Holiday Energy Savings

The closing of 40 selected facilities during the recent holidays resulted in a significant reduction in energy usage for the Center. As shown in the graph, the difference in electric power usage between the weeks of December 4 through 10, considered a typical work week, and December 25 through 31, was approximately 1.8 million kilowatt hours. The savings accrued during the four work days after Christmas, plus the Friday after Thanksgiving, amounted to 1.85 million kilowatt hours or approximately $60,000. Fuel oil savings amounted to about 3,000 gallons, or $1,000.

Michener to Appear in Colloquium Series

The next lecture in the Langley Colloquium Series will feature Pulitzer Prize winning author James A. Michener who will speak on the topic “The Future of the American Family.” The talk will be held in the newly remodeled Activities Center (Building 1220) at 2:30 p.m. on Monday, January 16th and will be preceded by an informal coffee at 2:00 p.m.

In the talk, Mr. Michener will outline the changes which have been overtaking the American family and discuss their present implications. He will then extrapolate these changes into the future and ask the audience to make educated guesses as to what the social consequences may be. Finally, he will suggest certain ways in which family law may have to be altered.

Mr. Michener is a student of peoples and cultures and has traveled widely. He has also lived for extended periods in various parts of the world while doing research for his books. His best selling novels include Tales of the South Pacific, The Bridges at Toko-Ri, Return to Paradise, Sayonara, Hawaii, Caravans, The Source, The Drifters and Centennial. His most recent book, entitled Sports in America, was published in 1976.

Mr. Michener will also lecture on this subject as part of the Our Future in the Cosmos Series at 8:00 p.m. the same evening in Hampton Coliseum.

27 Employees Retire

The following Langley employees retired during the month of December: Robert C. Selden, Byron N. Buntin, Jr., Randolph M. Smith, Wilbert J. Powell, Viggo G. Dereng, Wilbur C. Heier, George L. Ulmschneider, David E. Potts, Marvin S. Finch, Jr., Ernest J. Soter, and Nelson B. Harris, Fabrication Division.


Walter Sinelnick and Henry C. Elkins, Flight Electronics Division; Walter M. Cook, Jr., and Hugh C. Halliday, Continued on page 2.
**Film Showing**

Many persons who have attended a showing of the recently acquired motion picture film on value programming (entitled "What You Are Is Where You Were When...") have requested that their families be given an opportunity to view this film. In response to these requests, the film will be shown in the Activities Building on January 24, 1978, from 7:30 to 9:30 p.m.

Dr. Morris E. Massey, Associate Dean of the College of Business, University of Colorado, offers the premise in this film that our values are locked in at an early age and can be changed thereafter only through a "significant emotional event" in our lives. Generally we accept the way we were value programmed as the only right or correct way to view the world; therefore, all other value concepts are wrong or incorrect.

Although admission to the film is free, tickets must be secured from Nicola Kitchens, Training and Educational Services Branch, Building 1195X, Room 142. Tickets will be issued on a first-come, first-served basis.

If sufficient interest is indicated, the film will be scheduled for additional showings.

If you have any questions concerning this film, call Eloise McGehee, 2611.

**Attention Former Employees of Aerospace Contractors**

Under existing law (Sec. 7, Public Law 91-303 (84 Stat. 372)), NASA employees formerly employed by certain aerospace contractors are required to submit a report containing information specified in the statute. Personnel who were formerly employed by certain aerospace companies are required to file such a report with Personnel Records, Mail Stop 174A, by February 15, 1978, if they also meet the following criteria:

1. Employment with the listed aerospace contractor terminated on or after October 1, 1973; and
2. Salary rate during employment with the listed aerospace contractor was $15,000 per annum or more; and
3. NASA Salary rate at any time during the period October 1, 1976, through September 30, 1977, was equal to or greater than GS-13.

Additional information and NASA Forms 1480 may be obtained from Personnel Records or Norma B. Schultz, Extension 2624. Failure to file a report is punishable by a maximum of 6 months imprisonment or a fine of not more than $1,000, or both. A listing of the aerospace companies covered by this statute is posted on bulletin boards.

**New Pay Rates**

The Civil Service Commission has approved upward adjustments in the pay rates for employees at the GS-7 and 9 levels in all professional series of the GS-800 occupational group. The increase in these rates is the result of the Commission's annual review to determine recruitment/retention problems attributable to higher starting salaries in the private sector.

The new first step rate for the GS-7 level will be $14,802, and for the GS-9 level, $16,086. These special minimum rates will be effective January 15, and will be reflected in pay checks dated February 6, 1978.

**Course Offering**

Anyone interested in taking EET 410—Communications and High Frequency Technology from ODU, please contact Harold Beazley, M/S 388, Ext. 2826. The course will begin on or about May 2 and run eight weeks. The days and times are somewhat flexible and are tentatively set for Tuesday and Thursday from 4:00 to 6:30.

**December Retirees**

Continued from page 1.

Systems Engineering Division; Roger W. Peters, Structures and Dynamics Division; Peter F. Koryciniski, Aeronautical Systems Division; Gordon E. Moore, Research Facilities Engineering Division; and Theodore E. Larson and Marvin E. Quisenberry, Instrument Research Division.

Retiring on January 4 was Kermit G. Pratt, Space Systems Division.

**TECHNOLOGY AWARDS.** Seven Langley employees were recently presented cash awards for Tech Briefs. Checks and certificates were presented to: (left to right) Ray W. Gregory and Reginald J. Exton for their Tech Brief entitled "A Four-Channel Portable Solar Radiometer for Measuring Particulate and/or Aerosol Opacity and Concentration of NO₂ and SO₂ in Stack Plumes;" Otto Youngbluth, Jr., for his Tech Brief on "A Versatile LDV Burst Simulator;" Maynard C. Sandford and David L. Gray for their Tech Brief on "Solar Cell Angular Position Transducer;" Donald E. Barthlome for his Tech Brief entitled "Collapsible Corrugated Horn Antenna;" and Wilbur C. Heier for his Tech Brief on "Method of Laminating Using a Pneumatic Anvil." National distribution is made of the quarterly "NASA Tech Briefs" journal, which is published through the NASA Technology Utilization Program.

**The Langley Researcher,** an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23685, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115, telephone 2932.

Editor ..................... Karen Miller
Editorial Assistant ............ Jean Drummond
Staff Photographer ............. Bob Nye

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.

2 Langley Researcher, January 13, 1978
Retirement Parties

A retirement celebration in honor of Gordon E. Moore will be held on January 26, 1978. Contact Davis Wright, 4656, for details and reservations.

Roger W. Peters, who retired from the Structures and Dynamics Division on December 30, 1977, will be honored with a retirement party at Vic Zoddla’s Holiday Inn Restaurant, Mercury Boulevard, on January 20, 1978, beginning at 12:00 Noon. The cost of the party will be $5.50 per person (choice of baked chicken breast or roast round of beef). Contributions for gift alone ($1.00) are welcome. Please send your reservations and/or contributions to Jim Gardner or Kay Bales, M/S 244, by January 18.

ICC Notice

Scientific Devices, representing EMI Technology, will have a video presentation on the application of instrumentation magnetic tape recorders in Instrument Research Division, Building 1230, Room 225, on January 17, 1978, from 8:30 a.m. to 3:30 p.m.

Areas to be covered are as follows: limitations, time-base changes, basic IRIG configurations, electronic flutter compensation, and servo operation.

All interested personnel are invited to attend.

Speakers Bureau

On November 11, Frank Hohl spoke for the William and Mary colloquium about “Computer Simulation of Galaxies.”

On November 13, Bob Wright spoke to the Men’s Club of Temple Emanuel about Viking.

On November 16, Ira Abbott spoke to the Portsmouth Jaycees about the Tech House.

On November 17, Ross Goble spoke to the Tidewater Chapter of Phi Delta Kappa about future educational technology.

On November 18, Joel Levine spoke to the Virginia State Conference of Planetarium Directors on “The Evolution of Planetary Atmospheres.”

On November 28, Brian Pritchard spoke to the Kinston, North Carolina Engineers Club about environmental monitoring.

Questions and Answers

Q. What’s the honor in a Langley Group Achievement Award when the names of the recipients are treated as closely guarded secrets? Couldn’t a mystery voice just whisper the names at the awards ceremony or maybe the Langley Researcher publish their initials in some inconspicuous spot?

A. It looks as though the Awards Office and the Researcher staff could use a little sensitivity training. In efforts to save time at the ceremony and space in the Researcher, we did not think to mention all the individuals involved. We’ll both try to do better in the future. Thank you for bringing this to our attention.

In Memoriam

Robert Ronald Clary, Materials Division, Composite Primary Structures Office, died on Thursday, December 19, 1978, at Riverside Hospital. Clary worked at Langley for the past 20 years.

He is survived by his widow, Betty Trusler Clary; two sons, Robert Steven and Richard James; his parents and two sisters.

Clary was buried in Peninsula Memorial Park.

On November 29, Manuel J. Quejio spoke to the AIAA Student Branch at the University of Virginia about Stability and control work at Langley.

On November 30, William DeShazor spoke to students in Knoxville, Tennessee about Viking.

On December 7, Bob Rainey (retired) spoke about the Space Shuttle at the Citadel in Charleston, South Carolina; Dick Russell spoke to the Wade Lee Chapter, Air Force Association, about future space technologies.

On December 8, Cary Spitzer spoke about Viking to the IEEE Chapter in Fort Worth, Texas.

On December 21, Lee Person spoke about the TCV to the Peninsula Rotary Club.

On January 6, Arlen Carter spoke to students at Jenkins Elementary School and Cary Spitzer spoke to students at the Norfolk Academy about Viking.

78 LMAA Travel Show

Plan to attend the 78 LMAA Travel Show in the newly refurbished Activities Center Friday, January 20th, at 8:00 p.m. Movies, information, door prizes, entertainment and refreshments will be provided.

Featured trips this year include: Jamaica, Feb. 7-14 (only 15 seats left on this one) $349 person; Las Vegas, March 30 through April 2, from $269 per person; Switzerland, June 12-20, $539 per person; Hawaii in October (details to be announced soon). All of these charters are direct from Patrick Henry International Airport.

Cruise from Norfolk to Bermuda April 17th for 7 days (Pierside Docking), prices start at $440 per person. All prices are based on double occupancy.

Call Susan Condra, 2183, for brochures and reservation forms. Call Ernie Greene, 827-2312, Home 838-0567, or Herb Boulter, 827-3234, Home 838-4773, for details.

Happenings

HONEY BUNCH. The NASA-Langley Agricultural Club will meet in NASA Building 1212 Conference Room on January 16 and February 13 at 7 p.m. A two-part program entitled “Beginning and Basic Beekeeping” will be presented by our State Apiarist, Homer Powers, or our State Apiary Inspector, Frank Fulghum, Jr. A Nosema Test Demonstration is also planned during one of these programs. Become informed now for free, or pay later when the course is incorporated into the community college program. The choice is yours. If you have considered becoming a beekeeper it’s still not too late to prepare for the upcoming season. All equipment should be prepared and plans must be made before early spring. For more information call R. Henk, 4637, or Lt. Col. M. Lee, 764-4624.

AFGE. The regular monthly meeting of NASA-AFGE Local 2765 will be held on Tuesday, January 24, 1978, at 7:30 p.m., in Building 1212 conference room.

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The Tac Air Toastmasters Club is increasing its membership. Tac Air meets each month on the second and fourth Wednesdays at the Langley Officers’ Club. For more information, call Bob Lee on 2486 or Jim Moss on 3770.
To place an ad: Ads are restricted to Langley Research Center civil service and contractor employees and retirees. To place an ad, write to: Editor, Mail Stop 115. Please include your office phone number (in case there are any questions when it is being prepared for publication). The deadline for ads is 12 noon the Friday before the Researcher is prepared.

FOR SALE

Articles

Louis XVI 6 piece bedroom set, $250; Presto pressure cooker, 6 qt., $8, VGC. Call Alvin Vereel, 244-8828.

Two snow tires w/wheels. Call A. L. Johnson, 838-7331.


Artificial Christmas tree, 7½ feet, green, VG, $10. Polaroid camera, carrying case, flash attach., all for $10. Call 874-6467 after 5 p.m.

Whirlpool washer and dryer, white, less than 2 years old, EC, $250 total. Call Kalhick, 838-2235 or 826-7553 after 5 p.m.

Furniture: Wood dinette set; 2 bedroom sets (maple and provincial); early American loveseat; wingback chair; Mahogany drum and cocktail table w/leather top and gold trim; GE refrigerator, 15 cu. ft.; living room lamps, 3-way; 2 carpets, brown and orange. Call 838-0439.

Singer sewing machine, model 328, zip-2-ag, all accessories, double needle, desk-type cabinet, $150. Call Hig, 898-5003 after 5 p.m.


Vehicles

1974 AMC Gremlin, 6 cyl., AT, AC, just tuned up, 41,000 miles, $1450. Call 874-6467 after 5 p.m.

1973 Ford Galaxie 500, 4-door, 351 cu., VGC, AC, PB, AT, PS, AM radio, 8-track stereo, steel radial tires, $1300. Call 596-3144.

1975 Shakespeare 12-foot fiberglass tri-hull fishing boat w/10 hp Sea King outboard, GC; serviceable trailer; gas tank, life jackets, life ring incl., $750. Call Conway, 3745 or 898-4359.


Sears free-spirit 24-inch boy’s 10-speed bike; bar is 28 inches from ground, like new, $85.

1970 Gray Dodge Polara, 4-door w/smallest engine, VGC, good tires, no. 4 sticker, $695. Call Rumsey, 889-7377.

Galaxy boat, 19-foot, trailer w/100 hp Johnson motor, 2 each 6 gal. tanks, 5 life preservers, canvas top and awning, $2500. Call 826-0994 after noon.

Thanks

“Our thanks to Mr. Ron Jensen, Plant Engineering Division, for being our guest speaker at the December 14 Data Processing Management Association (DPMA) Hampton Roads Chapter’s monthly dinner meeting. The straightforward information and slide presentation explained energy conservation’s logic, capability, and usability. Mr. Jensen used understandable language, diagrams, and charts that were appreciated by all of the people in the audience.”

Merle Anderson

“I was proud to be the subject of a ‘Personnel Profile’ and have received many nice comments from it. It was a nice way to end my Langley career.

I wish to thank all of the wonderful Langley employees, past and present, for making my 41 years so wonderful. I wish to thank them for their many gifts and their greatest gift of all—our friendship.”

David Buchanan, Jr.

WEEK OF JANUARY 16

MONDAY: Bean & Bacon Soup; Spaghetti Dinner; Baked Virginia Ham; Broiled Quarter of Chicken, Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.

TUESDAY: Bull Island Clam Chowder; Fried Filet of Trout; Beef Tenderloin; Grilled Steak, Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Beef Soup; Fried Chicken Dinner; Braised Beef & Vegetables; Meat & Cheese Ravioli, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Country Style Steak; BBQ Pork; Chutnix; Western Omelette. Snack Bar: Grilled Cheese; Ham & Cheese Club: Roast Beef & American Cheese; BBQ Beef.

FRIDAY: Beef Noodle Soup; Fish Dinner; Braised Chicken Livers; Beefaroni, Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF JANUARY 23

MONDAY: Tomato & Rice Soup; Lasagna: Breaded Veal Cutlet; Beef Pot Pie, Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Manhattan Clam Chowder; Broiled Beef Liver; London Broil; Fried Filet of Trout, Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Soup; Roast Turkey Dinner; Braised Beef Tips; Austrian Ravioli, Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub: Bacon, Lettuce & Tomato.

THURSDAY: Turkey Noodle Soup; Veal Parmesan; Roast Beef Au Jus; Swiss Steak, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club: Roast Beef & American Cheese; Ham & Cheese.

FRIDAY: Cream of Potato Soup; Fish Dinner; Chicken & Dumplings; Meat Loaf, Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

Solve This Problem

A. P. Sabol, HSAD-Hypersonic Prop Br, submitted the following brain teaser for Researcher readers to solve:

“Snow starts falling at a heavy and steady rate before noon. At noon a snow plow starts out and goes two miles the first hour and one mile the second hour. What time did it start snowing?”
Alaska Pipeline Discussed in Next Colloquium

The next lecture in the Langley Colloquium Series will feature Mr. Edward L. Patton, Chairman and Chief Executive Officer of the Alyeska Pipeline Service Company, who will speak on the "Alaska Pipeline." The talk will be held in the Activities Center (Building 1222) at 2:30 p.m. on Thursday, February 2nd, and will be preceded by an informal coffee at 2:00 p.m.

Mr. Patton will give an overview of the many challenges involved in building the nearly $8 billion trans-Alaska pipeline, the largest single endeavor ever undertaken by private enterprise and one of the most challenging technological efforts of this decade. Since oil was discovered on Alaska's North Slope nearly ten years ago, this pipeline has been the subject of debate, controversy, and general interest. Now finished, the pipeline carries some one and a quarter million barrels of crude oil a day from Prudhoe Bay to Valdez, Alaska, a distance of 800 miles. Mr. Patton will review some of the highlights, detail the major construction accomplishments, and take a brief look at the future.

Mr. Patton is the chairman and chief executive officer of the Alyeska Pipeline Service Company, a consortium of eight energy companies established for the sole purpose of constructing the trans-Alaska pipeline. A native of Newport News, Virginia, Mr. Patton graduated from the Continued on page 3.

Langley was the scene of a three-day seminar on Large Space Systems Technology (LSST) last week where about 200 representatives from government agencies, industry and universities discussed the technology involved in developing large space systems to support Earth-orbiting space missions in the years 1985 to 2000. At the meeting's opening session are (from left) Angelo Guastaferro, Langley LSST Planning Office Manager; Capt. Paul Heartquist, Air Force Space and Missile Systems Organization; Oran W. Nicks, Deputy Director, who welcomed the participants to Langley; and Dr. Sinclaire Scala, General Electric Co., chairman of a panel discussion on future directions for LSST development.
Brain Teaser Answer

The solution to the "brain teaser" in the last Researcher is:

First assume that the power of the snow plow remains some constant, P. This power is then equal to the force of moving the snow which is proportional to the snow height, h, times the vehicle velocity, ds/dt, or the rate handling the snow. That is,

\[ P = w \cdot h \times \frac{ds}{dt} \]

or

\[ ds = \left( \frac{P}{w} \right) \cdot \frac{dt}{h} \]

But since in a steady storm the snow height, h, increases constantly with time:

\[ ds = \left( \frac{P}{w} \right) \frac{dt}{h} \]

This integrates into:

\[ t = t_0 e^{\left(\frac{cw}{P}\right)h} \]

Whence, from the two given conditions of the problem, the time, t₀, can be solved for, which says it started snowing 37.1 minutes before noon, or about 11:23 a.m.

Correct answers were submitted by: Fred C. Grant (retired); Ben Anders, HSAD; Alan Wenzel, ICASE; Tom Finley, IRD; C. Kearney Barton, ANRD; C. A. Powell, ANRD; and David R. Schryer, MATD.

Within 7 minutes of the correct answer were: I. S. Raju, MD; E. C. Polhamus, STAD; Bruce Conway, Electronics Directorate Office; and John D. Barrick, OSD.

Bloodmobile Report

Two hundred sixty-eight pints of blood were donated during the Red Cross Bloodmobile visit on Wednesday, January 11.

Andrew R. Wineman (retired) received a 9-gallon pin. Billy W. Beasley received a 5-gallon pin. The "Big O" went to Joseph W. Weitz for donating six pints of type O blood in one year.

Receiving 4-gallon pins were John H. Soule, Bill McMillan and Charles G. Marple. Three-gallon pins went to Stuart G. Flechner, Robert R. Spruill and Wayne Richardson.

Two-gallon pins went to Richard L. Chattin, Willis A. Shearin, Elvin Ahl, William C. Alexander, and William Roy Tate.

Receiving one-gallon pins were Robert K. Hedgeseth, Robert L. Sturmer, Jr., Charles Hardesty, James H. Ogiba, Kenneth E. Boss, Daniel P. Bigelotta, Donald W. Ruth, Richard L. Herndon, Patricia Cross, Charles E. Jenkins and Erby C. Harris.

LAA Open House

To celebrate the opening of the newly refurbished Activities Center, the Langley Activities Association will have an Open House on February 3, 4 and 5.

From 8 to 10 p.m. on Friday, the 3rd, a Variety Show will be held; features include a Polynesian dancer, novelty and magic acts. There will be free hors d'oeuvres and soft drinks. A cash bar will serve drinks for 50 cents each. Tickets are on sale at the Activities Center office for $2.50 each.

