are believed to justify such a request. Such applications may be approved by the Engineer-in-Charge when he is satisfied the special reasons presented justify approval.

This little item was the beginning of good news. Effective January 1, 1943, five percent of every employee's gross earnings minus $624 will be deducted from his salary and paid to the government as a victory tax. The bill containing this victory tax further stipulated that rebates on this tax would be made in 1944 if certain conditions were fulfilled by the employees in 1943.

The following item was printed under the heading "One Ray of Hope." The War Price and Rationing Board of Hampton has issued new rulings concerning gasoline allotments. When the regulation was issued lowering the value of the A coupon from 4 to 3 gallons, the personal driving allotment was cut from 90 to 30 miles per month. Under the revised regulations, the personal driving allowance is again 90 miles per month.

Even as far back as 1942, every state in the union had been represented by students attending classes at the Apprentice School.

It was also reported that 600 cars entered the base every day. Today's total is over 5,000.

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Have You Met....?

HAVE YOU MET Rodney C. Wyatt? As a member of the Warwick American Legion Post 225, he has placed 2,500 American Flag pins in the Langley Federal Credit Union Office. They are free for the taking.

Rodney C. Wyatt, Research Technician in Technical Service Section D, Research Support Division, spends a good part of his leisure time beating drums or teaching others the art of mastering the percussion instrument.

When the Young Americans, a junior drum and bugle corps, was formed in 1965, Rodney joined the group as drum instructor and as assistant director and assistant business manager. He worked with the group for three years and left recently to become director of the Virginia Gentlemen Drum and Bugle Corps of American Legion Post 25.

In addition to his drum and bugle corps activities, Rodney also finds time to serve as Finance Officer of the Warwick American Legion Post 255. One of their major projects has been the placing of 2,500 American Flag pins in the Langley Federal Credit Union building. These pins are on display in the Credit Union Office and are free for the taking as long as the supply lasts.

Rodney first started beating drums at J. W. Daniel and Stonewall Jackson Elementary Schools in Newport News. He grew up to become a member of the percussion section and drum major of the Newport News High School Band. Following graduation he attended Columbia Preparatory School in Washington, D.C.

The Newport News native joined the U.S. Army in 1960 and following his discharge in 1963 he enrolled in the NASA Apprentice School. He received his certificate of completion in 1967 as an Experimental Facilities Mechanic. He also studied art with Famous Artists Studios and he likes sketching and dabbling with water colors.

His past activities have included Sea Scout, U.S. Power Squadron, Civil Air Patrol, city recreational baseball, and NASA touch football and basketball leagues.

Rodney, who is single, joined the square generation this month when he celebrated his 30th birthday.

Swap and Shop

WANTED
10-inch radial arm saw. Carter, 877-9025.
Rotary mower or bushhog attachment for Farmall Super A tractor. Johnson, 851-2624.
Home for fluffy kittens - white, grey, or black. Costen, 838-2860.
Alternate drivers from Norfolk to W.A. on 8 shift. Wieting, 3421.
Home for 5-month old female dog - mixture of Beagle and Wirehair Terrier. Sawyer, 838-1538.
Girl to share 2-bedroom furnished apartment in Riverdale. Sabo, 3611.

LOST
Man's light green sport coat in Bldg. 1244, 1219, or 1212. Schoonover, 3521.

FOR SALE:
HO gauge train, engine and cars - includes Tyco 4-6-2 Pacific engine, piggyback car, vans, terminal, autoloader with autos, caboose, and 7 miscellaneous freight cars - $30. Williams, Norfolk 464-2577.
Voice of America portable electric tape recorder, 3-speed, two-track monaural with digital counter, instant stop, record level indicator - takes 7-inch reels - $35. Hanson, 851-1699.
Portable organ with foot pedal and small amplifier - $250. Kuhn, 596-8934.
Headboard for king-size bed. Duncan, 877-7670
GE two-oven electric range - $60; woman's yellow-gold diamond solitaire ring (about 22 points) size 5- $55. Mulac, 596-0666.
Ethel Allen single bed and 4-drawer chest with formica top, light maple finish - $45. Poe, 877-4557.
AKC registered small Dachshund pups, 8 weeks old, shots, no worms, Hoghe, 868-9551 after 5 p.m.

Employees Donate Blood
The Red Cross Bloodmobile made its final visit for the year to the Center on December 2 and staff members donated a total of 160 pints of blood. The first visit for 1971 has been scheduled for March 3.

Reaching the four-gallon mark were Sylvester Kubalak, Bruce Conway, Harry Slade, and Harold Stanley. Randolph Smith completed his quota for three gallons. Addison Inge and William J. Alford completed their quota for two gallons. One gallon pins were presented to Marvin Rhodes, Phillip Davidson, Paul Hamilton, Roger Crouch, and Gary Carl.

Assisting during the visit were Dr. Grey C. Hughes and Dr. E. S. Roberts.

There is nothing wrong with making mistakes, but don't respond to encores.

If Silence be good for wise men, how much better must it be for fools.
TALES OF THREE MODERN WISE MEN

The first wise man ...

The Jones family looked forward to their traditional Christmas holiday party for their friends and relatives. Over the years it had become a highlight of their holiday season. John Jones usually left most of the planning to his wife, Ann. But this year he was troubled. A statistic he had read stuck in his mind -- more than half of all fatal auto accidents involve drinking.

What to do about the party? The season to be jolly, a cup of good cheer. people expected it, and John wanted to be hospitable. He talked it over with Ann, and they decided that the slogan 'First a friend, then a host' made sense.

To be a host meant they would serve drinks, but to be a friend meant they would try to keep everyone below the critical level where driving is impaired. They agreed on this plan:

1. Since it's a physiological fact that it takes the body about one hour to eliminate the alcohol in one drink, the one-for-one rule works -- one drink an hour, or one hour before driving for each drink. An ounce per drink, no doubles.
2. Close the bar (casually, with no moralizing) an hour before guests were expected to start leaving.
3. Have coffee ready when the bar is closed, not because it would sober anyone up but because it would hold the guests a little longer. Time is the only factor in getting rid of alcohol.
4. If a guest drank too much, arrange for someone else to drive him home or call a cab.

The second wise man ...

Sam Smith knew that the Christmas holiday season is one of the most dangerous periods of the entire year for driving. The reasons are apparent -- more hours of darkness, poor visibility and slippery conditions due to bad weather or road conditions, more chance of intoxication among both drivers and pedestrians.

Sam thought about all things and, knowing he would have to drive his family nearly 300 miles to Grandma's house for Christmas, decided on these rules for the protection of his family:

1. Keep the Christmas spirit alive at the wheel. Be patient and courteous with other drivers and pedestrians.
2. Plan ahead. If bad weather or road conditions make it advisable, be flexible enough to alter plans or route.
3. Allow plenty of time. Get on the road early. Don't be caught in a time squeeze if weather or traffic delays cause a slowdown. Stop for breaks and change drivers.
4. Keep a wary eye on the actions of other drivers and pedestrians. Many are celebrating and some will have celebrated too much.
5. Keep in mind that Christmas is an intoxicating time of year -- intoxicating in ways that have nothing to do with drinking. The festivities foster an exuberance akin to recklessness -- a feeling that nothing can mar such a happy time.

The third wise man ...

Christmas time brings unusual hazards into the home. An eight foot pine, for instance, can engulf in flames in a matter of seconds, turning your home into a charred ruin.

Joe Johnson knew well the dangers of a natural tree, but he also knew the precautions to take. He looked for a fresh tree, testing it by striking the butt on the ground to see if many needles fell off. Once home, he placed it outdoors in a bucket of water until time to set it up. Then he cut off about one inch of the trunk diagonally so that water would absorb more readily. He assigned one of his children to fill the tree stand with water daily. He put up the tree, as far as possible from any source of heat, such as a fireplace or radiator, which might dry it out faster or even ignite it.

Joe checked the tree lights (Underwriter's Laboratories labeled when new) to be sure there were no loose sockets or broken wires, then connected them to an easy-to-reach outlet so they could be readily unplugged whenever the room was unoccupied for any length of time.

He sat back to let his wife and children complete the house decorations.
NASA TENPIN BOWLING NEWS

Flyers lead Group A in the NASA Mixed Tenpin League with 34 wins and 18 losses. Short Circuits are in second place with 32 wins and 20 losses. Top scores for the week were rolled by Dave Dameron with a 296 game, O. C. Ingebritsen with a 712 set, and Sandi Satterthwaite with a 229 game and 612 set.

5-Rebels lead Group B with 34 wins and 14 losses. Viking II is in second place with 31 wins and 17 losses. Top bowlers for the week were Herb Pelton with a 272 game, Jim Schonester with a 697 set, Pat Moore with a 259 game and Nancy Taylor with a 638 set.