A dinner-dance will be held on Saturday, the 4th. Cocktails will be served at 6 p.m., dinner at 7 p.m. and the dance will be from 9 p.m. to 1 a.m. The cash bar (drinks—50 cents) will be open all evening. Tickets are on sale in the Activities Center office for $5 each.

On Sunday, the 5th, the building will be open for inspection from 12 noon to 5 p.m. There will be an opportunity for everyone to review the activities sponsored by the Activities Association.

Major Frederick D. Gregory, U.S. Air Force, was among 35 new astronauts selected on January 16 for the Space Shuttle Program. This photo of Major Gregory and his wife, Barbara, was taken in 1975 when Gregory was promoted to the rank of major. He served as a research test pilot at Langley from early 1975 to September 1977.

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Opening of Scheduled Airlines Traffic Office

Effective February 1 the Scheduled Airlines Traffic Office (SATO), located in Building 586 in the East Area, will open a branch office in Building 1195, Room 210 in the West Area. The SATO which represents the Scheduled Airline Industry will be available to all employees of NASA, contractors and related personnel for both OFFICIAL and UNOFFICIAL travel. Services will include information, tickets, tours and reservations on all scheduled airlines. Charter service and information WILL NOT be available.

The Office will be staffed by Ron Higgs, extension 4116. Office hours will be 8 a.m. to 4:30 p.m., Monday through Friday, except for lunch from 12 to 12:30 p.m.

Key Positions

Cecil Kirby was selected Head, Systems Design Branch, Research Facilities Engineering Division.

Kenneth L. Jacobs was selected Head, Facilities Electrical Section, Systems Design Branch, Research Facilities Engineering Division.

Charles B. Marushi was selected Head, Facilities Systems Section, Systems Design Branch, Research Facilities Engineering Division.

Historical Footnote

On November 15, 1917, a Committee on Light Alloys was established within NACA to intensify efforts to develop new metals for aeronautical use. Constructor Jerome C. Hunsaker was the U.S. Navy’s representative on the new committee. (Hunsaker was NACA Chairman from 1941 to 1956.)

Thanks

"I should like to express my appreciation to all who honored me at the retirement luncheon on Friday, January 20. In particular, I am grateful for the many friendly and inspiring associations over the past 35 years. Truly, the greatness of the Langley Research Center lies in its personnel."

Roger Peters

Joseph G. Daniels, Operations Support Division, is presented a Special Achievement Award by Earl Stahl, Chief, OSD, for "exceptional effort displaying resourcefulness and insight in dealing with malfunctioning research support equipment."
Personnel Profiles

By Allan C. Hanrahan

Langley: The Old Home Place

Judging by the recent Awards Ceremony a lot of folks have been at Langley a lot of years; like our guest this issue, DAVID S. VOHRINGER, who came to Langley (kicking and crying, by the way) fifty-five years ago! You see, Dave was literally born here, on January 26, 1923, over in the Shellbank area in the old farmhouse that was torn down about a year-and-a-half ago to make way for the new Air Force Dental Lab. The farmhouse was located near the old barn that has been modified and is still standing.

Dave's father, a graduate of Kansas State Agricultural College, was the superintendent of the 850 acre farm until June of 1941 when the owner, Hampton Institute, sold the property to the Federal Government. So Dave grew up on the farm and among other things he recalled planting the pine trees now growing near Building 1244.

Dave's parents first came to this area in 1917 and his mother, also a graduate of Kansas State and former Home Demonstration Agent, still lives in Hampton. His father was Tri-County Agent before he died, the three counties being Warwick, Elizabeth City, and York.

Dave graduated from Hampton High School in 1940 but had already been serving in the National Guard since 1939. The Guard was mobilized in 1941 and shortly afterward Dave transferred to the Army Air Corps, and subsequently served twenty-seven months in the European Theater of Operations before his discharge in 1945.

It was in 1945 when he came back to Langley, only this time it was to work for NACA. Three years later, during the Berlin Airlift emergency, Dave re-entered on duty with the Air Force and served eighteen months in Korea, a year in Pittsburgh, and graduated from Technical School before being discharged in 1953. In May of that year he came back to the Center—for good this time—and from then until now he has worked at Building 1262 and the adjacent Landing Loads Track. He is presently an Engineering Technician in the Technical Support Section A of the Operations Support Division—but not for much longer because he bids farewell to the fatherland on the twenty-seventh of January and strides off into retirement.

Asked if he had any plans he answered no, but added he might go to work somewhere. Regarding travel he remarked, "I've seen a lot of the world," and he listed places he liked and might like to visit again.

"I enjoyed it in Germany," he stated by way of example, and he went on to list some countries he did not particularly want to visit again.

"I like electronics," he admitted, and added that he had taken courses in electronics and had built his own television set from a Bell and Howell kit. "That was a lot of fun," he stated.

"I like to hunt and fish," he volunteered, "and I like bowling."

A Past Master of St. Tammary Lodge No. 5, a member of Kecoughtan Royal Arch Chapter, and a Thirty-second Degree Mason, Dave is also now serving as Commander of Flotilla 63 of the Coast Guard Auxiliary.

Dave is also a past president of the Merry Mixers Square Dance Club—square dancing being an activity that he shares with his wife, the former Martie Lou Waldren, a native of the Apple Avenue area of present Hampton. They also share the parentage of David, Jr., age thirty-one, and they are both members of Warwick Memorial United Methodist Church, where Dave sings in the choir.

Obviously, Dave has an abundance of interests and activities to keep him occupied and out of trouble as he leaves for good "the old home place."
Values Film to be Shown Again

Because the demand for tickets to the January 24 showing of the film "What You Are is Where You Were When..." exceeded the supply, the film has been scheduled for an additional showing on Tuesday, February 14, from 7:30 to 9:30 p.m., in the Activities Building.

In this film, Dr. Morris E. Massey, Associate Dean of the College of Business, University of Colorado, discusses, among other things, the age group in which the personality of the individual is first developed, what changes people after their values have become locked in, and how value processing is affected by family, friends, religion, school, and the media. He shows by 10-year age increments how each group gets to be "different." Information gained from this film helps you to understand other people's points of view and to understand and deal with your own and other people's value judgments.

Tickets, which are free, may be secured from Nicola Kitchens, Training and Educational Services Branch, Building 1195X, Room 142, on a first-come, first-served basis. Questions concerning this film should be directed to Eloise McGehee, 2611.

ECVP Meeting

The next meeting of the Engineers Club of the Virginia Peninsula will be held on Wednesday, February 1, at Sammy's Steak House, 12399 Warwick Boulevard, Newport News. The guest speaker will be Dr. Harry D. Dalton, Department of Pathology, Virginia Commonwealth University. Dr. Dalton will speak on "New Technology in Health Sciences." The meeting begins at 6:30 p.m. with a social (cash bar). Dinner at $5.00 per person will be served at 7 p.m. Reservations should be made by January 30 with Charles Newell at 596-4566 (after 5 p.m.) or 380-2362 (during the days).

Call Notice

This call notice is to remind all offices that any changes in the Organizational Listing or the Service Directory Listing for inclusion in the March 1978 issue of the Telephone Directory are due at MIS 123 by February 1, 1978.

The furnishing of accurate information for the Alphabetical Personnel Section of the Directory is the responsibility of each individual employee. Langley Form 133 entitled, "NIPPS-Telephone Directory Transcript," (Change Notice) is provided in the back of the Langley Telephone Directory for reporting change in mail stop, building number, room number, and telephone number. These changes must be submitted no later than February 10, 1978, for inclusion in the March issue.

Recent Retiree

Wayne R. Glenny, Viking Project Office, retired on November 30. He is moving to Orlando, Florida.

Honor Roll

The following Engineering Technician apprentice trainees completed the 1977 Fall Quarter with a grade point average of 3.5 or higher for the quarter:

William C. Alexander; James M. Arbuckle; John R. Atherton; William B. Ball; Harold K. Carney; Vincent L. Cawling; Sharon K. Crockett; James F. Dezern; Robert T. Fults; Joseph M. Goodwin; Charles Haynes, Jr.; Edward H. Kist, Jr.; William R. Loudermilk; Robert L. Lutinski, Jr.; Michael M. Mahler; Richard F. Mason; Dennis L. Mowrey; Edward R. Seif; Robert D. Springfield; Brian M. Webber; George L. Willis; and Randy C. Woolard.

In computing the GPA for the 1977 Fall Quarter, Training and Educational Services Branch included both the course work taken under the Thomas Nelson Community College and courses taught by NASA Langley, which are a part of the approved Engineering Technician apprentice program curriculum. TNCC does not include the grade for these courses in the college GPA, but does allow the student transfer credit.
Speakers Bureau

On January 10, Cary Spitzer spoke about Viking to the Northern New Jersey IEEE.

On January 15, Bob Tolson spoke to students at the Isle of Wight Academy about the Solar System.

On January 16, W. C. Woods spoke to Mary Baldwin College math students about "Hypersonic Wind Tunnel Testing."

On January 17, Irv Hamlet spoke to the Dental Auxiliary about "Energy Conservation in the Home."

On January 19, J. P. Arrington spoke to the Zuni Ruritan Club about "The Space Shuttle Program." He spoke to the Newport News Lions Club about the Shuttle on January 23.

On January 25, Irv Hamlet spoke to the Portsmouth Kiwanis Club on the "Tech House and Solar Projects at Langley."

On January 26, Ira Abbott spoke to the Wythe Exchange Club about the Tech House.

Retirement Parties

A retirement dinner honoring Henry C. Elkins, Flight Electronics Division, will be held at Steve's Steak House, 11847 Jefferson Avenue, Newport News, at 5:30 p.m. on February 8. The cost of the dinner will be $5 per person, including small delmonico steak, baked potato, salad, beverage, dessert, tax, and tip. For reservations, send cash or check to Jack J. Hatfield, M/S 494, by February 1. Contributions to a gift only ($1) are welcome.

Theodore E. Larson, who retired from the Instrument Research Division December 30, 1977, will be honored with a retirement party at Sammy's Steak House, 12399 Warwick Boulevard, on Saturday, February 4. A cash bar will be open from 6:30 p.m., with dinner served at 7:30. The cost of the party will be $6 per person, $11 per couple including tip and gift. Please make reservations with Paul R. Yeager or Arlene Mitchell, M/S-234, X-2466, by February 2.
**Happenings**

**BOATING CLASS.** Poquoson Flotilla 63, USCG Auxiliary will teach Boating Skills and Seamanship at York Intermediate School. The twelve-lesson course will commence on Tuesday, February 7, at 7:30 p.m. Registration will close February 14. Among the topics covered will be Rules of the Road, Safety Afloat, Communications Procedures, Knots, and Basic Navigation. A fee of $6 to cover cost of text and materials will be charged with reduced rates for additional family members. Additional information may be obtained by calling Dave Vohringer, 877-6148, or Bob Padelt, 827-3789.

**SKI TRIPS.** Ski trips are planned for Thursdays, February 2 to Bryce Mountain, February 9 to Wintergreen, February 16 to Bryce Mountain, and February 23 to Wintergreen. The cost of each trip is $25. A bus will depart Newmarket South at 5 a.m. and return there by 9 p.m. A check should be made payable to Richard Bennett and sent to him at M/S 498B to reserve a seat. Please specify the date you wish to ski, your shoe size and weight. For further information, call 599-6293 or extension 3200.

**TOASTMASTERS.** If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The Tac Air Toastmasters Club is increasing its membership. Tac Air meets each month on the second and fourth Wednesdays at the Langley Officers’ Club. For more information, call Bob Lee, 2486, or Jim Moss, 3770.

**INTERVIEW PAMPHLET** Copies of “Dynamic Job Interviewing for Women,” by Philip C. Russell, are now available in the EOP Office. Contact Rosetta Green, 3487, for further information.

**BINGO.** The LAA BINGO will resume every Thursday in the new Activities Center beginning February 16, 1978, at 7:30 p.m. The prizes are even bigger in ‘78. The Jackpot for the first evening will be $1000. There will be food and beverages on sale throughout the evening. Bring your family and friends and join the fun.

**APPRENTICE SCHOOL RINGS.** A representative from Herff-Jones Co. will be here Friday, February 17, from 10:00 to 1:00 in the first floor lobby of B-1194A to take orders for apprentice school rings. Orders for any year ring may be made. The representative will also be here on April 14.

**“TOM JONES.”** The Tidewater Dinner Theatre is currently presenting the play “TOM JONES,” the bawdy adventures of a young man during England’s most lusty period. This musical hit is fast moving and infectiously funny. The Activities Office has discount tickets on sale now. Call Susan Condra on 2183 for further information.

**ATTENTION BEEKEEPERS.** The Gloucester Beekeepers Association invites all NASA-Langley Apicultural Club members and aspiring beekeepers to attend a most informative beekeeping equipment demonstration and slide presentation by Felton Graham and Bill Siapno on February 1, at 7:30 p.m., in Gloucester. For specific location and possible car pooling, call Evelyn Goodrich 2953, R. Henk 4637 or M. F. Lee 764-4624.

These stars are appearing in “Tom Jones” at the Tidewater Dinner Theatre in Norfolk. The play, adapted and directed by Don MacPherson, will run through February 19. Pictured from left are: Kathryn Stainbrook, Michael McCartney, Judith Haubrick, Mara Joyce, and Pam Manning.
Credit Union Corner

Share draft accounts are now available at the Langley Credit Union. There is no monthly transaction charge or minimum balance. To qualify for this account, LFCU members must: (1) be approved for open-end credit up to a specified limit, and (2) arrange for their net pay to be deposited in their share draft account. Dividends (interest) are paid at the same rate as regular share accounts on the unused balance remaining in the account. To apply for the share draft account, or for additional information, step by the Main Office or call 827-7200.

Vehicles

1974 Toyota Celica GT, 5-speed, AC, AM/FM, EC, $3050. Call 589-6730 after 5 p.m.
1973 Nashu mobile home, 12x64 feet, 2 bedrooms, bath, utility room, eat-in kit., w/w carpet, AC, oil heat, gas stove, dishwasher, awnings, chain link fence, 1 shed, large patio, porch at each of the three doors, window shades, drapes, EC, Warwick Mobile Homes. $7800 or $2500 down and take over payments of $93.57 a month. Lot rent $780. (includes all water and sanitation); large lot on dead end street, Call 807-1230.
1967 Datson station wagon, AM/FM/tape, 84,000 miles plus 400 miles per week. Call Lee, 564-3296.

Menu

WEEK OF JANUARY 30

MONDAY: Bean and Bacon Soup; Spaghetti Dinner; Braised Beef & Vegetables; Breaded Veal Cutlet; Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.
TUESDAY: Bull Island Clam Chowder; Steak Teriyaki; Fried Filet of Trout; Beefaroni; Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.
WEDNESDAY: Vegetable Beef Soup; Fried Chicken Dinner; Meat & Cheese Ravioli; London Broil; Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Steak & Onion & Cheese Sub; Bacon, Lettuce & Tomato.
THURSDAY: Chicken and Rice Soup; Country Style Steak; Braised Chicken Livers; Frank & Beans, Snack Bar: Grilled Cheese; Ham & Cheese Club; Roast Beef & Italian Sausage; BBQ Beef.
FRIDAY: Beef Noodle Soup; Fish Dinner; Baked Virginia Ham; Cheese Omelette; Snack Bar; Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF FEBRUARY 6

MONDAY: Tomato & Rice Soup; Lasagna; Beef Pot Pie; Broiled Quarter of Chicken; Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.
TUESDAY: Manhattan Clam Chowder; Fried Filet of Trout; Broiled Beef Liver; Grilled Steak; Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.
WEDNESDAY: Vegetable Soup; Roast Turkey Dinner; Swiss Steak; Austrian Ravioli; Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.
THURSDAY: Turkey Noodle Soup; Veal Parmesan; Roast Beef Au Jus; Knockwurst & Sauerkrut; Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.
FRIDAY: Cream of Potato Soup; Fish Dinner; Chicken Pot Pie; Meat Loaf; Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

FOR SALE

Articles

Wedgegwood Blue Shag carpet, 14x22 feet, used 6 months, like new; $300 new; sell for $150 firm. Call 851-2937.
Sewing machine, PFAFF, GC, flatbed model 60; comes complete w/foot control and attachments, including buttonhole; will fit in any standard cabinet; selling for half retail at $60. Call 874-6498.
Mirror, 72x40 inches w/decorative screws for wall attachment, EC, $25. Call 596-0004 after 5 p.m.

Lafayette stereo amplifier, approx. 15 watts per channel min. rms, high, quality, much more. Good starter component for your system or your teenager's. $30 or best offer. Call Mike Ross, 826-1725 or 874-9045 after 5 p.m.
Refrigerator. Sears Coldspot, 4.5 cu. ft. counter-high model with two ice trays, door storage, veg. crisper, magnetic door closure; copper tone finish: 20x20x33" high. VGC, ideal for office or college. $90, Call Rose, 3281 or 877-4372.
Dogwood trees, sixty trees ranging in height from two to six feet, must move by February. Call Bernard, 874-9045 after 5:30 p.m.
TV, RCA, 19-inch, B&W, EC, $80 or best offer, Call Raju, 3178.

Vehicles

1976 Toyota Celica GT, 5-speed, AC, AM/FM, EC, $3050. Call 589-6730 after 5 p.m.
1973 Nashu mobile home, 12x64 feet, 2 bedrooms, bath, utility room, eat-in kit., w/w carpet, AC, oil heat, gas stove, dishwasher, awnings, chain link fence, 1 shed, large patio, porch at each of the three doors, window shades, drapes, EC, Warwick Mobile Homes. $7800 or $2500 down and take over payments of $93.57 a month. Lot rent $780. (includes all water and sanitation); large lot on dead end street, Call 807-1230.
1967 Datson station wagon, AM/FM/tape, 84,000 miles plus 400 miles per week. Call Lee, 564-3296.

FOR RENT

New cottage at Sandbridge 1/2 block from Ocean and Backbay. Four bedrooms, fireplace, heat, gas stove, dishwasher, 5 to 6 inches wide, for $250. Call 874-6498.

Hampton I sailboat in the process of being rebuilt. Will sell cheap. Call 874-9500 after 5 p.m.
Mobile home, 10x50 feet, gun type oil heat, AC, refrigerator and stove. $1500. Call Wyatt, 877-8960.
1974 Cougar XR-7, 2-dr. HT, AT, AC, PS, PB, 8-4:30 shift until March. Have "as is" car. Call 877-8960.
599-6000, 3596, 826-1609 alt. 5 p.m.

WANTED

Wheels for Ford truck or Jeep; 5 lugs on 5x1/2 inch diameter bolt circle, 4 1/4-inch diameter hub hole, 5 to 6 inches wide. For 15-inch tires. Call Youngblood, 826-2165.
Drafting table, 31x42 inches or larger. Call Kelly 220-1235 or 988-5589.
To form or join carpool from Bethel Park to West area on 8-4:30 shift until March. Have car only 2 days a week. Call Lindsey Phillips, 3596 or 826-1609 after 5 p.m.

To exchange white lined London Fog raincoat. Picked up wrong one in Cafeteria on Monday, January 16. Call Bartron, 2701, for exchange.

To place an ad: Ads are restricted to Langley Research Center civilian service and contractor employees and retirees. To place an ad, write it the way you would like it to appear and then send it to: Editor, Mail Stop 115. To place an ad: Ads are restricted to Langley employees and retirees. To place an ad: Ads are restricted to Langley employees and retirees. To place an ad: Ads are restricted to Langley employees and retirees.
This sketch was done by Gloria Coker, local artist, to commemorate the reopening of the Langley Activities Center. Pictured are the three principle speakers at the ribbon-cutting ceremony: Gen. Robert Curtin, Director, Office of Facilities, NASA Headquarters; Oran Nicks, Langley Deputy Director; and Herb Boulter, President of the Langley Activities Association.

Engineers - Strength in Crisis

National Engineers Week will be observed this year February 19-25. The National Society of Professional Engineers, with more than 70,000 members, began sponsoring National Engineers Week in February, 1951. The purpose of the week is to familiarize the public with the work of engineers and to honor outstanding members of the profession. The week of George Washington's birthday is traditionally selected for the observance because our nation's first President had the educational background of an 18th century civil engineer.

"Engineers—Strength in Crisis" is the theme of this year's observance. In keeping with the week's purpose, career day programs will be held at Langley on February 21, 22, and 23.

The Electronics Directorate will host approximately 100 students on the 21st. The students will be divided into four groups for tours and seminars in the following areas: computer sciences, flight electronics for aircraft and spacecraft, electronics for research facilities and programs, and electronics for control systems and human factors. Following the seminars, there will be an overall briefing on the Directorate's function and then the students will have an opportunity to interact with Directorate personnel on an individual basis.

The same format will be followed on the 22nd when the Space Directorate hosts the students. Seminar topics will be: space systems, marine and applications and atmospheric and environmental systems.

On the 23rd, the Aeronautics Directorate will sponsor tours and seminars on flight research, aeronautical systems, and Subsonic and Transonic Aerodynamics. The overall briefing and interaction session will follow.

In addition to the program at Langley, engineers will visit Peninsula and outlying schools, discussing engineering. On the Peninsula, seven high schools, two colleges, five intermediate schools and two private schools will be visited.
On January 31, the Project RECOUP contract was signed at Langley. Project RECOUP, the trash-burning steam plant, is a joint project between the City of Hampton, NASA Langley and Langley Air Force Base to help solve the Peninsula's trash disposal problems. Construction of the plant is expected to begin in March. Seated from left to right are Emmitt Eason, General Manager, Kenith Company; Leo Daspit, RECOUP Project Manager; Bill Greenwood, Senior Vice President, Director of Operations, Wiley and Wilson, Inc., of Lynchburg; and Herb Greene, Deputy RECOUP Project Manager.

Lewis Center Director Appointed

Dr. John F. McCarthy, Jr., is to become Director of NASA's Lewis Research Center in Cleveland on October 1, 1978.

McCarthy is currently Director of the Massachusetts Institute of Technology's Center for Space Research. He has been a professor of aeronautics and astronautics at MIT since 1971, and is a widely recognized expert in systems engineering and vehicle design.

He is a member of the Air Force Scientific Advisory Board and is Chairman of the Aeronautical Systems Division Advisory Group of the Air Force Systems Command. He is a member of the Joint Strategic Target Planning Staff Scientific Advisory Group for the Joint Chiefs of Staff and has been a member of the NASA Research and Technology Advisory Council, Panel on Space Vehicles, since 1974.

Credit Union Annual Meeting

LFCU's annual meeting will be held on February 20, 1978, at Kecoughtan High School auditorium (corner of Fox Hill Road and Woodland). The doors will open at 6:00 p.m. with the program starting promptly at 6:30 p.m. Highlights will be the election of officials and an audio-visual presentation even more sophisticated than last year's. Those unable to attend this meeting may vote for four members of the Board of Directors and two Credit Committee members at booths open in both offices from February 13 to February 17, 1978, between 9:00 a.m.-2:00 p.m.

Prizes for lucky winners consist of a one-week trip for two to Acapulco; a microwave oven; and a stereo/radio/8-track set with speakers. Winners must be present to win. There will be door prizes for everyone and a social get-together for members after the meeting. Sandwiches and hors d'oeuvres will be served. Make your plans now to attend!

Coleman to Speak

Marshall Coleman, Attorney General of Virginia, will be the guest speaker for the Peninsula National Engineers Week annual banquet on Saturday, February 25. His talk will relate to the Engineers Week theme, "Engineers: Strength in Crisis."

The evening at the Langley Officers' Club begins at 6 p.m. with a social (cash bar) in the Virginia/Magnolia rooms. Dinner will be at 7 p.m. in the Chesapeake/Columbus rooms. The cost of the steak teriyaki dinner will be $6 per person.

At 8 p.m., awards will be presented to the Peninsula Engineer of the Year.

Advance tickets are still available from Al Taylor, ext. 3877; Ed Hoffman, 3405; Gene Hammond, 2662; and Gil Haynes, 3641.

Viking Authors Receive Award

The American Association for the Advancement of Science will present its Newcomb Cleveland Award to all the authors of the papers that appeared in the special Viking issues of Science, August 27, October 1 and December 17, 1976. Presented for the best paper in Science during a calendar year, this is the first time it will be awarded to a group.

The award will be accepted by Tim Mutch on behalf of all the authors at the AAAS meeting in Washington, D.C., on February 15. The honorarium that accompanies the award will be used to sponsor scholarships for one or more college students interested in working on some aspect of Viking data analysis.
Daniel I. Sebacher (right), Marine and Applications Technology Division, was recently presented a Certificate of Recognition by E. Brian Pritchard, Chief, MATD, for an invention entitled "Solar Hydrogen Generator."

Richard T. Wilem, Systems Engineering Division, and David C. Grana, Marine and Applications Technology Division, were presented cash awards and certificates for their NASA Tech Brief, "Kine-Pak, A Self-Contained, Electrical Power Generator System."

Langley to Host Airfoil Conference

Langley will be the host for a NASA Conference on Advanced Technology Airfoil Research from March 7–9 at the Activities Center.

The conference is designed to provide the entire aviation community with a comprehensive review by NASA, its supporting contractors, and University grantees of the latest technical developments and detailed progress in airfoil computational analysis and design methods, airfoil test facilities and techniques, and various applications of new airfoil technology.

The technical sessions will include discussions and presentations on progress in mathematical codes for use on electronic digital computers for airfoil analysis and design, coupled with progress in analogue computers through wind tunnel test facilities and special techniques of investigation; general aviation aircraft; transports; rotorcraft; propellers; windmills; and agricultural aircraft.

Co-chairmen of the conference will be Al Gessow, NASA Headquarters and Robert E. Bower, Langley’s Director for Aeronautics. Honorary co-chairmen will be Ira H. Abbott, NASA Headquarters (retired) and Dr. Richard T. Whitcomb, Langley.

Session chairmen include Jerry South, Dr. Richard W. Barnwell, Joseph Chambers, Robert Huston, Dr. Bruce Holmes, Percy Bobbitt, Dudley Hammond, and Dr. Samuel Bland, Langley; Dr. Paul Garabedian, New York University; Dr. John Lee, Ohio State University; Paul Bavitz, Grumman Aerospace Corporation; Dr. Gary Chapman, Ames Research Center; Roger Winblade, NASA Headquarters; Theodore Ayers, Dryden Flight Research Center; Dr. William Ballhaus, U.S. Army Research and Technology Laboratories; and Dr. Joseph Savino, Lewis Research Center.

Those who wish to attend the conference should pre-register as soon as possible. Pre-registration forms may be obtained from Ms. Jean Foster, extension 4514.
Certificates of Recognition for inventions have been presented to the following:


Special Achievement Awards have been presented to the following:

Marie H. Tuttle (retired), "For continued highest quality subject reference in aerodynamics."

Fred M. Smith, for "For outstanding performance in providing management continuity in the Atmospheric Environmental Sciences Division."

Robert L. Swain, for "For outstanding leadership in directing and providing management continuity in the Space Directorate program areas, and as chairman of the Langley Proposal Review Committee." Samuel J. Plott, "For superior organizational attributes while coordinating an extensive real-time flight simulations operation and insuring an efficient and effective operation at all times."

James L. Hudgins, "For excellent performance in directing the nondestructive examination of pressurized and mechanical systems at Langley Research Center." Roger I. Buchanan, "For excellent performance in consistently having high technical effectiveness and productivity."

Thomas C. Jones, "For superior performance in contributing to the structural design and analyses of the Long Duration Exposure Facility Primary Structure."

Angelo Guastaferro, "For outstanding contribution to the Rotor Systems Research Aircraft Project in providing the management leadership resulting in successful flight test of 'Aircraft No. 1' and for achieving a stability in the program resulting in excellent cost and schedule performance."

James C. Robinson, "For development of advanced finite-element structural analysis techniques and unique applications to problems of significant importance to Langley research programs."

Robert Miserentino, "For exceptional effort in advancing the automation of data acquisition and analysis procedures in the Structural Dynamics Research Laboratory while maintaining a high quality research effort."

Ira H. A. Abbott, "For contributions in conceiving and implementing design and operational improvements and in the early operation, check out, and preliminary evaluation of the Technology Utilization House."

Harold E. Mehrens, "In recognition of dedicated leadership in organizing and coordinating Langley's work in support of NASA's Third Century Exposition."

Shirley D. Adams, "In recognition of superior clerical and administrative support for the publicity program of the AIAA/NASA/IEEE/ACM Computers in Aerospace Conference."

Henry A. Smith, "For exceptional industry and initiative in performing management tasks critical to the successful prosecution of Analysis and Computation Division programs."

William C. Walton, Jr., "For sustained superior performance in supplying structural dynamics expertise and advice for wind turbine generators, full-scale Space Shuttle structural testing, and solar sail planetary exploration systems."

Thomas J. Yager, "For sustained superior performance in providing the leadership and coordinating effort necessary to expand flight simulator capability for the study and solution of aircraft braking and directional control problems on runways."

John C. Page, "For continued high performance and significant contributions to the preparation of major National Transonic Facility procurement actions."

John Fryer, Jr., "For contributions in support of the Langley Research Center Nuclear Pumped Laser Program."

James M. Arbuckle, "In recognition of outstanding performance in the development and packaging of electronic instruments."

Alan W. Frizzell, "For superior performance in microelectronic fabrication."

John R. Ellingsworth, "For exceptional technical skills demonstrated during prototype fabrication of a critical water pollution sensing device."

Cleveland G. Hall, "For outstanding performance of quality assurance tasks in multiple work areas."

Leroy Jones, "For superior performance in the manufacture of a wide variety of metal aircraft models and related research hardware including the Subsonic Hypersonic Integrated Planform Studies, Series III Program."

Suggestion Awards have been presented to: Dr. Randall C. Davis, "consistency of terms on a government form;" Lillian M. Wentz, "typing instruction form;" Elizabeth C. Page, "insuring proper identification of all documents including invoices to a NASA Purchase Request/Purchase Order;" Fay S. Moore, "rewiring of overhead lights;" Lahoma L. Hart, "training course;" William C. Conkling, "use of terminal boards to connect sensor to T/M cable of 1/5 scale spin model;" Irby W. Jones, Melvin H. Lucy, and Maria V. Stephens, "application of longitudinal acceleration effect to the Grain Regression Analysis Computer Program—A Modification;" Thomas J. Yager, "student transportation from West Area to East Area classes;" John L. Eason, "pictorial plus nomenclature of similar items in Stock Catalog;" David F. Gourley, "borsic/aluminum and titanium clad borsic/aluminum picture frame shear panels;" Henry S. Earl, Jr., "savings in polar chart paper;" James R. Davis, "source for stress-corrosion cells;" Jack G. Barbour, "method of dimpling metal to receive countersunk head rivets in aircraft structures;" Norman L. McRae, "programmable laser control circuit;" Robert F. Berry, Jr., "improved application method for resin;" John B. Tyndall, "new Polaroid back for Hasselblad cameras."
Opening Night Fever
at Renovated
Activities Center

Some employees and guests enjoy the redecorated lounge while others redecorate themselves. (One of the pair at left is a Polynesian dancer.)

Music and magic melded as square dancers and a levitationist helped open the newly renovated Langley Activities Center with a show biz bang.

The Activities Center reopened last weekend in a whirl of social activities, from a variety show to group conversation to fancy dancing.

The main room of the Activities Center, now called the Reid Auditorium, was turned into a disco (or ballroom, depending on the beat) Saturday night to complete the grand reopening.
ASNT Meeting

The American Society for Nondestructive Testing, Hampton Roads Section, will meet on Tuesday, February 14, at the Althaus, Newmarket South Shopping Center, Newport News. Dinner will be at 7 p.m.; at 8 p.m., Michael L. Mester, Research Engineer, United States Steel Corp., Research Laboratory, Monroeville, Pennsylvania, will speak about "Eddy Current Testing of Hot Steel Products."

All interested persons please contact J. D. Hart, 877-6844 (home), 380-4840 (office); M. E. Clark, 838-0960 (home), 380-4840 (office); or Sonny Forrest, 489-2599.

Instrument Control Center Announcement

A representative from the Hewlett-Packard Company, Mr. Ron Corvette, will be at Langley on Thursday, February 16, to demonstrate and answer questions on the new HP model 2648 Graphics Terminal and model 9872 Graphics Plotte. Also available for display and demonstration will be a new terminal Printer and a Data-Entry Terminal. The demonstration will start at 8:30 a.m. in Instrument Research Division, Bldg. 1230, Room 225. Mr. Corvette will also be available for discussion of the HP computer lines. All interested personnel are invited to attend.

Frank G. Reaves, Jr., Fabrication Division, was presented a Suggestion Award for his suggestion relative to "prevent breakage and loss of ceramic molds."

Final Call for Abstracts

The 1978 Annual Meeting of the Virginia Academy of Science will be held on May 9–12, 1978, at Virginia Polytechnic Institute and State University at Blacksburg, Virginia.

The presentation of papers in the Space Sciences and Technology Section is scheduled for Thursday, May 11. If you would like to present a paper in this section, please send a brief abstract, including author(s), affiliations and mailing addresses to Bob Hall, M/S 287.

The deadline for submission of the abstract is March 1. For additional information, call Bob Hall (3711).

ASM to Meet

The Hampton Roads Chapter, American Society for Metals, will have its monthly meeting on Monday, February 13, at the Hampton Elks Lodge, 95 Tide Mill Lane, Hampton.

The guest speaker for the meeting will be Dr. D. R. Rummier, Langley Materials Division. He will speak about, "Advanced Thermomechanical Processing to Minimize Creep of Superalloup." He will also show the film, "Space Shuttle."

Dinner will be at 7 p.m. and the meeting at 8 p.m. Officers for the coming year will be elected during this meeting.

Interested persons please contact Al Moberg, 826-3533 (home), 380-4820 (office); or Jim Kiss, 851-6837 (home), 827-3098 (office).

Awards Presented

Honorary Suggestion Awards have been presented as follows: Archie D. Myers, "special pipe wrench;" H. Fuller Arnn, Jr., "safety guard for 'Onsrud' overhead router;" James W. Youngblood, "update map in Langley's Phone Directory;" David D. Shuster, "modification of spray developer to handle oversized P. B. Boards;" Philip M. McElveen and Wayne K. Gerdes, "modification of the Helix Assembly in the Alden Recorder to allow improved reliability of reciprocating recording action;" Walter P. Kabana and James E. Justice, "improving the cryogenic testing capabilities of the Instron Testing Machine;" Robert P. Davis, "improvements to be made during rehabilitation of 7x10-Foot High Speed Tunnel;" Charles I. Tynan, Jr., "Langley Research Center's telephone book change;" Walter E. Frayer and William C. Tennis, "Clarification of items in Langley Research Center's Stores Stock Catalog;" Sullivan R. Donadio, "electrical energy conservation on motor driven machinery;" Dr. Randall C. Davis, "computer printer fouling;" Paul G. Sandefur and Boyd H. Wilfong, "brazing contoured faying surfaces."

Burnie S. Williams, Operations Support Division, received a Special Achievement Award for "excellence in support of various laser development programs."

Vincent L. Cowling, Fabrication Division, was recently presented a Suggestion Award for his suggestion relative to "improved drill chart for programming of N.C. drill for plated-thru-hole printed circuit boards."
Happenings

COIN CLUB. A potpourri of coins will be offered in an auction at the regular meeting of the Langley Coin Club on February 21 at 7 p.m. at the Activities Center. Coins ranging from an 1828 large cent to a 1973 Kennedy half dollar will go on the auction block. "Key" coins included in the auction will be the 1932-D and 1932-S Washington Quarters and the 1939-D and 1950-D Jefferson Nickels. Membership in the Coin Club is open to all NASA personnel, active or retired, and associate membership is open to all other personnel employed at Langley or Langley Air Force Base. Further information may be obtained by calling Barry Shrut on 3181, or Sam Dollyhigh on 4576.

BINGO. The LAA BINGO will resume every Thursday in the new Activities Center beginning February 16, 1978, at 7:30 p.m. The prizes are even bigger in '78. The Jackpot for the first evening will be $1000. There will be food and beverages on sale throughout the evening. Bring your family and friends and join the fun.

HONEY BUNCH. Honey Bunch will meet in Building 1212 Conference Room on February 13 at 7 p.m. Frank Fulgham, Jr., will present the second part of the "Beginning and Basic Beekeeping" program. For more information call R. Henk 4637, or Lt. Col. M. Lee 764-4624.

GOLF ASSOCIATION. The NASA Golf Association will hold a meeting of its membership and all other interested employees, both active and retired, at the Activities Center on Friday, February 17, at 7 p.m. Items pertinent to the 1978 operation of the Association will be presented for discussion and approval by the members. The 1978 officers, Ed Hoffman, President (3405), Tom Bales, Vice President (4581), Jerry Deaton, Secretary-Treasurer (3940), and Benson Dexter, Tournament Chairman (2125), invite you to come out and swap golf stories, enjoy the refreshments and vote your preferences for 1978.

BOATING CLASS. Williamsburg Flotilla 67, USCG Auxiliary, is starting a 12 lesson boating skills and seamanship course beginning on February 13, at 7 p.m., at James Blair School, Room 303. The course consists of lessons in boat handling, legal requirements, piloting, sailing, weather, and communications. A fee of $6 is required for textbook and course material. Call Carl Pearson at 220-0499 for registration.

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The Tac Air Toastmasters Club is increasing its membership. Tac Air meets each month on the second and fourth Wednesdays at the Langley Officers' Club. For more information, call Bob Lee 2486, Jim Moss 3770, or Jim Shipp 2592.

LAA Travel '78

Featured charters departing from Patrick Henry International Airport this year include:

Las Vegas, March 30 through April 2, priced from $269, with five hotel choices.

Jamaica, May 2 through 9, $329, accommodations at the Hyatt Regency Hotel in Ocho Rios.

Switzerland, June 12 through 20, $539, accommodations at the Hilton Hotel in Zurich. (Some sightseeing included.)

Hawaii, October 9 through 17, $549, accommodations at the Sheraton Waikiki.

All prices are per person, based on double occupancy. All trips include round trip jet transportation, hotel accommodations, appropriate meals and drinks served aloft, taxes, transfers, baggage handling, and tips to bellmen and maids.

Two cruises are planned from Norfolk to Bermuda. One will be on the "Caribe," leaving April 17 for 7 days; the other will be on the "Mardi Gras," leaving September 6 for 6 days. The cruises are priced from $380, all inclusive.

Call the Activities Office, 2183, for brochures and reservation forms. For details call Ernie Greene, 2312, Home 838-0567, or Herb Boulter, 3234, Home 838-4773.

Goodbye Party

A "Goodbye Party" is being planned to wish Dr. Ross Goble the best as he leaves government service. Call Mary Morgan Cox, extension 4631, for specific information and reservation before February 13.

Thanks

Byron N. Buntin, Jr., of the Dynamic Model Shop for 36 years, wishes to thank all of his friends and associates for all their efforts and endeavors for his retirement party, gifts, and grand send-off, which he greatly enjoyed and appreciated!
To place an ad: Ads are restricted to Langley Research Center civilian service and contractor employees and retirees. To place an ad, write it the way you would like it to appear and send it to Langley Mail Stop 115. Please include your office phone number (in case there are any questions when it is being prepared for publication). The deadline for ads is 12 noon the Friday before the Researcher is distributed.

FOR SALE

Articles

Saws: B&D U-2559, $15; circular, 6-inch B&D U-62 w/ blades and case, $25; table, ½ hp, 8-inch GigBlit in stand, $60. Call Mulqueen, 4565.

Penney's sofa, fairly new, needs repair, $15.

Step end table, $10. Dining room table and six chairs, $120. Call Burgess, 3473.

Fiberglass duct wrap insulation, aluminum foil vapor barrier facing, 2'x48'x75', $60. Call Zaepfel, 3585, or 826-9286.


44 Automas, stainless steel, semi-automatic 44 caliber Magnum handgun, $500. Call B51-0006 after 5 p.m.

Cycle exerciser, EC, $15. Call Powell, 723-1250.

Ladies pastel mink jacket, size 14, new condition, cost $750, will sell for $350. Headboard w/metal frame, queen size, like new, $60. Boston rocking chair, new condition, $25. Call 595-0184 between 1 and 7 p.m.

Two love seats, Early American, green, EC, $150 for both. Patio glider and chair, GC, $60. Call Simmons, B51-8276 after 5 p.m.

PFAFF sewing machine, portable/console. Good condition, flatbed model 60. Comes complete w/foot control and attachments, including buttonholer and carrying case. Will also fit in any standard cabinet. Selling for half retail at $60. Call 874-6498.

Puppy whelping box, 4 ft. square w/roll bar, ideal for medium dog, $20. Call B51-0002 after 5 p.m.