GROUP A

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<thead>
<tr>
<th>Team</th>
<th>W</th>
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<tr>
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<tr>
<td>Short Circuits</td>
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<td>Pinwigglers</td>
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<tr>
<td>Viking I</td>
<td>23</td>
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<tr>
<td>Spare Parts</td>
<td>22</td>
<td>30</td>
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<tr>
<td>Big 5</td>
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<td>Born Losers</td>
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<td>.365</td>
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GROUP B

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<th>W</th>
<th>L</th>
<th>Pctg.</th>
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FOOTBALL CHAMPS: Members of the ACD football championship team are (from left): Terry Straeter, John Bowen, Jim Gardner, Bob Reynolds, Rodney Wyatt, Jim Harris, Weldon Staton, and Dennis Foster. Absent are Drew Wallio, Bob Huffman, and Tommy James.

ACD WINS FOOTBALL TITLE

ACD won its second touch football championship in the four years they have been represented in the league.

ACD went undefeated winning nine games. The last time a team went undefeated was in 1966. Final standings for the year are as follows:

<table>
<thead>
<tr>
<th>Team</th>
<th>Won</th>
<th>Lost</th>
<th>Tied</th>
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<tbody>
<tr>
<td>ACD</td>
<td>9</td>
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<td>0</td>
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<tr>
<td>Boozers</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Charlie Brown's All-stars</td>
<td>5</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Bombers</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>FID</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>KNADS</td>
<td>3</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>C &amp; S</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
</tbody>
</table>

can you solve this problem?

A marking or identification method for hand tools is needed at Woodrow Wilson Rehabilitation Center where handicapped persons are trained. The tools may be of wood, plastic, or hardened steel. The marking must be easily identified. Methods tried and found unsatisfactory include metal stamps, file and center punch marks, paint and viber tools. Refer to WWRC-1. Contact the T. U. Office, extension 3281, for the problem statement or if you have a contribution.

CONGRATULATIONS

The following persons are to be congratulated for their contributions or suggestions to the Technology Utilization Office toward the solution of biomedical and public sector problems:

John P. Voros, Jerry Williams, John McFall, J. A. Martin, L. Banks Holt, Frank Staylor, R. Jensen, Seymore Samirs, Russell N. Hopko, George Sweet, and J. J. Singh.
RETAIN DEC. 12 EARNINGS STATEMENT

In completing your federal and state income tax returns, according to Edward A. Howe, Chief of Financial Management Division, you may claim all or part of the cost of your health insurance. The deduction total for the calendar year 1970 is the amount shown on the Statement of Earnings and Deductions for the period ending December 12, 1970, which you will receive on December 21.

Other information shown on this statement, which may be used to calculate your returns, includes gross earnings, union dues, CFC fund deduction, and state and federal tax deductions.

W-2 statements will be furnished all NASA employees by December 31.

WOMEN will remain the weaker sex just as long as they are smarter.

THERE is only a slight difference between keeping your chin up and sticking your neck out, but it's worth knowing.

Questions and Answers

Q. What is the purpose of the Committee for the Advancement of Women and what has it accomplished?

A. J. Norwood Evans, Employment Officer, explained that the Committee for the Advancement of Women was formed to focus attention on this Center's interest in promoting equal opportunity for women in such matters as hiring, training, promotion, etc. The program was brought to the attention of the staff through the Langley Management issuance system, training seminars, the Researcher, etc. To give the program even more emphasis, Evans explained, it was recently included in the Center's overall Equal Employment Opportunity Program, and the functions of the Committee for the Advancement of Women are now performed by the Center's Equal Employment Opportunity Committee. In addition a short time ago a woman, Jane A. Swartzwelder, replaced a man as Coordinator of the Federal Women's Program. It is believed that her interest and understanding of the special problems and concerns of women in the employment situation will enhance the objectives of our program. Perhaps the greatest accomplishment of the Federal Women's Program is the education of the staff to the fact that women are to be given equal and serious consideration in all matters affecting their welfare.

Q. What was the result of the Personnel Management Review conducted in July 1970 and will employees be advised of the overall evaluation of the review? Will any of the bad personnel management conditions be made public?

A. Management officials agree that the Overall Evaluation of Personnel Management should be made available to employees. The overall evaluation covers seven pages and therefore is too long to be published in the Researcher. It will be reprinted verbatim in the form of an announcement or green sheet and distributed to each employee as soon as it can be typed and printed.