Recent Retirees

David S. Vohringer, Operations Support Division, retired on January 27.

John C. Spence, Plant Engineering Division, retired on January 27.

Retirement Party

Ray Vogler, STAD, will be honored with a retirement party and lunch in Room 203 of Building 1212 at 12 noon on March 15. The cost for the lunch and contribution to the gift will be $5.00. Contributions for gift only are welcome. Please send your reservations or contributions to Ann Bell or Del Croom, M/S 286, by March 8.

Vehicles

Formula 180 T-bird 18' deep V hull, galv. trailer, 135 hp ob Johnson, 36 gal. inboard gas tank, compass plus many accs., $5,900 or best offer. Call Vann, 3438 or 827-6704 after 5 p.m.

1974 AMC Gremlin, 6 cyl., AT/AC, 41,000 miles, needs tune-up, $1,100. Firm. Priced almost $600 below NADA retail. Must sell. Call 874-6467 after 5 p.m.


Shakespeare 12' fiberglass, fishing or pleasure. GC. Includes 10 hp ob, life jackets, paddles, trailer, $600 or best offer. Conway, 3745 or 898-4359.


Real Estate

Two-story brick and siding house, 5 bedrooms, 2 baths, utility room recreation room upstairs, double garage, 2 kitchens (one off recreation room), fenced backyard. Call 723-7183 after 5 p.m.

WANTED

Home for grown male cat. He was left to fend for himself by mean people. He's very handsome and lovable and needs a good home with people to love. Call Dunkley, 2932.

People to tour with local tour group and local hosts. Visit Japan, Taiwan, Hong Kong, Thailand, Philippines and Hawaii. Twenty-one days (April 10-30), $1798 base price for group of 30. Price includes most meals and side trips. About $300 round trip to West Coast. For further information and brochures, call Sinelnick, 596-1851.

Recent Retirees

David S. Vohringer, Operations Support Division, retired on January 27.

John C. Spence, Plant Engineering Division, retired on January 27.

WEEK OF FEBRUARY 13

MONDAY: Old Fashioned Beef Soup; Spaghetti Dinner; Braised Beef & Noodles; Pineapple Chicken, Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.

TUESDAY: Vegetable Beef Soup; Fried Filet of Trout; Pepper Steak; Chili Con Carne. Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.

WEDNESDAY: Buill Island Clam Chowder; Fried Chicken Dinner; Steak Smothered w/Onions; Western Omelette, Snack Bar; Hot Italian Sausage Sub; Ham & Turkey Club; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers; Breded Veal Cutlet, Franks, Cheese & Bacon, Snack Bar; Grilled Cheese; Ham & Cheese Club; Roast Beef & American Cheese; BBQ Beef.

FRIDAY: Beef Noodle Soup; Fish Dinner; London Broil; Barbecued Ham Steaks, Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF FEBRUARY 20

MONDAY: HOLIDAY

TUESDAY: Vegetable Soup; Roast Beef Au Jus; Fried Filet of Trout; Braised Beef & Vegetables. Snack Bar: NASA Sub; Hot Italian Sausage Sub; Ham & Turkey Club; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Manhattan Clam Chowder; Roast Turkey Dinner; Spanish Steak; Baked Tuna & Noodle Casserole, Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey Vegetable Soup; Baked Lasagna; Broiled Beef Liver; Barbecued Beef Cubes. Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

FRIDAY: Chicken Egg Drop Soup; Fish Dinner; Baked Chicken & Noodles; Meat Loaf, Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.
Satellite Teaching Experiment Conducted at North Carolina A&T

A demonstration of curriculum sharing between universities, using television and NASA's Communications Technology Satellite (CTS), was recently conducted at North Carolina A&T State University in Greensboro.

The demonstration, planned by NASA's Langley Research Center, was the first time a predominantly black college conducted such an educational experiment.

Two days of telecasts originated from North Carolina A&T. They were transmitted to the CTS, located 22,500 miles above the Earth, by NASA's Portable Earth Terminal (PET), a ground-based communications system contained in a trailer.

The program signals were relayed from the CTS to Jackson State University in Mississippi; Bell-Northern Research Ltd. in Ontario, Canada; Stanford University and Rockwell International in California. Participants in each location were able to see and communicate with each other.

The program was funded by a NASA contract to investigate the feasibility of using satellites in sharing curriculum information, research techniques and results. The topics discussed included mass communication, metallic oxide and microelectronics research, advances in gallium arsenide solar cells, programs and research in chemistry, advanced institutional development programs at minority institutions, and solid state technology and data acquisition.

Included in the program was a question and answer session with Frederick D. Gregory, one of the Space Shuttle astronauts recently selected by NASA.

Almost seven hours of satellite time were made available by NASA's Ames

Continued on page 4.
Boeing Official to Speak for Colloquium

H. W. (Bob) Withington, Vice President for Engineering, Boeing Commercial Airplane Company, will be the guest speaker for the Langley Colloquium on Monday, February 27. He will speak on "Commercial Air Transportation Developments in the Next Three Decades."

The colloquium will be held in the Activities Center (Building 1222), with a coffee at 1:30 p.m. and the lecture at 2 p.m.

A native of Philadelphia, Withington came to Boeing in 1941 to design and operate the Company's transonic wind tunnel. He was staff engineer-powerplants from 1950-53, chief of technical staff from 1953-55 and chief project engineer on the WS-110A, a supersonic bomber design program, in 1956-57.

After serving as assistant general manager for engineering and product development in the Company's Seattle Division in 1959, he was named director of engineering of the Aerospace Division when it was formed in 1960.

In 1967, he was elected vice president-manager of the Supersonic Transport Division until the program was cancelled in March 1971. Withington was vice president-engineering of the 747 Division until he was named to his present position in January 1973.

In his talk, Withington points out that the future of commercial air transportation is being strongly influenced today by market, environmental, energy, legal, financial and technological factors. He will then examine each factor and predict what effect each might have on industry, both in the near-term and to the 21st century. He will also explore the great potential for both modified and all-new air transport systems, with primary emphasis on the airplane element.

Crash Program Draws Interest

The Mission Aviation Fellowship recently sent David G. Whitney, their Engineering Manager, to study Langley’s crashworthiness program.

This organization is responsible for transporting missionaries of all denominations and Peace Corps volunteers all over the world. They have a fleet of more than 70 aircraft in 15 countries, primarily third world countries. The majority of their planes are Cessna 180’s, 185’s and 206’s. Their operations consist of about 80,000 movements per year on strips and under conditions that are often marginal by state side standards.

The Fellowship acknowledges that they have had accidents and are interested in doing everything possible to prevent them and minimize the consequences when they happen. Some aircraft modifications they have already incorporated include emergency fuel systems, dual brakes, military seat belts and shoulder harnesses and an approximately 10 g cargo restraint system. One project currently underway is the installation of steel tubing in the cabin area aimed at a 10 g cabin.

Whitney will make the organization’s accident report material available to Langley and is interested in all crash test results from the Langley program.

Thanks

Please accept thanks for your kind expressions of care for our family. The kindness of those who donated blood (in repayment to the Red Cross Chapter) used prior to Peggy’s passing meant so much to me.

People like you are what continues to make Langley the wonderful place it is.

Simon Olsson

Good Luck

Virginia B. Eskew, of HSAD, is retiring today after over 30 years of service with NACA/NASA at Langley. Her many friends and co-workers want to wish her every happiness in the future.
Abbott and Whitcomb Named Honorary Conference Chairmen

Mr. Ira H. Abbott and Dr. Richard T. Whitcomb have been named honorary co-chairmen for the NASA Conference on Advanced Technology Airfoil Research to be held March 7–9 at the Activities Center.

Abbott came to Langley in 1929 and transferred to NACA Headquarters in 1947. During his years at Langley, he became a recognized world authority on airfoil design, wind tunnels for airfoil research, and applications of airfoils to all types of aircraft. He was a principal researcher during development of the several families of airfoils known collectively as the NACA airfoils. He was instrumental in preparing much of the research for publication in the book “Theory of Wing Sections,” a standard text for today’s aircraft designers. Abbott, now retired, lives in New Hampshire.

Whitcomb came to Langley in 1943, beginning his career in the 8-Foot High Speed Tunnel, which was succeeded by the present 8-Foot Transonic Pressure Tunnel. His outstanding work in the field of transonic research has brought him almost every scientific award an aerodynamicist can earn. Noteworthy were his breakthroughs with the Transonic Area Rule and the Supercritical Airfoils. His most recent contribution has been the development of winglets to markedly increase aircraft efficiency.

Abbott and Whitcomb will be honored at a dinner for the conferees on the evening of March 7. Abbott will speak on “NACA Airfoil Research Recollections” and Whitcomb will speak on “NASA Airfoil Research—New Beginnings.” They will be introduced by Larry Loftin. The emcee will be Joe Stickle, Assistant Chief, Flight Research Division.

Viking Scientists Award Student Grants

Student grants totaling $5,000, for the support of undergraduate research projects in planetology or astronomy, will be made this spring by the scientists of NASA’s Viking Project.

The money accompanied the annual Newcomb Cleveland Award, presented on February 15 to 150 Viking scientists by the American Association for the Advancement of Science (AAAS).

The student grants will be given, in amounts ranging from $500 to $2,000, to fund a student’s (or group of students’) ideas or to supplement student work now in progress. Selections will be based on originality and feasibility, and all ideas will be treated as proprietary.

Proposals for grants must be received by April 15, 1978. Worthy projects will be selected by a representative committee of the Viking scientists. Students whose projects are chosen will be notified by May 1, so that work can be done this summer.

Proposals may involve research work in space missions now under way, work in the field, or in laboratories, observatories, libraries, or any other location consistent with the goals of the proposed work.

If any projects are based on the Viking scientific information presented in the three issues of Science Magazine, appropriate assistance may be provided by the Viking scientists.

One- or two-page proposals should specifically include the following information:

- Name, address and school of the grant applicant (or applicants).
- Goal of the work (i.e., what results are expected).
- When and how the work will be done.
- Amount of funding required, and how funds will be used.
- Name and address of a faculty member or other person as reference.

Proposals should be mailed to: Viking Student Grant, Viking Project Office, Mail Stop 159, NASA Langley Research Center, Hampton, VA 23665.

Cash awards and certificates for Tech Briefs were presented to seven Langley employees. Those receiving awards are: (seated from left) James A. Hutchby, Joseph H. Goad, Jr., John M. Franke, William T. Davis; (standing left to right) Wolf Elber, Leland A. Imig, and David C. Davis. Hutchby received his award for the Tech Brief entitled “MIS Diode Structure in As²-Implanted CdS.” Goad and Franke received theirs for “Noise Reduction in Photomultiplier Circuits.” Davis, Davis, and Imig for “Fatigue-Failure Load Indicator;” and Elber for “Partial Interlaminar Separation for Composites.” The quarterly “NASA Tech Briefs” journal, free to U.S. citizens, stimulates technology transfer by disseminating information on new developments stemming from aerospace research.
CTOL Transport Conference to be Held at Langley

A three and one-half day conference will be held at the Langley Activities Center February 28 through March 3, 1978, to provide early information on important technology advances in the design and operation of conventional and advanced transport aircraft.

The technical sessions will include presentations of new technology generated by NASA in-house and contract efforts, including the ongoing Aircraft Energy Efficiency Program (ACEE). Organizations presenting papers include six companies in the airplane and engine industry, two universities and four NASA Centers.

The conference will open with an overview of NASA's CTOL program by Dr. James J. Kramer, Associate Administrator, Aeronautics and Space Technology, NASA Headquarters. The 45 presentations are organized into six disciplinary sessions: propulsion, structures and materials, laminar flow control, advanced aerodynamics and active controls, operations and safety, and advanced systems.

D. William Conner, ASD, is Conference Chairman. Dr. Robert W. Leonard, ACEE Program Manager, serves on the Conference Steering Committee, with management responsibility for all papers presented by ACEE airplane industry contractors. Louis F. Vosteen chairs the Structures and Materials session; Dr. Ralph Muroca chairs the Laminar Flow Control session; William J. Alford, Jr., chairs the session on Advanced Aerodynamics and Active Controls.

Seventeen papers have been prepared by Langley authors and co-authors. Contributors include Dennis O. Allison; Dennis W. Bartlett; Delvin R. Croom; John R. Dagenhart; Cornelius Driver; R. Earl Dunham, Jr.; Bruce D. Fisher; Stuart G. Flechner; Peter F. Jacobs; Dal V. Maddaloni; Samuel A. Morello; Nicholas D. Murray; A. L. Nagel; Dr. Perry A. Newman; James C. Patterson, Jr.; John B. Peterson, Jr.; Richard A. Pride; Dr. John P. Raney; Seymour Salmins; Robert K. Sleeper; Dr. J. Sobieszczanski; Dr. Andrew J. Srokowski; Dr. W. Jefferson Stroud; Sandy M. Stubbs and Robert D. Wilcoski.

Values Film Shown Again March 13

The film on value programming, “What You Are Is Where You Were When …” will be shown again on Monday, March 13, 1978, from 7:30 to 9:30 p.m. in the Activities Center (Building 1222).

The film features Dr. Morris E. Massey, Associate Dean of the College of Business at the University of Colorado. His presentation is designed to help people understand and deal with their value judgments. It is only when we look at the values we place on people and things that we can understand ourselves, other people, and thereby improve our communication, understand our own and other people's motivation, and cope with change.

Tickets, which are free, may be secured from Miss Sue Land in Building 1195-X, Room 142, on a first-come, first-served basis. After you have picked up your tickets, if you find that you will not be able to use them, please call her at 2611 so that other persons who are on the waiting list will be able to attend in your place.

Questions concerning this film should be directed to Eloise McGehee, Training and Educational Services Branch, 2611.

Satellite Teaching

Continued from page 1.

Research Center, which controls the CTS. The Lewis Research Center is responsible for the Portable Earth Terminal.

The program was considered a great success by officials at the North Carolina campus. They hope to schedule another program again soon.

Langley personnel who participated in the telecasts were Dr. John Duberg, Associate Director, and Dr. Jim Hutchby, IRD. The program was initiated by Jack Van Ness, Head, Office of External Affairs.

NEBA Enrollment Drive Held in March

NASA and Home Life Insurance Company have been working together for about 27 years. Locally, more than 60 percent of our permanent employees are enrolled in this excellent insurance program. One of the key attractions is NEBA's low rate of $.88 per thousand dollars of protection.

The added convenience of a payroll allotment to the Langley Federal Credit Union to pay the quarterly premium is now being taken advantage of by 85 percent of our local membership. NEBA also has a separate travel accident plan for added protection.

A survey locally discloses the following:

66 percent of the eligible male employees do have NEBA protection.

66 percent of the eligible female employees do not have NEBA protection.

No doubt there are a variety of reasons for such a distribution. However, the local Chapter Officers in consultation with the Center's Federal Women's Program Committee wants to insure that one of the reasons is not due to the lack of information.

On March 9, representatives of the Home Life Insurance Company will visit the Center and plans are underway to have a presentation tailored specifically to the insurance needs of the working female, together with a question and answer session on this important matter. Mark your calendar now for 1:30 p.m. in Building 1212 to attend this informative presentation.

NEBA information is being sent to members and nonmembers this month. If you have any questions or would want to meet personally with either the Chapter Officers or the representatives of the Home Life Insurance Company on March 9, contact James W. Norris, Jr., extension 2212. You are encouraged to explore the benefits of NEBA during the current enrollment drive which will run through March 31, 1978.

Thanks

Gordon Moore would like to thank his friends and co-workers who honored him and his wife with a retirement luncheon at the Hispaniola Restaurant and the gifts presented to him.
A Summer's Reminder

By Allan C. Hanrahan

PERSONNEL PROFILES

Well, here we are in February, shivering and shaking, listening to our teeth chattering, wishing we could reach back over to the other side of the year to "those lazy, hazy, crazy days of summer" and draw off of those August "days of soda, and pretzels, and beer" (teetotalers, please read that as root beer) some of the humid heat we abhorred so much at the time.

But we cannot. What we can do, however vicariously, is recreate the days of August by making the acquaintance of a successful participant in that summertime institution, the beauty contest, or pageant.

Meet TERRIE LYNNE COBB, a Secretarial Co-op in the Flight Programs Branch of the Flight Research Division, who was elected Miss Black Hampton for 1977-78. That honor was accorded at the Hampton Holiday Inn during this past summer.

"My mother suggested it after she saw a notice about it in the Daily Press," answered the daughter of Mr. and Mrs. Elmer R. Cobb of Hampton, in answer to our query of what exactly prompted her to enter.

Asked of her feelings when she learned she had won, she half-way exclaimed, "I don't know; I just ...." and her voice trailed off as she smiled, and gave the impression she was recreating the moment in her mind.

But there was a pleasant sequel to her "midsummer night's dream" (if we may borrow from the Bard of Avon) for on August Second, at the Mariners Hotel in Virginia Beach, Terrie was selected as First-Runner-Up in the Miss Black Virginia Pageant. Contributing to her success in both competitions was the amalgam of talents she displayed: a modern dance and gymnastics, a short speech entitled "Tribute to Woman," and a display of oil and acrylic paintings she had created.

I've been painting since I was eight or nine; watercolor, tempera, acrylic, oil," related Terrie, and although she is presently a student at TNCC pursuing an Associate of Arts degree as an Executive Secretary, she mused that at sometime in the future she may enroll in an art school.

While the beauty pageants served as a showcase for her talents (and looks), they also served as vehicles for television exposure: "Midday," "Pride," and "The Dick Lamb Show" were three of the television shows on which she appeared. In addition, she served as a model during a number of local concerts "for publicity" (for the pageants), she admitted.

Born in Williamsburg, November 3, 1958, Terrie was reared in Hampton and graduated from Kecoughtan High School in June 1976, with her high school years a study in involvement. She was a member of the Homecoming Court in her Junior and Senior years, a varsity cheerleader, SCA Representative, member of the Gymnastics Team, and voted Best All Around in the Senior Hall of Fame.

In fact we forget, she was a member of the Christian Athletes Club, which led us to inquire of her church affiliation. It seems she is a member of Calvary Mennonite Church, in Newport News, and has been "All of my life," she laughed, in answer to the question of how long. Incidentally, her uncle, the Rev. Lesly W. Francisco, pastors the church.

Described by a co-worker as "personality plus," Terrie Cobb is an ebullient reminder of summertime amidst this dreary month of February.

5 Langley Researcher, February 24, 1978
Langley Road Resembles Racetrack

EMPLOYEES EXPRESS CONCERN

Langley Research Center has a well-deserved reputation for courtesy in the operation of automobiles. It manifests itself daily in the habits of the majority of the drivers in voluntary alternating at major intersections such as at the West Gate in the afternoon, at the Air Force West Gate in the morning, at parking lots, etc. It further manifests itself in concern for pedestrian right-of-way. It is true almost centerwide.

Somehow though, in the evening, the extension of Ames Road to Gate 5 beyond Freeman Drive has been almost universally declared not subject to any such courtesy. Not only do drivers not alternate with drivers attempting to enter the traffic from Freeman Drive or the parking lots of Buildings 1209 and 1250, but many drivers grossly exceed the 25 MPH speed limit to keep a closed line.

Adding insult to injury, where cars stop on Ames Road to pick up passengers, following drivers freely cross the double line to keep the line closed and on two occasions now, once I've entered Ames Road headed east, counter to the major traffic flow, I've met drivers already in the left lane where the double line is surely intended to prevent this. One of these drivers was easily doing 60 MPH.

Perhaps this area is so close to the property line that we have been declared orphans. If so, I ask that you all reconsider, adopt us back into the bosom of the family and grant us the same consideration as you give to the others. I recognize also that some percentage of the traffic is Air Force and unaccustomed to our ways.

Seriously though, accidents are surely going to occur unless something changes and that is a terrible way to reduce our complement.

An Occupant of 1209

I have procrastinated long enough—now is the time to speak up.

Why is it that in the afternoons, the traffic headed out Gate 5 via Ames Road does not alternate, as does the traffic going out Gate 4? Some of the more considerate drivers have been stopping and allowing cars on Freeman Road to turn onto Ames. However, more often than not, we have to sit there and wait until it's barely possible and "dart out," causing hazardous driving conditions for all.

If everyone would exercise a little more courtesy, we can all get home safely and on time!!

Brian Phillips

Copyright Law Clarified for Authors

The revision to the Copyright Law which became effective January 1, 1978, has changed the legal position of the author with respect to the publisher, except where the author is a Government employee who has written the article on Government time, using Government research facilities, etc.

The law was and still is that a Government publication is NOT subject to copyright protection, and is in the public domain. Accordingly, Langley authors should not be signing any kind of agreements with publishers regarding copyright.

Any questions in this area should be referred to the Office of Patent Counsel, M/S 279, extension 3725.

Retirement Parties

Peter F. Korycinski, ASD, will be honored with a retirement party in the Activities Building on March 10, 1978—6:30 p.m., Happy Hour (cash bar); 7:30 p.m., Dinner. Cost will be $6.50 for dinner and $1.00 donation for gift. Please send reservations and/or donations to Roy F. Brissenden, M/S 249A, by March 6, 1978.

A retirement dinner honoring L. Ray Schultz, Flight Electronics Division, will be held at Steve's Steak House, 11847 Jefferson Avenue, Newport News, at 5:30 p.m., on March 8. The dinner includes salad, delmonico steak, baked potato, beverage, tax, and tip. The cost of the dinner and a gift is $5.25 per person, $9.50 per couple. Contributions to gift only ($1) are welcome. For reservations, send cash or check to Samuel Sokol, M/S 488, extension 3581, by March 1.

Ray Vogler, STAD, will be honored with a retirement party and lunch in Room 200 of Building 1212 at 12 noon on March 15. The cost for the lunch and contribution to the gift will be $5.00. Contributions for gift only are welcome. Please send your reservations or contributions to Ann Bell or Del Croom, M/S 286, by March 8.
The Michigan Quarterly Review is planning to devote its Spring 1979 issue to the theme "The Moon Landing and Its Aftermath."

The editor is looking for work that is thoughtful, original, new perspective on a much publicized event, and invites readers to submit work for possible publication in that issue.

Material of any length is welcome, though chances for selection are better if manuscripts are less than 30 typed pages. All manuscripts must be accompanied by a stamped, self-addressed envelope. Payment is on acceptance and runs about $5 to $8 per printed page. The deadline for submission is November 1, 1978.

Manuscripts should be sent to:
Mr. Laurence Goldstein
Editor, Michigan Quarterly Review
3032 Rackham Building
Ann Arbor, Michigan 48109

For further information, call the Langley Public Affairs Office, extension 2934.

A cash award and a certificate were presented to Ronald N. Jensen, Plant Engineering Division, for his NASA Tech Brief, entitled "Improved Solar Heating System."

John M. Franke, Instrument Research Division, received a cash award and certificate for his Tech Brief, "Direction Sensitive Laser Velocimeter with Doppler Velocity Simulator."

Michigan Quarterly
Review Seeks
Literary Contributions

Speaker's Bureau

On January 26, Doug Garner spoke to the Experimental Aircraft Association on "Fluidic Autopilot for Light Aircraft."

On February 2, Ira Abbott spoke to the Smithfield Kiwanis Club about the Tech House; George Meidinger spoke at Christopher Newport College about the metric system.

On February 6, Irv Hamlet spoke on "NASA's Contribution to Solar Energy Research" as part of the Roanoke Valley Science Museum's public lecture series.

On February 14, John Buckley spoke about spinoffs to the Sons of the American Revolution.

On February 15, Charles Eldred spoke to Yorktown Rotary Club about "Space Solar Power Satellites."

Thomas G. Campbell, Flight Electronics Division, was presented a cash award and certificate for his NASA Tech Brief, entitled "Microstrip Backfire Antenna."
To place an ad: Ads are restricted to Langley Research Center full-time service and contractor employees and retirees. To place an ad, write it the way you would like it to appear and send it to: Editor, Mail Stop 115. Please include your office phone number (in case there are any questions when it is being prepared for publication). The deadline for ads is 12 noon the Friday before the Researcher is distributed.

**FOR SALE**

**Articles**
Stereo, AM/FM radio, and 8-track tape player, console, Med. cab, $100. Call 838-7167 after 5 p.m.

Theodore Haviland Limoges china, 8 place settings with serving pieces, $500. Nippon Cane set, gold plates and hand painted; cane dish and 6 serving dishes, $250. Various pieces of cut glass. Call Va, Bleach 425-3945 between 10-12 a.m. or after 5 p.m.

Wheel from 1965 Ford, has 7.75x15 Sears 4-ply polyester tire already mounted, good tread, $20, Call Evans, 2803 or 229-7445.

Electrical range, Hotpoint, avocado, standard 30" with timed oven controls, EC, will deliver reasonable distance, $100. Call Devan, 2265 or 898-9290.

Bathroom medicine cab, w/frosted side lights and sliding plate glass mirrored doors, recessed ab. measures 28" w x 19" h. Total width including side lights is 36", $25. Antenna rotator, Alliance automatic transistorized, includes, approximately 15' of antenna shaft, 5-wire rotator cable, 300 ohm shielded twin lead plus more; would cost $70 if new; will sell for $30. Toy electric organ, $5, Call Price, 877-9712.

Tickets to VIRASU New Virginians concert, April 1, Kecoughtan High School, 8 p.m., $3 each. Call Hansbrough, 851-4427.

**Vehicles**
1969 Ford LTD, 4-dr. ht, AT, PS, AC, disc brakes, power seat, power windows, factory installed tape deck, $550 or best offer. Call Harvey, 3824 or 596-0026.

1977 Firebird Esprit, 301 V-8, AT, PS, PB, AC, AM/FM stereo cassette, steel-belted radials on Rallye wheels, $2500 or $1000 and take over payments. Call 596-7733.

1976 Hovington Mobile Home, 12' x 60', 2 bedrooms, living room, kitchen, dining area whithch, bath suite, ref., AC, w/d hookups. Anchored and skirted, $1500 down and take over payments of $117.18. Located in Ingram Mobile Home Park, Call Morris, 826-3903.

**Real Estate**

Newmarket area, 3 bedrooms, large fenced corner lot, new roof, wall-to-wall carpet, large front porch, 10x10 utility shed. Call 827-7242 after 5 p.m.

Robanna Shores, 3 bedrooms, 2 baths, brick rancher on large wooded lot with water easement, large FR, 2 FPs, CA, very private, great neighborhood, $53,900. Call 896-6421.

**Animals**
Golden Retriever puppies, 8 weeks old, AKC registered, $150. Call 874-6282 after 6 p.m.

**FOR RENT**

Sandbridge, new cottage, 4 BR, washer, dryer, dishwasher, f/p, 1/2 block from ocean and backyard, AC, electric heat, telephone, 4-car parking, summer rate $350/wk, winter rate $300/mo. Call Kent, 3095.

Denbigh area, 2 bedroom condominium, living room, dining room, kitchen, 1 1/2 baths, utility room, screened porch, enc. backyard, storage shed, storm windows, new carpet, dishwasher, hook-up for washer/dryer. Low utility bills, $220 per month. Call Olson, 2969 or 898-4727 after 5 p.m.

**LOST**

Beige and white Pekapoo puppy w/black ears and nose, 9 months old, answers to name "Tara." Lost in Todd Center area. Call 826-7081 if located.

Man's left-hand brown leather glove lost February 13 in Building 1146 or in the parking area between Buildings 1146 and 1241. Call Powell, 4187.

**FOUND**

Lady's ring found in parking lot behind Building 1195. Call Albert, 3330.

**WANTED**

To join or form carpools from Gloucester to Mathews to East Area on 7-3:30 shift. Call Nuttall, 2184 or 693-5838 after 5 p.m.

Ride to work, live at 1316 Bethel Avenue, Hampton. Off Rip Rap Rd near King Street. Call Cynthia Gray, 3824.

Champion fruit and vegetable juicer. Call 877-9026.

Good home for neutered male pointer; 1 year old; has been mistreated and desperately needs good home with lots of love. Call Sandie, 826-4012 or after 5 p.m. Call 851-1764.

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**Swap and Shop**

**Cafeteria Menu**

**WEEK OF FEBRUARY 27**

**MONDAY:** Old Fashioned Bean Soup; Spaghetti Dinner; Broiled Chicken & Noodles; Pineapple Chicken. Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.

**TUESDAY:** Vegetable Beef Soup; Fried Filet of Trout; Pepper Steak; Chili. Con Carne. Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.

**WEDNESDAY:** Bull Island Clam Chowder; Fried Chicken Dinner; Steak Smothered w/Onions; Western Omelette. Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

**THURSDAY:** Chicken & Rice Soup; Braised Chicken Livers; Breaded Veal Cutlet; Franks, Cheese, & Bacon; Snack Bar: Grilled Cheese; Ham & Cheese Club; Roast Beef & American Cheese; BBQ Beef.

**FRIDAY:** Beef Noodle Soup; Fish Dinner; London Broil; Barbecued Ham Steaks. Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

**WEEK OF MARCH 6**

**MONDAY:** Tomato & Rice Soup; Veal Parmesan; Savory Baked Chicken; Beef Pot Pie; Snack Bar: Ham & Cheese Club.

**TUESDAY:** Vegetable Soup; Roast Beef Au Jus; Fried Filet of Trout; Braised Beef & Vegetables. Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

**WEDNESDAY:** Manhattan Clam Chowder; Roast Turkey Dinner; Spanish Steak; Baked Tuna & Noodle Casserole. Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

**THURSDAY:** Turkey Vegetable Soup; Baked Lasagna; Grilled Beef Liver; Barbecued Beef Cubes. Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

**FRIDAY:** Chicken Egg Drop Soup; Fish Dinner; Baked Chicken & Noodles; Meat Loaf. Snack Bar: Hot Roast Beef; Turkey & Bacon; Deluxe Sub: BBQ Pork.

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**Computer Expert to Speak at CNC**

Capt. Grace M. Hopper, USNR, will speak on "Possible Futures of the Mechanics of the Computer" at Christopher Newport College on Monday, February 27. Her talk will be held in the Campus Center Theatre at 7:30 p.m.

Hopper is Head of the Programming Languages Section for the Navy Department in the Pentagon. She is reknowned for her work on the Mark I.

All interested people are invited to attend this lecture.
Traffic Safety Problems Investigated

Management Responds to Employee Letters

Center management is acutely aware of the traffic safety problem discussed in the last Researcher, as well as the concern regarding tree and shrub plantings posed in this issue. Both problems were reviewed by the Executive Safety Board on February 3, 1978.

Plans are currently being implemented to secure adherence to the posted speed limits. The Center has been reluctant to implement a system of ticketing for violations of our traffic controls since our personnel have consistently reflected both good driving habits as well as road courtesy, and strict enforcement does not insure that the habitual offenders will be the ones necessarily caught.

However, the situation has worsened in recent weeks and in response to many requests from the staff, plans are being finalized to reinstitute rigid enforcement. Details of this effort will be announced as soon as the required equipment and signs are obtained.

It should be emphasized that no management action can completely eliminate the problems voiced by staff personnel. Here, as on public roads, caution and courtesy are essential for accident prevention. Precluding accidents and injuries is not only the goal of Center Management, but also its responsibility. The Cooperation of our staff, our Contractors, and our Air Force neighbors is mandatory for our safety program.

For Medicinal Purposes Only

Langley Colloquium Features Botanist

Dr. Walter H. Lewis, Professor of Botany at Washington University and Senior Botanist at the Missouri Botanical Garden, will be the guest speaker for the Langley Colloquium on March 13, 1978. The colloquium will be held in the Activities Center (Building 1222) with a coffee at 2 p.m. and the lecture at 2:30 p.m.

Lewis will speak on "Herb Use and Abuse." He will discuss the use of plant-derived products in modern medicine. Many of the present day prescriptions have their roots in herbal folk medicine, a point clearly made in Medical Botany, a recent book Lewis co-authored with his wife, Dr. Memory P. F. Elvin-Lewis. Lewis should be able to surprise many of us with facts from the garden—just in time for spring.
Dick Boykin, SED, and his son, Richard Boykin III, recently took 1st place honors in the Weeblos Father/Son Cake Decorating Contest. Taking 9 and a half hours to make, the base is a yellow cake and the Space Shuttle and Earth were carved from 2 pound cakes. The 36 entries were auctioned off at the end of the contest and the Boykin cake sold for $15. Last year, the Boykin team placed second with a Tech House cake and the year before, placed first with a spaceship over the Earth cake.

NASA Basketball Association Standings

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LAA ’78

Travel Update

This is the last call for the Las Vegas charter departing from Patrick Henry International Airport (approx. 11 a.m.) March 30 for a stay of four days. Group package prices start at $269 per person. A choice of five hotels is offered.

A group will depart May 2 from Patrick Henry Int’l Airport for Jamaica. Accommodations for a week’s stay are at the Hyatt Regency Hotel in Ocho Rios; price per person is $329.

Over 40 people have already made reservations on the Switzerland charter which will be a direct flight to Zurich from Patrick Henry June 12 for a stay of one week at the Zurich Hilton Hotel. Price per person is $539. This package includes some sightseeing and optional tours to neighboring countries.

A Hawaii charter is being planned for October 9-17 departing from Newport News with accommodations at the Sheraton Waikiki Hotel (brochures available by March 15). Price per person is $549.

There are still cabins available on the “Caribe” sailing from Norfolk for Bermuda April 17 for seven days and nights. A six day cruise from Norfolk to Bermuda September 20 is also being offered at group rates; prices start at $380 per person based on two to the cabin.

Call Susan Condra, 2183, for brochures and reservation form. Call Ernie Greene, 2312, Home 838-0667; or Herb Boulter, 3234, Home 838-4773, for particulars.
What's Up in Public Schools?

The Women's Club of Newport News and the Newport News Council of PTA's will sponsor a program on Saturday, March 18, to inform the community about programs and activities in the public schools. The program will be held from 11 a.m. to 3 p.m. at the Teacher Resource Center, 1241 Gatewood Road (behind Warwick High School).

Demonstrations, exhibits and information will cover topics such as career, vocational and special education, graduation competency, in-school suspension, proposed school budget, State Standards of Quality, guidance counseling, pupil services and federal programs.

The program is open to everyone.

Questions and Answers

Q. The number one song at Langley Research Center management level is "SHORT PEOPLE HAVE NOTHING TO LIVE FOR." This is very evident in the way they (responsible (?) personnel) have planted the trees in the median strip of Walcott Road. The first hint of their feelings on the song was the planting of magnolias. Then, to make their "stand" perfectly clear, crepe myrtles were added at the corners of Walcott Road and Stratton Road intersection! There is absolutely no doubt it is Langley's way of eliminating, by vehicle accident, any short people using the intersection! (Perhaps for the other people eliminated that aren't short, Langley will select another song in your memory.) My question is: WHY DOESN'T LANGLEY LIKE SHORT PEOPLE?

A. The plantings along Walcott Road have been recognized as a possible problem by Langley's Safety Office. A careful evaluation of the crepe myrtle and magnolia locations has been completed. Some of the shrubs were moved in January. The spring foliage growth may require additional removals and the Center is prepared to take that action if necessary. So hang in there, short people—the problem is being solved.

The Tidewater Regional Red Cross Blood Program

Thanks
National Aeronautics and Space Administration
FOR YOUR GIFT FROM THE HEART
AND FOR YOUR OUTSTANDING SUPPORT DURING 1976-1977

The plaque pictured above was recently presented to the Langley Research Center by the Hampton Roads Chapter of the Red Cross. Langley employees donated 1,235 pints of blood in 1976 and 1,360 pints in 1977. The largest number donated during a single visit of the Bloodmobile was 292 pints, a record set in June 1977. The next opportunity to break that record will be on Wednesday, March 22, when the Bloodmobile will be at the Activities Center from 9 a.m. to 3:30 p.m.

Wright to Speak for NCMA Meeting

Mr. Howard Wright, Director for Projects at LRC, will speak on "Subcontract Management" to the Hampton Roads Chapter of the NCMA. The meeting will be held at the Hampton Holiday Inn on March 16: Social Hour 6:30 p.m., Meeting 7:30 p.m. Please contact Billie Baccus at 2002 for further details.

Colloquium Text Available

Additional copies of the Withington colloquium presentation "Commercial Air Transportation Development in the Next Three Decades" are available for colloquium attendees who did not receive a copy. To receive a copy please contact Dorothy A. Hicks, ext. 3781, M/S 160. The limited number of copies are available on a first come-first receive basis.
Members of the Virginia and Hampton Roads Chapters of the 99 Association, an organization of women pilots, recently toured the Langley Research Center. They visited and were briefed on the various simulators, the visual landing display system, the crashworthiness program, the V/STOL Tunnel and the Flight Research Division. The 99 Association was started about 1930 by Amelia Earhart, who based the group's name on the number of members at that time. Today's membership nationwide now totals almost 5,000 women pilots.

A Testimonial for NEBA Insurance

Fellow Staff Members:

I would like to take this opportunity to recommend to all who are not now enjoying the excellent, low cost protection of the NEBA Group Life Insurance, that they strongly consider enrollment during the current drive. This is an exceptional chance to benefit from the results of early NASA employees in-house insurance program development efforts.

I joined the program at its inception 27 years ago. At that time, the maximum coverage that could be obtained was ten thousand dollars. The cost was $2.40 per thousand, per quarter. I have been extremely well pleased with the many new benefits added since. They are, for example, dependent coverage, double indemnity for accidental death, and up to the principal amount for dismemberment. Today the top coverage is $43,750. The current cost is only 88 cents per thousand, per quarter. I know of no other plan that will provide such important and necessary security for this small amount.

Another service recently added, that I utilize, is a payroll allotment to the Langley Federal Credit Union. This makes it effortless to maintain continued coverage. The Credit Union also credits my account for interest payments.

I believe that we all need the maximum amount of low cost insurance that can be supported in these inflationary times. I, therefore, also carry the FEGLI government insurance. This insurance costs me 35.5 cents per thousand, per biweekly period, whereas my NEBA costs me less than 14 cents per thousand, per biweekly period.

We all, I am sure, have someone we would like to provide for upon our demise. Beyond that, all age groups should be encouraged to sign up for the NEBA Life Insurance Program. In this manner they can easily start a life insurance estate, and also for young staff members, obtain protection of their future insurability.

Finally, it is my belief that we Langley staff members are extremely fortunate to have the opportunity to participate in the NEBA Life Insurance Program, and I strongly urge your participation.

Bob Girouard

NASA Vegetable Gardens Club

Because the ground has been frozen or wet, the 1978 NASA Vegetable Garden Season will begin 4–6 weeks late. Members should receive a package containing information and application by March 15. Officers for 1978 are: President, Karen Credeur, RFED; Vice President, W. Tom Bundick, FED; Treasurer, Leonard Melfi, SSD; and Secretary, Agnes Dunkley, Off. Director.

The Club has 63 members. NASA employees and contractors wanting to join the waiting list should call Karen Credeur on extension 4659.
Credit Union Elects New Officials

During a recent election, members of the Langley Federal Credit Union elected four members to the Board of Directors. Incumbents Albert L. Braslow, LFCU’s Board President, Arthur W. Carter and George R. Hayes were reelected. Angelo (Gus) Guastaferro, a NASA employee and member of LFCU’s Supervisory Committee was the other newly elected board member. They join Emmanuel Boxer, Fred W. Schmidt, Burnett W. Peters, SMSgt. John Henderson, Jr., Jesse W. Hughes, Charles R. Ritchie and TSgt. Joseph W. Kuhn to make up the eleven member board.

Incumbent SMSgt. John Henderson, Jr., was reelected to fill one of the two vacant Credit Committee positions. At an organizational meeting, he was selected its Chairman. Joyce Wright, a NASA employee, was the other elected member and they join CMSgt. Robert N. Shank, Elmer H. Edwards and Robert L. Huffman to comprise the five member committee.

Recent Retirees

Irene G. Young, High-Speed Aerodynamics Division, retired on February 28.
Lee D. Parker, Plant Engineering Division, retired on February 24.
Lawrence R. Shultz, Flight Electronics Division, retired on February 24.
Ballard E. Quass, Scout Project Office, retired on February 28.
Charles W. McKee, Projects Technical Operations Division, retired on February 28.
Virginia B. Eskew, High-Speed Aerodynamics Division, retired on February 24.
William H. Osborne, Fabrication Division, retired on February 28.

Key Position

James H. Parks has been named Acting Chief, Research Facilities Engineering Division.

Dare to be Different

Astronaut to Speak

Major Frederick D. Gregory will give a talk entitled “Dare to be Different” on Monday, March 13, at 7:30 p.m. in the Natural Science Building Auditorium at Hampton Institute.