Q. How can an employee get a transfer to another section if he is not satisfied with the section he is currently assigned to? Can a transfer be refused?

A. An employee interested in a transfer to another organizational group may initiate such action through his present supervisor, the supervisor of the position he is seeking, or the Staffing and Special Programs Branch of the Personnel Division, according to Charles F. Barnett, Personnel Officer. Transfer between sections and branches within a division requires approval of the Division Office. Transfer between divisions requires approval of the losing and gaining Division Offices as well as the approval of the Directorate or Directorates concerned. All requests for transfer are referred to the Personnel Office for final approval. Personnel determines the proper classification of the position being filled, and the eligibility of the employee for the proposed position. They also insure that the transfer action meets Center and Civil Service regulations. Transfers may be denied when management determines it is not in the best interest of the Center to increase the staff in certain organizational groups. The overall manpower requirements of the Center must be considered prior to the movement of personnel from one group to another. Another possible way of moving from one organization to another is by applying for appropriate vacancies to be filled competitively under the Merit Promotion Program. Competitive procedures are sometimes used without immediate promotion if the approved vacancy provides known promotion potential.
SEASONS

GREETINGS
SEASON'S GREETINGS

MEILLEURS VOEUX

GUTES NEUES JAHR

FELIZ AÑO NUEVO
Don't you wish you could reach all of your friends and associates with a single Christmas card? Thanks to the Researcher, I can, and I'm very grateful for this opportunity to wish you all a Merry Christmas and a happy and prosperous New Year.

Not everyone will enjoy happiness and prosperity this coming year. The ranks of the unemployed this year have been swollen by thousands of men and women from the aircraft and space industries with whom we have worked in close collaboration over these many years. In counting our own blessings we would do well to think of them.

More constructively, we can all renew our dedication to the advancement of the aeronautical and space sciences so that future opportunities can be identified and realized for the service and betterment of mankind. In this vein, please accept my thanks for your wholehearted support of the Center reorganization this year, which I earnestly hope will enhance our continuing efforts to achieve creativity and excellence in all we do.

Again, have the happiest of holiday seasons.

[Signature]
Questions and Answers

Q. Why doesn't the Researcher Advisory Committee check to see that a sufficient number of copies of the Researcher are sent out to permit all employees to receive one? A complete check of unit distribution would be required if this is adopted.

A. Beginning with this issue, each Center employee will receive his own personalized copy of Langley Researcher. Instead of being bundled in packages and sent to organizational unit secretaries for distribution, the Researcher will be addressed to each employee and delivered to his official mail stop.

Q. At one time it was announced that business cards with the NASA emblem could be ordered. About one year ago I ordered some through the Employee Services Branch. They are not here yet despite several inquiries. How can I get the cards?

A. A check with Bruce Amole, Personnel Division, revealed that some time ago, arrangements were made with a small local printer to obtain business cards bearing the NASA emblem for interested employees. The printer failed to fill the orders. Another printer is being contacted and information will be furnished in the Researcher so that those interested may place orders. It will be necessary for employees to reorder as the information previously furnished is, no doubt, out of date.

Q. Do you realize the average waiting in line time for an ice cream cone is 6-1/2 minutes in the West Cafeteria? This is not a reflection on the help for they really hustle.

A. No, we did not realize this because we are on a low calorie diet, but thanks for the information anyway.

Cafeteria Menu

The following menu will be served in the cafeterias during the week of December 28:

Monday - Cream of potato soup, breaded veal steak, broiled ham, creamed dried beef on toast, foot-long hot dog.

Tuesday - Puree of bean soup, pot roast of beef, fantail shrimp, liver and onions, barbecued pork sandwich.

Wednesday - Tomato-macaroni soup, grilled rib eye steak, barbecued pork, knockwurst, grilled cheese and bacon.

Thursday - Chicken-rice soup, hot roast beef sandwich, chuckwagon steak, fried chicken, cheeseburger.

Friday - HOLIDAY

The menu for the week of January 4 is as follows:

Monday - Split green pea soup, corned beef and cabbage, grilled pork steak, sauteed chicken livers, baked hash. Snack bar - Soup, barbecued pork, hot corned beef, fried eggplant.

Tuesday - Cream of tomato soup, roast beef, fried oysters, smoked pork sausage, western omelette. Snack bar - Soup, ham and egg sandwich, hot roast beef, French fries.