Gregory was recently selected as a NASA Space Shuttle pilot and is scheduled to begin training at the Johnson Space Center this summer. He is currently serving as a test pilot in Langley’s Flight Research Division. His flight experience includes approximately 3800 hours in 40 different types of aircraft.

The program is sponsored by the Hampton Roads Chapter, National Technical Association. Co-sponsors are the Student NTA Chapter and the Engineers Club at Hampton Institute.

The public is invited to attend. For further information, call Chris Darden, ext. 3181.

Speakers Bureau

On February 21, Neil Holmberg spoke to the Mathews Ruritan Club about the varied work done at Langley.

On February 22, John Buckley spoke about Spinoffs to the Armed Forces Staff College.

On February 28, Cary Spitzer spoke about Project Viking to the Warwick Ruritan Club.

As part of the National Engineers Week activities on the Peninsula, the following Langley employees visited area schools, discussing engineering careers with students:

Cary Spitzer and Bruce Outlaw, Lafayette High School.
Bob Wright and Dave Woods, Thomas Nelson Community College.
Gus Guastaferro and Bruce Outlaw, Kecoughtan High School.

On March 9, Jim Arrington spoke about the Space Shuttle to the National Sojourners (active and retired military officers).
Letters to the Editor

NEBA Insurance Discussed

Since I received a letter asking why I am not a member of NASA Group Life Insurance Program, let me tell you.

1. NEBA insurance rates are the same regardless of age. I can get group insurance from a professional society which is half the cost of comparable NEBA insurance for my age bracket (including the membership fee).

2. NEBA insurance is tied to NASA employment. Should I leave NASA or be RIFed, I would lose my insurance unless I converted it to whole life. There is no such provision in my group insurance as long as I remain a member of the organization, which is clearly under my control.

3. The amount of insurance is tied to my salary regardless of my insurance requirements. It doesn’t matter whether I have six children or none. It assumes my insurance needs are fixed to my salary when, in fact, one’s insurance needs vary with number and age of children, other sources of income, and insurance. My group insurance will let me vary the amount of insurance as my requirements change.

Finally, virtually everyone has access to group insurance either by profession, hobby, or fraternity organizations and, for me, it offers a more flexible and cheaper source of insurance.

D. L. Reaugh

NOTE FROM THE EDITOR

Inasmuch as Mr. Reaugh was referring to a letter he received from Bill Williams, President of the Langley NEBA Chapter, we asked Mr. Williams if he cared to comment. The following are his comments:

Regarding Paragraph 1, it must be pointed out that in any group program geared to age, as the age increases, either the premium must increase or the coverage must decrease. This insurance becomes almost prohibitive at the higher age bracket and at that time it may not be possible to obtain any other insurance coverage. It should be viewed long range.

Regarding Paragraph 2, the employee states that it is clearly under their control regarding insurance coverage in a professional society. I question this statement. The underwriter of the society may cancel the society coverage. The employee may not be permitted to remain a member of the organization if his profession changes, or the organization may go out of existence. There is no guarantee as to the continuation of any group plan for more than one year.

Regarding Paragraph 3, every group plan has to be based on certain groups and NASA preferred to establish it by salary ranges. It is questionable that the employee can obtain the exact amount of insurance that he needs to meet his requirements, that is to say, group plans usually go in brackets that may give options as to have 5, 10, $20,000 coverage, but if he wants only 15,000 or more than the maximum option for example, he may not be able to obtain it.

I appreciate the opportunity to respond to the constructive comments as stated in the above letter to the editor.

Bill Williams
President, Langley NEBA Chapter

Amtrak Information

SCHEDULES AND SPECIAL FARES AVAILABLE TO ALL GOVERNMENT EMPLOYEES AND THEIR DEPENDENTS

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Sunday
** Monday thru Saturday
*** Daily Service
# No agent on duty. Flag stop. Ticket may be purchased on train.

Langley Runners’ Club Plans Race

The third event to be sponsored by the Langley Runners’ Club will consist of two races on Tuesday, March 28, at 5 p.m. on the course in front of Building 1199.

The first race will be a mixed relay (1 mile by 1 mile) with awards both for the first three husband-wife teams and for the first three other teams. This race is perfect for beginning runners since the distance is short and because any poor showing can be blamed on your partner. For veteran runners who already have their excuses perfected, this race offers a chance to actually see other humans after those lonely days of training. At least one member of each team must be a NASA or contractor employee.

The second race is an open two-mile race with awards for the top three finishers. Participants must be either NASA or contractor employees. For more information call Larry Rowell, 2289.
Happenings

TIDEWATER DINNER THEATRE.
"Purlie" is back! The Tidewater Dinner Theatre of the Stars has brought back its most popular play of 1974 and 1975, with many members of the original cast. "Purlie" is the first musical play written by blacks about blacks. It's fun; it's warm; it's great! Don't miss the chance to see this enjoyable musical comedy. "Purlie" will be playing through April 2, 1978. Discount tickets are available through your Activities Office (ext. 2183) for $10.50.

HAPPY HOUR. Celebrate the day of the green with the Activities Association at its first HAPPY HOUR in the newly renovated Activities Center. A special green St. Patrick's Day draft beer will be sold for only $.25 per glass. Regular bar drinks will be $1.75. Free chips and dip will be served. Happy Hour will start at 4 p.m. on March 17.

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The Tac Air Toastmasters Club is increasing its membership. Tac Air meets each month on the second and fourth Wednesdays at the Langley Officers' Club. For more information, call Bob Lee, 2486, Jim Miss 3770, or Jim Shipp 2592.

BLOODMOBILE. The Red Cross Bloodmobile will be at Langley on Wednesday, March 22, from 9:15 to 3:30 in the Activities Center (Building 1222). Donate a pint of blood and help Langley set a new record of over 300 pints.

SOFTBALL. A NASA Softball Association meeting will be held on Tuesday, March 14, at 1 p.m., in the Activities Center. A representative from each participating team should attend. Anyone wishing to play who is unaffiliated with a team should send his name and phone number to T. Norum, M/S 460.

LAA ARTS AND CRAFTS SHOW. LAA will hold its Arts and Crafts Show on May 6, from 1 p.m. to 6 p.m., in the Activities Center. Persons with any kind of Art or Craft desiring to display their wares or for further information please contact Betty Farmer, Ext. 2062, or after 4:30 p.m. call 722-0927.

AWS IS HOST. The American Society for Metals, Hampton Roads Chapter; The American Society for Nondestructive Testing, Hampton Roads Section; The American Society for Quality Control; and The American Welding Society meet jointly Thursday, March 16 at the Newport News Shipyard Building 520, 41st Street and Washington Avenue, Newport News. The AWS is host. Dinner will be at 7 p.m., and at 8 p.m. Al Winnall, Newport News Shipbuilding and Dry Dock Company will speak about "Nuclear Power Submarine Tankers." All interested persons please contact Al Moberg, Home 826-3633, Office 380-4820; Jim Kiss, Home 851-6837; J. D. Hart, Home 877-8844, Office 380-4840; M. E. Clark, Home 838-0960, Office 380-4840; or Sonny Forrest, 489-2599.

GOLF ASSOCIATION. The 1978 membership drive for the NASA Golf Association is now open to all NASA employees and retirees. The yearly dues are $6 and must be paid by Friday, March 17, to be eligible for the first medal play tournament on March 31, at Sleepy Hole. Ten tournaments are planned for 1978 at various Tidewater area golf courses. A $2 entry fee is charged for each tournament to cover the cost of prizes and refreshments. Make checks payable to NASA Golf Association and mail to Jerry Deaton, Mail Stop 188A.

HONEY BUNCH. The NASA-Langley Apicultural Club will meet at 7 p.m. on Monday, March 20, in the Second Floor Conference Room of Building 1212. After a business meeting in which constitutional amendments are considered, Mr. Murray Loring will speak on "Honey Bees and the Laws." For more information call R. Henk 4637 or G. Harvey 3781.

Brain Teaser

Here's another exercise for everyone's brain:

"A person jogs N times around a circular track having a radius of + miles, and drinks S quarts of beer for every mile jogged. Prove that the jogger will drink only one quart."

The solution will be in the next issue of the Researcher.
Swap and Shop

To place an ad: Ads are restricted to Langley Research Center civil service and contractor employees and retirees. To place an ad, write it the way you would like it to appear and send it to: Editor, Mail Stop 115A. Please include your office phone number (in case there are any questions when it is being prepared for publication). The deadline for ads is 12 noon the Friday before the Researcher is distributed.

FOR SALE

Articles
Aluminum P/U truck top, blue and white, 32" high, fits 1/2 ton. Like new, used only seven months. Cost $225 new, will take $175. Call Phillips, 852-4044 after 5 p.m.

Electric adding machine, used very little, built-in carrying handle, ideal for home or small office, $100 value, for quick sale $40 or best offer. Call Clark, 723-2897.

Grand piano, small size, 5', walnut, Howard by Baldwin, good condition, needs tuning, music bench w/gold velvet upholstery. $800. Call 851-5891 after 5:30 p.m.

Sylvania 21" color TV console, colonial cabinet, works good, $135. Call 877-4915.

Vehicles
1971 MGB, approx. 64,000 miles, AM/FM radio, new batteries, new alternator, wire wheels, detachable hard top, good front tires, etc. Rear tires, cloth top & tonneau cover, exc. hi-performance wires & air filters, runs quiet, $1800. Call 850-0355 after 5:30 p.m.

1972 Datsun 1200, 2-d. sedan, AT, only 50,000 miles, EC, $1100 or best offer. Call Unnam, 3354 or 2434.

1971 Datsun 1200, front end damaged but engine in GC, can be repaired or stripped for parts, must sell. $275 or best offer. Call 866-6279.

T-Bird, gal. Tandem trailer, 23', surge brakes, wheels, detachable hard top, good front tires, GC, $595-1709.

Newmarket area: 3 BR, large fenced corner lot, new roof, w/w carpet, large front porch, 10x10 utility shed. Call 827-7542 after 5 p.m.

Newmarket area: 3 BR, large fenced corner lot, new roof, w/w carpet, large front porch, 10x10 utility shed. Call 827-7542 after 5 p.m.

Robanne Shores, York Co. 3 BR, 2 BA, 1700 sq. ft. brick rancher on 3/4 acre wooded lot; large FR, 2 FBS, CA, below appraisal at $35,900. Call 898-6421.

Animals
Chihuahua terrier puppies, will be 6 weeks old on March 10. $25 each, exc. house pets; gentle with children. Call Brian Phillips, 2855 or 838-6573 after 5 p.m.

Cafeteria Menu

WEEK OF MARCH 13

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Braised Beef & Noodles; Pineapple Chicken; Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon; Lettuce & Tomato.

TUESDAY: Vegetable Beef Soup; Fried Filet of Trout; Pepper Steak; Chili Con Carne; Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.

WEDNESDAY: Bull Island Clam Chowder; Fried Chicken Dinner; Steak Smothered w/Onions; Western Omelette, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers; Braised Veal Cutlet; Franks, Bacon & Cheese; Snack Bar: Grilled Cheese; Ham & Cheese Club; Roast Beef & American Cheese; BBQ Beef.

FRIDAY: Beef Noodle Soup; Fish Dinner; Corned Steamship Round of Beef; Barbecued Ham Steaks, Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF MARCH 20

MONDAY: Tomato & Rice Soup; Vei Parmesan; Savory Baked Chicken; Beef Pot Pie; Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Vegetable Soup; Roast Beef Au Jus; Fried Filet of Trout; Braised Beef & Vegetables; Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Manhattan Clam Chowder; Roast Turkey Dinner; Spanish Steak; Baked Tuna & Noodle Casserole; Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey; Vegetable Soup; Baked Lasagna; Broiled Beef Livers; Barbecued Beef Cubes, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

FRIDAY: Chicken Egg Drop Soup; Fish Dinner; Baked Chicken & Noodles; Meat Loaf; Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

LOST AND FOUND
Lost: White Stag warm-up suit jack., green w/gold & white stripes w/olympic emblem; lost at soccer game on Saturday, February 25, at Traffic Maze Field (LAFB). Call Peitham, 764-5841, or Simiona, 868-9247.

Found: Pair of sun glasses in front of Building 1219. Call Watson, 3324.

Found: Valuable mechanical pencil, claim at O.C.O., Buildings 1268A.

WANTED

To teach children's beginning piano lessons in my Wythe home; classical orientation including music theory. Saturday mornings only. Call 3314 or 380-8519.

To join driving combination to West Area, 8 a.m. shift, from vicinity of Todds Lane-Macon Road. Call Schy, 289-2272.

Good quality Amp = tuner or receiver, 25-50W RMS. Call 826-9158 between 5-8 p.m.

June Webb plays the part of Lutiebelle in "Purlie," now playing at the Tidewater Dinner Theatre. See the Happenings column for more information.

Langley Researcher, March 10, 1978
This article will cover a number of topics which have come up in the past few months.

1) Since last November, the NASA Administrator has been conducting an "Institutional Assessment" study which is examining the size and number of the NASA Centers. This type of study is to be expected when a new President and a new NASA Administrator take office. We have participated in the study, have provided substantial input, and I summarized for Drs. Frosch and Lovelace (at their request) my personal opinions. Although the study is not completed, I do not expect any significant effect upon Langley.

2) Dr. Frosch recently discussed his views toward the future NASA program. You may recall that he outlined, during his visit to Langley last July, four areas--Aeronautics, Space Applications, Space Sciences, and Space Technology. In recent statements, he has amplified each of these; points that are of interest to Langley are:
   - He stresses that the keystone of the NASA program is to be its "usefulness to people."
   - He supports a growing aeronautics program. Without a reduction in "project"-like aeronautics activities, he expects and advocates an increase in more basic aeronautics research.
   - He is a strong believer in space applications and anticipates increases in this part of the space program; this includes our Environmental Quality work.

3) We have recently completed a Reduction in Force. Some people were separated and others were reduced in grade; the total number of employees effected was relatively small, however. It was unfortunate that anybody had to be impacted but, as I said last fall, it was an action that was required due to the Center's FY 1978 complement reduction, program changes, and skill imbalances that have developed in recent years.

4) As I mentioned in this column last October, Langley will continue its policy of a 12% per year promotion level. For a variety of reasons we have not had a promotion cycle this fiscal year--other than those promotions covered by training programs. We are now in a promotion cycle which will result in a number of promotions which will be effective the first pay period in June. In the future, we plan to have two promotion cycles per year; one in the spring and one in the fall.

5) Final plans are now being made for the hiring of new employees during the next several months. Because of the Center's FY 1978 complement and the small size of the RIF, we will not be able to replace all of our attrition; especially scientists and engineers. We will replace a large portion of the technician attrition and are planning for a new apprentice class as well as hiring a limited number of experienced technicians.

6) I am glad to report that we now plan to have a substantial summer program this year. Because of fund shortages, our summer program was sharply curtailed last year. It now appears that we can reverse that trend.
During the past two summers, Jane Hagaman, a junior in Mechanical Engineering and Mechanics at Old Dominion University, has performed research in the Composites Group, Materials Division. Last summer she began investigating "Thermal Cycling of Graphite-Polyimide" and the results were presented at the Eastern Virginia Section of the American Society of Mechanical Engineers (ASME) January meeting. Hagaman's presentation was awarded 1st place in the section competition. She will next present the talk in competition at the ASME Southeastern Regional Student Conference at Clemson, South Carolina, in April. Support for Hagaman's research is provided through a NASA grant with ODU.

Johnson Receives Black Achievers Award

Katherine Johnson was one of thirteen people recently honored by the Office of Human Affairs in ceremonies for Black Achievers Awards Day. A 14th award in education was posthumously accorded to a black education activist of the 1940's, Mrs. Dorothy Watkins. She led the fight for equal pay for black teachers in the pre-Civil Rights Act era. The award recipients were selected from a field of 40 nominees by a neighborhood committee of community groups. They were honored for achievements in athletics, arts, law, medicine, business, education and science.

Johnson is an Aerospace Technologist in the Stability and Control Branch, Flight Dynamics and Control Division.

Cafeteria Increases Menu Selections

As part of an overall program to help cafeteria patrons become more nutrition-conscious and to provide patrons with nutritious, low cholesterol food choices, the cafeteria has made several additions to its menu.

Morningstar Farms Scramblers, Bacon Strips and Sausage Patties are now available daily for breakfast. The products offer a low-cholesterol, animal fat-free alternative to a traditional sausage or bacon and egg breakfast.

At the "make-your-own" salad bar, high protein-low fat salad dressings are featured every day. The dressings are made fresh daily and include Herbed Cottage Cheese, Honey-Yogurt and Dilled Yogurt.

Questions and Answers

Q. What is LRC's policy on employees' relatives visiting (entering NASA buildings) during working hours? Should they be challenged as unauthorized (unbadged) visitors? If so, by whom?

A. We asked Charlie Jones, Security Officer to address this question. He said: The Langley Research Center Management Manual, Instruction 1600.2, dated November 15, 1976, states in part:

"Personal visitors, including family members of NASA employees, require prior approval of the cognizant division-level, or higher organization and are to be escorted by their NASA sponsor during their visit."

Further:

Visitors are to be registered and issued badges in accordance with the instructions contained in 1600.2. The instructions go on to state that although central registration is available it is not normally required since the host organization may perform the registration and badging. The issuing organization also has the responsibility of maintaining a record of all registrations and for collecting all visitor badges issued. Since the visitor proposed in the question would be registered and badged at the division, or higher office and then escorted by the NASA sponsor, there would be little or no need to challenge. However, the same instruction states that "...all supervisors are responsible for insuring that personnel in their areas without badges should be offered assistance to insure establishing their identity and status and to provide positive control in the work area. Each employee is expected to share this obligation for insuring the safety of property and persons at the Center and to support his supervision in the matter of visitor control."

The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115A, telephone 2934.

Editor: .......................... Karen Miller
Editorial Assistant: .......................... Jean Drummond
Staff Photographer: .......................... Bob Nye

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.


Langley Sons Are Good Marksmen

Sons of three Langley employees made a strong showing in the Class B Marksmen division of the State Smallbore Rifle Championships at Quantico, Virginia, on March 5.

David Yeager, son of Paul Yeager of IRD, took two firsts and a second in individual events to win first place with a score of 567 out of 600. Fred Mason, son of Pat Mason of OSD, took a first, second and third in individual events to take second place with a 555 out of 600. Peter Hayduk, with a 523 score, and Kevin Hayduk, with a 511, sons of Dr. Robert Hayduk of OSD, finished fifth and seventh.

These four boys also made up the Lafayette Gun Club Junior Rifle Club Number 1 Team, firing a 1082 out of 1200 to win the team event. David was high man with a 282 out of 300, followed by Fred with a 275, Peter with a 267 and Kevin with a 258.

Honors for the day were topped off when David fired a 100 out of 100 in the third individual event and Peter did the same in the team event for the only perfect scores fired in the "B" division.

Red Cross Needs Volunteers

The Hampton Roads Chapter of the American National Red Cross is in need of more volunteers to carry out its many community services.

The Red Cross is serving bloodmobiles, Veterans Administration, Hampton Convalescent Home, Diabetic Screening, training of CPR instructors, First Aid swimming, Water Safety Instructors, Disaster Teams and Service to Military Families. The Red Cross also sponsors courses in child care, babysitting, home nursing and parenthood preparation. In early June, there will be an orientation class for teenagers interested in the summer Volunteer program.

If you, members of your family or friends are interested in any of the above, please call Patricia Stern at the Chapter office, 838-7320, or Patricia Poslik, Chairman of Volunteers, 851-0496.

Catastrophe Theory to be Topic of Meeting

Christopher Newport College will host the fifteenth anniversary meeting of the Society for Natural Philosophy, which will take place in Colonial Williamsburg on April 17th and 18th. The topic of the meeting is THE APPLICATIONS OF CATASTROPHE THEORY TO PROBLEMS IN MECHANICS.

The meeting will offer as its main speaker the noted English mathematician, Christopher Zeeman. A Fellow of the Royal Society, Professor Zeeman is best known for his work on catastrophe theory.

Joining Professor Zeeman will be five other scientists and mathematicians, all of whom will present hour-long expository lectures. These men and their topics are:

Yung Chen Lu of Ohio State University: "Singularity Theory and an Introduction to Catastrophe Theory."

Koncay Huseyin of the University of Waterloo: "Catastrophe Theory and Problems in Elastic Stability."

Rutherford Aris of the University of Minnesota: "Num in olla agitata papilio est?--Catastrophe Theory and Chemical Reactors."

Martin Golubitsky of the Institute for Advanced Studies at Princeton: "The Role of Imperfections in Bifurcation Diagrams."

Ian Stewart of the University of Warwick: "A Complementary Resume of Applications."

Round table sessions are scheduled on both days of the conference. Short talks will be given which apply catastrophe theory to meteorology, biophysics, aircraft control, magnetically levitated vehicles, and non-linear feedback systems.

While the first two lectures by Zeeman and Yung Chen Lu will introduce the theory itself, the emphasis throughout the meeting will be on applications of catastrophe theory.

Other highlights of the Meeting will include the 15th Anniversary Lecture by Clifford Truesdell of the Johns Hopkins University, and a founder of the Society; and a concert on Monday evening by the Williamsburg Chamber Musicians at Bruton Parish Church. Music will be drawn from the library of Thomas Jefferson.

Persons interested in registering to attend the meeting should contact George or Jane Webb, 595-6420 or 599-7082, or Martin Buoncristiani, 599-7192 or 874-4147. Both the Webbs and Dr. Buoncristiani teach in the Physics Department at CNC.

Anne K. St. Clair and Terry L. St. Clair, Materials Division, were recently presented cash awards and certificates for their NASA Tech Brief, "Solubility Properties of Novel Polyimides."
The Space Agency Comes Down to Earth

While many NASA people still have their eyes set on the stars, researchers at Langley are looking closer to Earth, focusing on the problems of agricultural aircraft.

The first recorded use of an airplane in agriculture was on August 3, 1921, when a grove of trees was treated for an infestation of caterpillars. The test was successful and commercial dusting activity took off in a cloud of spray. By 1930, about 25 companies were operating with about 100 airplanes; by 1950, those numbers grew to 2,000 companies and 5,000 airplanes.

Up to 1950, airplanes had to be converted from some other purpose for agricultural use. Military trainers were the most widely used, and operators usually designed, built and installed dusting and spraying equipment themselves.

The first aircraft designed especially for agricultural use appeared around 1950, and the industry has continued to grow. In 1976 there were approximately 8,500 fixed and rotary wing aircraft in agricultural service, flying about 2.5 million hours over some 250 million acres.

Agricultural aircraft have improved, but they still rely on 1940’s technology. The aerial applications industry recognizes this shortcoming and has asked NASA to study several problems. Drift, swath guidance, liquid and dry material distribution systems, and aircraft handling qualities that cause pilot fatigue are some of the problems. Another major concern involves attempts to make the wake vortex of an airplane work for, rather than against, aerial applications. Aerodynamic concerns involve reducing drag for better fuel efficiency and developing appropriate high-lift concepts to improve takeoff, landing and turning performance.

Dr. Bruce Holmes, of the Safety and Operating Problems Branch, Flight Research Division (FRD), is manager of the Langley program. He says that during this year the problems “will be studied through the Vortex Research Facility, Full-Scale Wind Tunnel and actual flight tests.” The Vortex Research Facility work is managed by Frank Jordan, of the Dynamic Stability Branch, Subsonic-Transonic Aerodynamics Division (STAD).

Full-Scale Tunnel (FST) activities are directed by Joseph L. Johnson, Jr., Assistant Head of the Dynamic Stability Branch. Clyde McLemore, also of DSB, is project engineer for agricultural airplanes in the FST.

Phil Brown, Operations Branch of FRD, will be the primary research pilot when flight tests begin.

In the Vortex Research Facility, small-scale models of agricultural aircraft are tested to study interactions of the aircraft wake with dispersed spray and granular materials. Jordan said, “these interactions contribute to two of the
The most serious problems facing the ag aircraft community, drift of toxic chemicals from target areas and non-uniform applications within a swath.

Test methods to simulate aerial applications are being developed in this facility. Baseline data will be collected to determine wake characteristics of agricultural aircraft. Tests will then be performed to measure airborne dispersal transport and ground deposition. The scale model will disperse polystyrene particles or glass beads as it passes through the test section. The particles will stick to double-sided tape covering the floor and will be counted with the help of a microscope. Distribution will then be plotted and analyzed for effects on dispersal patterns caused by aircraft speed, height and geometry. Finally, methods will be developed to modify aircraft wakes and dispersal systems to obtain interactions more favorable to wide, uniform swath deposition patterns and reduced drift.

In the Full-Scale Wind Tunnel, full-scale agricultural aircraft and dispersal systems for both liquid and solid applications will be tested. Baseline data collected on present technology will be used in analysis to improve aircraft aerodynamics and dispersal system efficiency.

In the aerodynamics phase, performance and stability and control tests will be conducted and several modifications designed to provide overall system improvement will be examined. Some modifications to be investigated include leading-edge slats for high-lift improvement, and ring cowl and wing-fuselage fairings for drag reduction and improved wake characteristics. Wake modification concepts such as vortex attenuating slings and winglets, shown to have possible beneficial effects on wake-dispersal interaction in the Vortex Research Facility, will be evaluated from an aerodynamics standpoint.

Tests will be conducted on aircraft and dispersal systems separately and as a single unit to provide data for performance estimates and to identify interference problems. Laser spectrometer studies will be conducted to analyze liquid droplet breakup from spray nozzles in the airplane’s wake. The ultimate goal of this research is the development of nozzle technology for improved control of droplet sizes, reduced amounts of very fine droplets and reduced drift.

The flight tests are scheduled to begin in the fall of 1978 at Wallops. Holmes and Brown got a good dose of how it feels to be “ag pilots” last year when they attended the Ayres Ag Aviation Training School in Albany, Georgia. They became certified agricultural pilots after 120 hours of ground school and 50 hours of flying during the five-week course.

The aircraft used in the Full-Scale Tunnel and flight tests will be an Ayres Thrush S2R-800, one of the largest agricultural aircraft. The Thrush has 800 horsepower, carries 400 gallons of liquid and costs about $80,000. Originally loaned to Langley by Rockwell International, ownership of the aircraft and Thrush manufacturing rights were sold to the Ayres Company earlier this year.

One of the most interesting flight tests to be performed will involve spraying colored water on paper strips anchored to the ground. Brown will do the spraying, but the hard part comes after the flying. Every droplet on the paper must be measured, counted and plotted. This test will show exactly what happens to liquid chemicals after they leave the airplane.

Tests will be conducted with many of the devices tested in the wind tunnel to check their effects on aircraft performance and handling qualities and dispersal patterns.

Frank Jordan participated in drift experiments performed by Texas A&M and the Dow Chemical Company in May, 1977. Here he acts as a flagman, marking a swath for the ag pilot. Phil Brown, top, flies a Boeing PT-17 Stearman, the primary trainer at the Ayres Ag Aviation Training School in Albany, Georgia. Bruce Holmes, bottom, has worked his way up to flying the Grumman American Ag-CAT G-164A.
NEBA Enrollment Drive Ends March 31

The NASA Employees Benefit Association (NEBA) enrollment drive will end on Friday, March 31. This life insurance program offers a low rate of $.88 per thousand dollars of protection, a separate travel accident plan and the added convenience of a payroll allotment to the Langley Federal Credit Union to pay the quarterly premium.

One of the best testimonials to an insurance plan is from those who have made claims. When really needed, NEBA came through, as evidenced by the following comments:

"I was very satisfied with it. The payoff was quick; there was no trouble at all. In fact, NEBA was the first to pay the quarterly premium." .... "The benefit paid when my wife passed away helped me a lot. With my children and needs, my wife's death, everyone should take it who can."

You can still enroll in the NEBA insurance plan by contacting James W. Norris, Jr., extension 2212.

Hubbard Elected INCE President

Harvey Hubbard, Assistant Chief of the Acoustics and Noise Reduction Division, was recently elected Executive Vice President and President-elect for 1978 of the Institute of Noise Control Engineering.

Hubbard served as Director of INCE during the past five years and as Vice President for Membership during the past three years. He will succeed to the Presidency in January 1979.

Job Openings

The following Merit Promotion Announcement is currently open:
78-4 — AST, Control and Guidance Systems; Aerospace Engineer; GS-861-13, 14, or 15; Flight Dynamics and Control Division; Stability and Control Branch; Closes March 31, 1978; NASA-Wide.

The following Growth Opportunity Announcement is currently open:
GO 78-1 — Production Controller; GS-1152-6 or 7; Operations Support Division; Work Control Office; Closes March 24, 1978.

Thanks

Robert Ferree wishes to thank all his friends for the nice retirement party which he greatly enjoyed and appreciated.

Many thanks to all who had a part in the wonderful retirement party and the gift of the Weed Wacker. Every time I use it, it will bring back pleasant memories of the many people with whom it has been my privilege to work with at Langley.

Walter Sinelnick

Lee Wins Speech Contest

On March 8, Robert B. Lee III, MATD, won the Tac Air Toastmasters Club annual serious speech contest with a speech entitled "Winning A State of Mind." He will represent the club in the Peninsula Area Toastmasters contest to be held at the Langley AFB Officers Club on March 24.

Speaker's Bureau

On March 3, Howard Wright spoke to members of the American Bar Association about the Aircraft Energy Efficiency project.

On March 9, Jim Arrington spoke to the National Sojourners on the Space Shuttle.

On March 10, Bill Woods spoke about the Space Shuttle to the Norfolk Astronomical Society; Mary Jackson spoke at Virginia Wesleyan College about "Testing Techniques."

On March 16, Howard Wright gave a luncheon talk on "Communications Technology Forecast for Emerging Space Programs" to the Armed Forces Communications and Electronics Association; he later spoke on "Subcontract Management" at a dinner meeting of the Hampton Roads Chapter, National Contract Management Association.

Brain Teaser Answer

The solution to the exercise in the last issue of the Researcher is:

"Since the distance around the circular track is 2\pi \text{ times the radius}, then jogging \text{N times around yields } 2\pi \text{N2rT}. For every mile the jogger runs, he drinks 5 quarts of beer, or a total of 2\pi \text{N2rT}. By writing \text{PI} for the Greek letter \pi, and rearranging the letters, the answer is: 2 pints, or, one quart.

This problem was submitted by Al Sabol. Correct solutions were submitted by: Bruce Conway, Office of the Director for Electronics; Helen Reed, ASD; Al Taylor, Vought Corp.; and Bruce K. E. Outlaw, FED.

NASA Notes

Landsat 3 was successfully launched from the Western Test Range, Lompoc, California, on March 5...the Space Shuttle Orbiter "Enterprise" arrived at the Marshall Space Flight Center on March 13 to undergo a series of ground vibration tests...management of Project Viking operations will be transferred to the Jet Propulsion Laboratory on April 1 and all the Langley Vikings will return home...assembly of the Long Duration Exposure Facility is expected to begin the end of this month.
Happenings

AFGE MEETING. The regular monthly meeting of AFGE Local 2755 will be held on Tuesday, March 28, 1978, at 7:30 p.m., in the Activities Center, Building 1222.

DANCE. April 8, 1978, the Langley Activities Association will sponsor a Spring Dance in the Activities Center from 9 p.m. to 1 a.m. Music by Brandy. Tickets are $6 per couple, setups included. For information and/or reservations contact Susan Condra, Activities Center, ext. 2183.

BINGO. The Langley Activities Association's Bingo Games are played every Thursday night, game time 7:30 p.m. Bring your family and friends, have fun, win big prizes and enjoy yourself.

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. Tac Air meets each month on the second and fourth Wednesdays at the Langley Officers' Club and is increasing its membership. For more information, call Bob Lee 2486, Jim Moss 3770, or Jim Shipp 2592.

EASTER SUNDAY DINING. In addition to the regular Sunday Brunch, the Langley Officers Club will have a special buffet dinner on Easter Sunday, from 5 to 8 p.m. The menu includes steamship round of beef, baked duckling with orange sauce and dressing, baked leg of lamb, baked rock fish with drawn butter, pork roast with raisin sauce, candied yams, baked potatoes, broccoli, buttered corn, green bean almandine, pickled beets, carrots, and assorted salads and desserts. The buffet is $6.50 for adults, $3.25 for children over 12 and $1.25 for children under 12.

PYSP. Are you a single parent? If so, Peninsula Young Single Parents (Chapter 972, Parents Without Partners, Inc.) may be the organization for you. PWP is an international non-profit, non-sectarian educational organization devoted to the welfare and interests of single parents and their children. For more information, call 839-6573.

ECVP MEETING. The Engineers Club of the Virginia Peninsula will meet on Tuesday, March 28, at Vic Zoda's Holiday Inn Restaurant, 6128 Jefferson Avenue, Newport News. The meeting begins at 6:30 p.m. with a cash bar; dinner is at 7 p.m. Gary R. Keesecker, Manager of the Vepco Power Supply,

Retirement Parties

A retirement luncheon honoring Kermit G. Pratt, Structures and Dynamics Division, will be held at the Holiday Inn, Mercury Boulevard, on April 14, at 12 noon. The cost for the luncheon (choice of roast beef or baked chicken breast) and contribution to the gift will be $5.75. Contributions for gift only are welcome. For reservations, send check or cash (indicating choice of menu) to Barbara Euttler or Harold Murrow, MS 243, by April 10.

Annabelle Watts, Structures and Dynamics Division, will be honored with a retirement party at Vic Zoda's Holiday Inn Restaurant, Mercury Boulevard, on April 7, at 12 noon. The cost of the party will be $5.50 per person (choice of baked chicken breast or roast of beef). Contributions for gift alone ($1) are welcome. Please send your reservations and/or contributions to Judy Cottle, MS 395, by March 31.

James L. Davis, Flight Electronics Division, will be honored with a retirement party and lunch in Building 1299, Room 158, at 11:30 a.m., on March 29. The cost for the lunch and contributions to the gift will be $4. Contributions to gift only ($1) are welcome. Please send reservations or contributions to Charlie Breckinridge or Bob Lazarus, MS 488, by March 27.

will be the guest speaker, addressing the topic, "Comparison of Virginia and New York Power Reductions." Please make reservations by calling Charles Newell, 596-4566 (home) or 380-2362 (office).

WIN AN EASTER HAM. The Langley Rod and Gun Club will host a Ham Shoot on Saturday, 25 March 1978, between noon and 5 p.m. Four events are planned: the dove sit, quail walk, bolting rabbit and pie plate. The events can be entered individually for a nominal fee and club guns are available. The Langley R&G is located in building 1007 in the LTA area. Club facilities include store and lounge, and rifle, pistol, trap and skeet ranges. Membership in the club is open to active and retired service members, NASA personnel, dependents, and civilian military-contract personnel. Membership is not required to enter the Ham Shoot. For additional information, contact Thom Jennings at 764-3769 or Tom Galayda at 764-5795.

Fifth Intercenter Jogging Meet

Planned for April 3

The fifth NASA-wide running competition, sponsored by the Lewis Research Center, has been announced for the week of April 3. This event will feature both a 2-mile and a 4-mile run with points being given for the top ten finishers in these categories:

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In addition, extra points will be given based on PARTICIPATION, so everyone who enters, regardless of speed, will help the standing of Langley simply by completing the distance. Every participant in this event will receive a ribbon.

All NASA and contractor employees as well as co-ops and university affiliates working at Langley at the time of the race are eligible, but families and dependents of employees are not.

The times and locations for these races will be announced by a bulletin as soon as the exact dates are specified by Lewis.

The Langley Runners' Club has two events scheduled for Tuesday, March 28, a week prior to the intercenter meet. These are an open 2-mile race and a mixed relay (meaning teams consist of 1 man and 1 woman running 1 mile each). Both will begin at 5:00 a.m. in front of building 1199.

For further information, call Larry Rowell, 2289.

Recent Retirees

On March 10, the following employees retired from Langley:

Floyd R. Bryant, Flight Electronics Division; Robert M. Revere, Operations Support Division; Raymond D. Vogler, Subsonic-Transonic Aerodynamics Division; William K. Hagginbothom, Scout Project Office; David C. Spence, Projects Management Systems Division; Thomas G. Meador, Jr., Plant Engineering Division; and Reid A. Hull, Systems Engineering Division.

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Swap and Shop

To place an ad: Ads are restricted to Langley Research Center civil service and retirees. To place an ad, write it the way you would like it to appear and send it to: Editor, Mail Stop 112A. Please include your office phone number (in case there are any questions when it is being prepared for publication). The deadline for ads is 12 noon the Friday before the Researcher is distributed.

FOR SALE

Zenith stereo portable record player w/auto changer, $40. Call 838-1575.

Walnut and chrome round kitchen table w/leaf, 4 white & chrome swivel chairs, $80. Oiled walnut stereo 4-band radio, phonon console, $40. Polaroid SX-70 Alpha camera w/case, like new, $125. Argus C-3 camera w/flash, $10. Call White 851-2632.

Kodak Super 8 movie camera, Type M-20, $60. Wood Youngstown kitchen base cabinet w/link and dual control faucet, suitable for summer cottage, $25. Two metal kitchen wall cabinets, 12"x15"x24" each, $5 ea. Call 851-2901.

Sylvania 21" color TV for colonial condo, works well, $135. Mattress and box spring 54"x80" (extra long), $50. Bicycle, 16", convertible to boys' or girls', $15. Call 877-4913.

Singer sewing machine, zig-zag w/"professional" buttonhole attachment, EC, $175. Call Olsen, 2968 or 898-4727 after 5 p.m.

New 2 Hawk 15 wsw gas belt disk on rims. Cost of tires was $80. Will take $60, Call Raney, 505-3274.

Golf clubs, two No. Irons w/witching wedge, 3, 4 & 5 Woods In GC, $60. Call 596-4117.

Sofa, 80" long, beige upholstery, 3 reversible cushions, 3 reversible cushions. GC, Call Hart, 722-9172.

Calculator, a real Rube Goldberg, the Texas Instruments SR-50. The original slide rule calculator marketed by TI. Complete w/instruction booklet, battery pack and charger, and case, Paid $160. Selling for $80. Call Cardwell, 3423 or 723-6371.

Airedale Terrier Puppies (AKC), born January 26, Call John McDonough, 595-9923, evenings and weekends.

WANTED

Donations of used books for the annual book sale of the Hampton Branch of the American Association of University Women. Call 827-5402 during the day, or 596-0515 anytime.

To buy pre-1973 auto in VGC, reasonably priced. Call 850-1515.

Plano students of all ages from beginner to intermediate; lessons can be built around your favorites including music theory. Reasonable rates. Call 898-8037.

Third and fourth drivers in combination from Norfolk to West Area on 8 a.m. shift. Call Johnston, 3294.

FOR RENT

Sandridge: New cottage with 4 bedrooms, washer/dryer, dishwasher, fireplace, 1/2 block from beach, electric heat, telephone, 4-car parking. Summer rate $350/wk; winter rate $300/mo. Call Kent, 3095.

1967 Chevy Impala, 4 dr. ht, No. 6 inspection sticker, good tires, GC, good second car, $150. Call 850-1949 after 5 p.m.

1971 Torino Station Wagon, 57,500 actual miles, only 10,000 miles on new tires, new shocks, new front disc brakes, tuneup, AT, AC, PS, PB, radio. Good gas mileage. Add no oil changes in the works, no rust, $1250 firm. Call 869-9312.

1972 Spitfire Mark IV, AM-FM stereo tape player, new top, radial tires, tonneau cover, luggage rack, black interior, small engine, good gas mileage, $1750. Call 896-6927.

1976 Buick Skylark, new top, radial tires, tuneup, AT, AC, AM/FM, postfitation, sports wheels, new steel belted radials, 15,000 miles, EC. Call 877-8960.

1976 Vaillant, 4-door, AC, vinyl top, EC, 36,000 miles, $3100. Call Conkling, 693-4676.

1977 Suzuki RM-125 8" recent top-end; Mota-tek ignition; brand new chain and sprockets; modified front end; EC, many extras, $950. Call 596-4787 after 5 p.m. weeknights, all day weekends.


1971 Ford LTD, No. 6 inspection sticker, used in 1971, for Pete Toth.


1973 Suzuki GT 750, 4000 miles, $1650. Call Cardwell, 3423 or 723-6371.

FOR SALE

FOR RENT

Cafeteria Menu

WEEK OF MARCH 27

MONDAY: Old Fashioned Bean Soup; Soup; Snack Bar: Ranch Dressing; Chicken; Cheesey Chow Mein, Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub: Egg Salad; Bacon, Lettuce & Tomato.

TUESDAY: Bull Island Clam Chowder; Fried Filet of Trout; Chili Con Carne; Over Rice, Roast Beef Au Jus, Snack Bar: Hot Reuben; BBQ Pork; NASA Sub: Roast Beef & American Cheese.