Wednesday - Chicken-noodle soup, chicken and dumplings, roast pork, minute steak, fish cakes. Snack bar - Soup, hamburger, steak sandwich, German potato cakes.

Thursday - Vegetable-beef soup, pepper steak, barbecued veal cutlet, pork choppette, chicken giblets over rice, franks and beans. Snack bar - Soup, hot dogs, breaded veal cutlet, French fries.

Friday - Manhattan clam chowder, boiled ham, fried fillet of flounder, chicken chow mein, cheese omelette. Snack bar - Soup, fish sandwich, baked ham, French fries.

Words in People's Mouths

Well...

A non-wet chemical technique is needed for measuring specifically the concentrations of nitric oxide (NO), nitrogen dioxide (NO₂) or total oxides of nitrogen (NOₓ) in ambient air, auto exhausts, and stack effluents. A range of 0.01-1000ppm and an accuracy of better than 5% is needed. Refer to AP-41. Contact the T. U. Office, extension 3281, for the problem statement or if you have a contribution.

Test of good manners is being able to put up pleasantly with bad ones.

In times of crisis we must avoid both ignorant change and ignorant opposition to change.
Some Traffic Facts

A recent reconnaissance traffic engineering study of the traffic situation on and off the base revealed the following facts about the off base traffic situation at Gate 4, the main NASA gate:

The report pointed out that this intersection is unusual geometrically in that movements to and from Walcott Road (a base roadway) are favored to the disadvantage of through traffic from the south on Armistead Avenue (a public route). While Armistead Avenue is assigned the right-of-way, its 90-degree turn with a 60-foot travel radius disrupts normal traffic flow. This left turn is further hampered by a relatively small channelization island employed to provide free right turns from Walcott Road to northbound on Armistead Avenue. The location of the island on the northbound roadway causes these vehicles to veer slightly to the left after making the 90-degree turn.

The survey showed that no significant delays or congestion were noted at this intersection during the morning-peak period though they were observed during the evening-peak period. Delays at this intersection were related to delays experienced at the intersection of Walcott Road and Taylor Road, the most proximate on-base intersection.

Evening-peak period delay to outbound traffic on Walcott Road between Taylor Road and Armistead Avenue averages less than 1 minute per vehicle. These delays are caused by difficulty experienced by vehicles existing Gate 4 to Armistead Ave., because of conflicting turning volumes on Armistead Ave. which have the right-of-way.

Three solutions to the evening-peak-period delay were considered:

Construction of a grade-separated structure for outbound traffic passing over Armistead Ave., traffic. This solution is not economically feasible because the cost would be many times the worth of the resulting benefit.

Installation of traffic signals. This solution was discarded because signals are only warranted for approximately 1 hour a day. Also, signal installations often promote rear-end accidents and could easily increase the low accident experience of this intersection.

Manual control of the intersection. This was considered the most desirable solution; however, it would require the services of a patrolman from the city police department and the department is not staff sufficient to handle this rather minor traffic problem.

Observations revealed that the major action creating accident potential was the reluctance of outbound base motorists in the evening-peak period to yield the right-of-way to Armistead Ave., traffic in spite of the posted Yield signs. During other periods of the day, motorists were observed to respect the Yield requirements.

To reduce accident potential during other periods of the day, the following minor geometrical revisions were suggested:

Extension of the median island on Walcott Road would help define travel paths.

The existing channelization island separating right turns on Walcott Rd. from through traffic should be shortened to simplify the travel path of left-turning (through) vehicles on Armistead Avenue.

Stop lines and centerlines should be installed on Walcott Rd. to define travel paths and the correct stopping position.

EQUAL RIGHTS:

GATE 4: This off-base intersection at Gate 4 shows the paths of traffic involved in the intersection and the recommended design to help reduce accident potential.

CREDIT UNION TO CLOSE DEC. 31

Thursday, December 31, the doors of the Credit Union will be locked. The staff will use the day to get a jump on the year-end closeout and the posting of dividends. This means that statements and tax information can be distributed much sooner than would otherwise be possible. The Credit Union regrets any inconvenience this may cause, but the benefit to the membership-at-large is overriding. Please remember the 31st so that you may arrange your transactions around it.

On another front, the date of the Annual Meeting has been moved forward one day to eliminate any conflict with the new George Washington's Birthday holiday on February 15. This shift to Tuesday, February 16, underscores the efforts being made by the Board to make attendance easier and participation more rewarding in terms of knowledge gained, entertainment enjoyed, and favors/prizes received.

Forget all past annual meeting formats. A new era dawns the night of February 16. For instance, no more worry about advance pickup of tickets; just show up at the Hampton High School auditorium between 7 and 7:30 p.m. No more split families and baby sitter fees; bring the kids. There will be worthwhile favors especially for them. No more controversial adult entertainment; now there will be the ever-popular, award winning Hampton Lions Jug Band. And, finally, a shorter, more dynamic, informative business session in which President Bob Girouard brings 1970 operations to life and comments on major changes programmed for 1971 that will surprise, please, and greatly benefit all members.

Plan a worthwhile family outing! You may even take home one of 35 country hams or, possibly, the grand prize -- a 23 inch color television console. Who knows?

OUT of the mouths of babes come words we shouldn‘t have said in the first place.

YOU can never tell about a woman, and if you can, you shouldn‘t.

THE REAL problem of your leisure is how to keep other people from using it.
Special NASA Events Make 1970 Headlines

The first year of the 1970's saw the following headlines in the news:

January - Dr. Whitcomb Receives AIAA Sylvanus Albert Reed Award... Space Systems Research Division Established; Love Named Head... Activities Association Opens Social Season with Rock Festival and Plans for Valentine Dance... Researcher has Camera Available for Loan... Library in New Quarters.

February - Neil Armstrong Visits Center... Moon Rock on Display Here... Center Officials Participate in Coliseum Dedication... Credit Union Declares Record Dividend... Apprentice Graduates Hear Julian Scheer... Von Braun Moved to Headquarters; Rees Appointed Marshall Director... Astronaut Frank Borman Leaves Agency.

March - NASA Scientists Conduct Intense Study of Total Eclipse... Children Enjoy Annual Easter Egg Hunt... Credit Union Helps Students... Clerical and Mechanical Trainees Complete Program.

April - Apollo 13 Lunar Landing Mission Launch Set for April 11... Cone's Research at Langley May Help Understand Cancer... Explosion Aboard Apollo 13 Aborts Landing Mission... Crippled Apollo 13 Landed Successfully April 17... Labor-Management Officials Negotiate New Agreements... Langley Participates in Science Fairs.

May - Cortright Named Chairman of Apollo 13 Review Board... Lawson Heads Savings Bond Campaign... Viking Science Review Held Here... Cottrill Wins Golf Championship... Area Wage Survey Brings New Coordinated Federal System... Staff Members Present Papers at COSPAR Meeting... HL-10 Begins Powered Landings.

June - Life Support Technology Laboratory Dedicated... Astronaut Donn Eisele Assigned to Langley... NASA Softball Team in City League... 90-Day Life Support Test Starts... Hardrath Receives ASTM Award of Merit... Retirees Receive Annuity Increase.

July - Contract Awarded to Build Visitor Information Center... NASA Reschedules Launch Date for Apollo 14... LRC Expands Computer Capability... Thirty-nine Retire from Federal Service... First Anniversary of Apollo 11 Moon Landing Celebrated... Eleven Co-op Students Receive Bachelor Degrees... Evaluation Team Visits Center.

August - Dr. Paiute Announces Resignation as NASA Director... Kilgore Named to Headquarters Post... Langley Host to OART Senior Council... Hixon Assigned to Headquarters... Jess Ross Heads Combined Federal Campaign... Activities Association Holds Mini-Carnival... Thirty-two staff members retire.

September - NASA Wins President's Safety Award... Langley Researcher Conducts Opinion Poll... Langley Group on European Tour... Sixty-six Receive Advanced Degrees... Youth Recognition Program Honors Employees... Misfits Win Softball Championship... 90-Day Life Support Experiment Completed... Benefits Association Reduces Rates.

October - Major Organizational Changes Announced at Center... Annual Awards Ceremony Held... Jackson Named OART Head... Nicks Appointed Langley Deputy Director... Scout Contract Awarded... Langley Sets New CFC Record... Langley Host to Three-day Radio Blackout Symposium... NASA to Use Metric System.

November - Supercritical Wing Arrives at Flight Center for Tests... Orbiting Frog Otolith Launched by Scout... NASA Honors Langley Employees in Washington Ceremony... Government to Pay Larger Share of Health Premiums... 90-Day Manned Test Symposium Held Here.

December - Launch of Apollo 14 Set for January... Annual Children's Party Held... ACD Wins Touch Football Title... New Year's Eve Dance Plans Announced.