WEDNESDAY: Vegetable Beef Soup; Fried Chicken Dinner; Franks, Bacon & Cheese; Barbecued Ham Steaks, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers; Pork Chopettes; Braised Beef & Noodles; Snack Bar: Grilled Cheese; Ham & Cheese Club; Roast Beef & American Cheese; BBQ Beef.

FRIDAY: Beef Noodle Soup; Fish Dinner; Steak Smothered w/Onions; Western Omelette, Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF APRIL 3

MONDAY: Tomato & Rice Soup; Baked Lasagna; Spanish Steak; Savory Baked Chicken, Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Manhattan Clam Chowder; Braised Beef & Vegetables; Fried Filet of Trout; Roast Beef A. Jus, Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Soup; Roast Turkey Dinner; Baked Tuna & Noodle Casserole, Meatloaf, Snack Bar: Tuna Salad, Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey Noodle Soup; Veal Parmesan; Broiled Beef Liver; BBQ Franks, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

FRIDAY: Chicken Egg Drop Soup; Fish Dinner; Beef Pot Pie; Baked Chicken & Noodles, Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

Thanks

Virginia Eskew would like to thank her friends and co-workers who honored her with a retirement luncheon at the Jolly Ox, and many lovely gifts. I wish each one of you much happiness.

8 Langley Researcher, March 24, 1978
1978 Savings Bond Campaign Launched

Langley Director Don Hearth discusses this year’s Savings Bond campaign with Tom Pinelli, Campaign Chairman, and Ed Howe, Campaign Coordinator.

Micrometeoroid Workshop Held at Langley

Principal investigators of micrometeoroid experiments to be carried on the Long Duration Exposure Facility recently attended a mini-workshop on March 21 and 22. They reviewed their experiments and discussed methods of obtaining maximum micrometeoroid science returns from the first LDEF mission.

The LDEF micrometeoroid experiments are: Space Debris, NASA-LRC; Multiple Foil Microabrasion Package, England; Dust Debris Collection, France; Study of Impact Craters, France; and Chemistry of Micrometeoroids, NASA-JSC.

This is a first of a series of workshops for LDEF experiment disciplines. The next will be the composite materials work on April 4.

See picture on page 5.

The annual U.S. Savings Bond Campaign will be conducted April 10 through May 5, 1978. Center Director Don Heath has appointed Tom Pinelli, Scientific and Technical Information Programs Division, as the 1978 Savings Bond Campaign Chairman. Ed Howe, Chief, Financial Management Division, is the Center’s Savings Bond Coordinator and Mrs. Joyce Fly, Payroll Section, FMO, will maintain and update campaign records.

The Center’s present rate of participation is 83.3 percent and is “second” among the NASA Centers, with the Kennedy Space Center leading with an 88.6 percent rate. The goals of this year’s campaign are to attain at least 90 percent participation and to become the “top” center in overall participation. To help reach these goals, each employee will be contacted by bond chairman to encourage non-participants to enroll and to invite present bond buyers to increase their rate of individual saving.

In support of the 1978 Savings Bond Campaign, the Langley Activities Association will donate two Series E $25 Savings Bonds. Two drawings will be conducted to determine the recipients. The first name will be drawn from among former non-participants who enrolled in the 1978 savings bond program. The second name will be drawn from among those who increased their level of participation in the 1978 Savings Bond Program.

Series E Bonds are “accrual-type registered securities.” Starting with the $25 Bond, at a purchase price of $18.75, they are available in eight denominations. E Bonds may be redeemed at any time after the first two months. Backed by the full faith and credit of the United States, Bonds are completely safe and will be replaced without charge in case of loss, theft or destruction.

Take Stock in America and in your Future -- Buy Bonds!
Award recipients and their wives are, from left: Mr. and Mrs. Cecil E. Kirby; Mr. and Mrs. Johnny W. Allred; Mr. and Mrs. Sheridan R. Barringer and Mr. and Mrs. Joseph M. Shinn, Jr. NASA Administrator Robert A. Frosch, far right, congratulates the authors following the award presentation.

Commerce Agency Honors Langley Engineers

The U.S. Department of Commerce recently honored the four Langley authors of the NASA Technical Memorandum, "An Inexpensive, Economical Solar Heating System for Homes."

Johnny W. Allred, Sheridan R. Barringer, Cecil E. Kirby and Joseph M. Shinn, Jr., were presented an award by Jordan J. Baruch, Commerce Department's Assistant Secretary for Science and Technology. They are the first recipients of this award, which was established to recognize particularly noteworthy government publications.

Their Langley TM has become the all-time best seller at Commerce's National Technical Information Service (NTIS), a major sales outlet for government publications. At NTIS, sales have exceeded the 36,000 mark and continue to grow.

The award ceremony was held at NASA Headquarters and was attended by Robert A. Frosch, NASA Administrator; Dr. Alan M. Lovelace, Associate Administrator; Ray Kline, Associate Administrator for Management Operations; Louis Lushina, Director of the Information Systems Division; and

Don Hearth, Langley Director. Peter Urbach, NTIS Acting Director, also attended.

According to the award citation, the authors produced "a treatise of great national interest ... to share with others their knowledge about new methods for energy utilization," and provided the American people "with information about an effective, inexpensive method of home heating."

Credit Union Offers Student Loans

The Langley Federal Credit Union offers Student Loans for higher education/vocational training to dependent children of members living in the local area. Those interested should call the Student Loan Officer, Susan Henley, at 827-7200, for an eligibility check. If you meet the requirements, you will be given additional information at that time, relative to the processing of applications, various deadlines, etc. The deadline for receiving loan applications is June 30, 1978.

This is an opportunity for any sincere, ambitious young man or woman to obtain additional training at reasonable cost and the Langley Federal Credit Union is proud to offer this service to its members.
Questions and Answers
About Civil Service Reform

On March 2, President Carter announced a major reorganization of the Civil Service Commission. The reform package is currently being reviewed by both House and Senate Committees, and hearings are being conducted.

Because the Reforms and Reorganization may have a profound impact on the federal workforce, the Civil Service Commission has prepared a list of questions and answers about the package.

These questions will be printed in three parts in the Langley Researcher. Here’s part I:

Q. What are the major changes recommended in the civil service reorganization plan and legislative package?

A. The major proposed changes are:
   (1) dividing the Civil Service Commission into an Office of Personnel Management and a Merit Systems Protection Board; (2) establishing an independent Labor Relations Authority; (3) streamlining the present system for hiring, rewarding, disciplining and removing employees based on performance; (4) adjusting veterans' preference benefits for non-disabled veterans; (5) introducing incentive pay systems for managers, supervisors and higher level executives; and (6) creating a Senior Executive Service.

Q. Why should the CSC be split into two organizations?

A. The Civil Service Commission, created in 1883 to guard against hiring abuses, has been assigned over the years numerous and sometimes conflicting responsibilities by the Congress and the President. The Commission today is required to serve simultaneously as (1) a policy-making staff agency assisting other agencies in their personnel operations, and (2) a neutral third-party adjudicatory body and protector against merit systems abuses in agencies.

Q. Will the division of the Civil Service Commission into two organizations result in greater costs to the taxpayer?

A. No, present plans call for operating both the Office of Personnel Management and the Merit Systems Protection Board with about the same budget allotted for the existing Civil Service Commission.

Q. What would be the role of the Office of Personnel Management for Federal personnel management?

A. OPM's primary role would be to encourage and assure, for the President and the public, that agencies have modern personnel programs. This would involve a wide range of program activities such as establishing standards, issuing regulations, monitoring performance agreements, conducting manpower utilization and productivity studies, and many other functions such as examining applicants, conducting investigations, offering training programs and administering retirement and insurance programs.

Q. Who would be the members of the Merit Systems Protection Board?

A. MSPB would be headed by three Board members appointed on a bipartisan basis with Senate confirmation. They would have seven-year overlapping terms and would not be eligible for reappointment. There would also be a Special Counsel located at MSPB who would be appointed by the President with confirmation by the Senate. The Special Counsel would be responsible for investigating allegations of prohibited personnel practices, and bringing charges against Government employees or officials who have engaged in such practices.

Q. Do these proposals provide any greater protection for "whistleblowers"?

A. The MSPB Special Counsel could investigate allegations of reprisal against employees who lawfully disclose information concerning violation of law or regulations. The Special Counsel would be given authority to stop actions detrimental to the employees who blow the whistle. The Special Counsel also would have authority to seek disciplinary actions against officials who harass whistleblowers. None of these protections are available in current civil service law.

Jim Fay, Personnel Division, received a 12-gallon pin during the last visit of the Red Cross Bloodmobile. It has taken him over 26 years to donate 12 gallons of blood. When asked about the Bloodmobile program, he said, "I think it's a great thing and I wish that more people would donate."

Insurance
Premiums Due

Premium notices will be distributed for Travel Accident Insurance on Monday, April 17. Participants are warned that there is no grace period for Travel Accident Insurance. The current period expires midnight, April 30. If your annual premium, due by May 1 for next year, is not paid by that time, you are no longer covered and protected by the insurance. This notice is the only notice participants will receive. No second notices will be sent.

You may reinstate it at any time merely by making premium payment; however, the premium payment must be for the full year regardless of when it is paid during the month of May.

For the convenience of members, a NEBA representative will be in the West Cafeteria from 11 a.m. to 1 p.m., each weekday from April 17 through April 28 to accept premium payments. If you prefer, you may mail your check to NEBA, Mail Stop 136.
Behind the Scenes

A look at those people and groups who provide support for Langley’s projects and research programs.

— Instrument Control Office

The Instrument Control Office, IRD, is responsible for managing the use, maintenance and procurement of research instruments at Langley. This is no easy task, considering there are about 18,000 instruments in inventory. These are worth $63.3 million.

In addition to the people you meet here, there are about 20 instrument coordinators and 24 instrument consultants who work to provide support for Langley’s instrument users.

Stan Pearson is Head of the Instrument Control Office. Here he explains how the office operates to a Langley employee who has called about an instrument problem.

Leroy Geddings, left, issues an instrument to Tom Finley, one of Langley’s instrument coordinators. About 3,000 instruments are kept on the shelf in the Instrument Control Office. Included are all types of calculators, tape recorders, temperature and pressure instruments, oscilloscopes, digital volt meters and frequency counters.

Elsie Eason works in the accountability area, keeping track of who’s got what instrument.

Kathy Kappel is a student who works part-time in the Instrument Control Office. Here she examines the maintenance record of an instrument. Each of the 18,000 instruments has a detailed record of all repair work performed.

Ray Womble, right, handles shipping and receiving instruments for use, repair and stock. A Klute Holt truck is assigned to the office for instrument deliveries and in this photo, Dwight Whipple, left, prepares to load an instrument on the truck.

Carl Smith issues instruments under one of three loan programs: short-term (up to 30 days), scheduled (up to 90 days), and regular (indefinite time period).
What Fuels
We Mortals Be

Now coal and gas and oil are scarce
And worst of all, they say,
A crisis in electric power
Is due to come our way
So what can mortals use for fuel
To solve this awful mess?
If I may be so bold I'll make
One educated guess:
When we start opening cans by hand,
Don sweaters when it's cool,
Hang clothes back out upon the line,
And walk to job or school;
When we can shave without a plug,
Wash dishes in the sink,
And read a book, not watch the tube,
Perhaps we'll stop and think;
One oft-forgotten source of power
Has not yet ceased to be—
Old hat? You bet! But useful yet—
Raw human energy.

Barbara Overton Christie
Westbrook, Conn.

Colloquium Notice to Retirees Discontinued

To reduce the cost of postage, monthly abstract bulletins announcing Langley Colloquiums will no longer be mailed to retirees. Retirees will still receive an announcement of the colloquium, however, in the Langley Researcher and in the Colloquium Quarterly. As before, retirees are encouraged to attend the colloquiums.

Recent Retirees

James L. Davis, Flight Electronics Division, retired on March 31.
Arthur J. Lambiotte, Fabrication Division, retired on March 31.
R. Eugene May, Financial Management Division, retired on March 28.

LAA Travel 78

Charters departing from Patrick Henry International Airport and Cruises sailing from Norfolk with group rates are as follows: Jamaica, May 6–13—$329; Switzerland, June 12–20—$539 (Very few seats left on this one); Las Vegas, Sept. 14–17 from $269; Hawaii, Oct. 17–25 from $499; Cruise to Bermuda, Sept. 20–26 from $380; and Cruise to San Juan, St. Croix, Dec. 16–23 (St. Thomas, fly-back from Nassau) from $440.

All prices are per person based on double occupancy. Charters include meals and drinks aloft, accommodations, transfers, taxes, tips and some sightseeing. Cruises are all inclusive. Call the Activities Office, 2183, for brochures and reservation forms. For particulars call Ernie Greene, 2312, Home–838-0567, or Herb Boulter, 3234, Home–838-4773.

NAGS Visitor Night

On April 18 the National Association of Government Secretaries will honor visitors. The dinner meeting will be held at the Hampton House Restaurant at 6:30 p.m.

A light program with emphasis on fellowship has been planned. Following a demonstration on the art of cake decorating, a drawing will be held to award the cake to a lucky attendee.

The excitement of a silent auction will be part of the evening festivities. In addition to the customary prizes, a special door prize for visitors only will be awarded.

We cordially invite you to participate! You are not required to hold the title of Secretary in order to attend. For additional information or reservation, please contact Reachie Hall on extension 4156.

Cookie Donations Needed

Any employee who is willing to donate two dozen cookies for Senior Citizen's Day on May 9, 1978, please call Ann Suit, Office of External Affairs, on 3966.

Thanks

Jim Davis wishes to thank all his friends for the retirement party and gifts which are greatly enjoyed and appreciated.
A Master
of a Modern Art

PERSONNEL PROFILES
By Allan C. Hanrahan

Down the street from the ABC Network building in New York City is the Museum of Modern Art and on the second floor of this mecca of contemporary creativity is the photographic exhibit, a prominent portion of the Museum’s collection. Here at the Langley Research Center, in an office on the second floor of Building 1202, is a twenty-piece exhibit of photographs. This is a portion of the unique collection created by ROBERT NEAL PARKER, Head of the Advanced Systems Planning Office, Flight Electronics Division, and a devotee of the creative and innovative, both in his vocation and avocation.

During a recent conversation Mr. Parker talked about the framed photographic enlargements as to technical aspects as well as the aesthetic considerations, and it was obvious, as you can see from the picture he is holding, that he has developed a particular point of view toward photography over the past five or six years. For instance, he recently developed an interest in photographing children, but he never settles down for long to one type of subject, medium, or technique.

“I don’t like production work,” (e.g. weddings) he said, and although he has been a member of a camera club, and thinks they are fine organizations, he explained, “I was doing things (in photographic competition or assignments) because I had to and not because I wanted to.”

Because Bob does his own developing and printing, both black and white and color, his investment is considerable. However, he revealed that he only uses two cameras. One is a Pentax larger format and the other is one of the Nikon line using three lenses: a mile-telephoto, a wide-angle, and a “regular.”

But if we dwelled on photography too long we would do so at the expense of other facets of Bob Parker’s life, such as his wife of over-thirty years, the former Nancy Barclay of Newport News; their twenty-six-year-old son, Neal; and Bob’s association with the Bethel Baptist Church, where he has served as deacon and been deeply involved in the Church’s building program.

“I have enjoyed working with people in church-related activities, particularly the young people,” Bob said.

“But that was in the past,” Bob was sure to inform us, because a minister of youth has now assumed many of the responsibilities formerly borne by Bob and others.

The Church is about the only organization of which he is a member because “I’m really not a joiner,” he confessed when asked of affiliation with social or fraternal organizations, although he admires the work done by the latter and addressed a number of them when he did outside speaking for the Center’s Speakers Bureau.

“That’s quite a challenge,” he stated, “to talk to groups that range from school kids to professional people,” (such as the Engineers Club).

Bob received his B.S. degree in Mechanical Engineering in 1949 from what is now Auburn University. His freshman and sophomore years were spent at Cornell University and his two college stints were separated by service in the U.S. Navy from 1945 to 1947, during which time he received training in electronics and served in the Philippines and China.

Bob is still a sailor of sorts, living beside a creek off the Poquoson River, and enjoying fishing and waterskiing in addition to sailing and power boating, from his own dock that he built behind his home to which—being a compulsive builder—he has added on rooms.

A present building project, which he is “half into,” is converting a bare-walls cargo van into a recreation vehicle that will serve his interest in traveling to the natural beauty areas of Canada and the United States.

The first state Bob Parker ever saw was the Tar Heel State where he was born in Raleigh, in 1927. He was only three years old when his parents moved to downtown Newport News, where he graduated from high school in 1943. During high school he worked here at the Center on a part-time basis, primarily on the strength of his aircraft model building ability. He has been working at the Center continuously (except for a year spent with the Space Task Group) since 1951 after a sojourn at the Shipyard in designing. Previous to that, with his brother, he gave the ice cream making business a try but it was the early days of the Korean conflict and the scarcity of metals for essential equipment doomed the effort. Their father had been in the ice cream business for years and had established the Fresh Fruit Ice Cream Company at Thirty-fifth Street and Washington Avenue.

In the early Fifties the business was relocated to the Brandon Heights area of Newport News to be enjoyed by old and (many) new customers alike.

Bob’s parents are now retired, living in Raleigh, and being reminded of the Fresh Fruit Ice Cream Co. was an added bonus to that of meeting Bob Parker, a quietly amiable gentleman whom we are pleased to introduce to you.
Happenings

YOGA CLASS. “An Invitation to a New Awareness.” Are you interested in taking Yoga for beginners? If so please contact Octavia Judge at extension 2717.

ECVP. Engineers’ Club of Hampton Roads and Engineers’ Club of the Virginia Peninsula will hold a joint meeting at the Admiralty Hotel in Norfolk, on April 18. Cocktails will begin at 6:30 p.m. and the London broil dinner, at a cost of $6 per person, will be served at 7:30. At 8:30, a panel discussion entitled “Trends In Engineering.” will be presented. Panel members include the Deans of Engineering from Old Dominion University, Virginia Polytechnic Institute and State University, Virginia Military Institute, and University of Virginia. Contact “Buzz” Henderson, 838-1300 by April 12 for reservations.

HAPPY HOUR. The LAA will sponsor a Happy Hour on April 7, beginning at 4 p.m. Don’t miss it.

KINGS DOMINION. Discount tickets for Kings Dominion are available again this year through your Activities Association. The gate price this year is $8.50. Your price on tickets for the months of April, May, September, and October is $6.50. June, July, and August tickets will be sold for $7.25. You may purchase your tickets at the Activities Office.

BUSCH GARDENS is planning its biggest season ever with the arrival of the new ride, the Loch Ness Monster. The gate price this year is $8.75, however, discount tickets are available through the Activities Association for $7.25.

DANCE. On April 8, “BRANDY will be playing at the Activities Center, starting at 9 p.m. and ending at 1 a.m. Tickets are available now at the Activities Office or can be purchased at the door. The price of tickets is $6 per couple. BYOB set-up furnished. This is a great band, so plan to attend.

BINGO. The LAA BINGO is held every Thursday in the Activities Center, Building 1222. The first game begins at 7:30 p.m. Bring your family and friends and get in on the great prizes. Food and beverages are available throughout the evening.

HONEY BUNCH. The NASA-Langley Agricultural Club will meet at 7 p.m. on Monday, April 17, in the second floor conference room of NASA building 1212. Following the business meeting, committee work sessions will be conducted during which some club equipment will be assembled. Upcoming club year plans will also be discussed. For more information call R. Henk, 4637, or G. Harvey, 3781.

APPRENTICE SCHOOL RINGS. A representative from the Herff-Jones Co. will be taking orders for apprentice school rings on Friday, April 14, from 11:00 until 2:00 in the first floor lobby of B1194A.

ASNT MEETING. The American Society for Nondestructive Testing, Hampton Roads Section, will have its monthly meeting Tuesday, April 11 at the Althous, Newmarket South Shopping Center, Newport News. Dinner will be at 7:00 p.m., and 8:00 p.m. George Becker, Industrial x-ray specialist, E. I. Dupont DeNemours, Photo Products, Wilmington, DE, will speak about “The Use and Abuse of Penetrameters.” All interested persons please contact J. D. Hart, Phone: Home, 877-6844, Office, 380-4840; M. E. Clark, Phone: Home, 838-0960, Office, 380-4840; or Sonny Forrest, Phone: 489-2599.

GARDENING LECTURE. Rollin Wooley, VPI Extension Agent for Hampton, will give a 40-minute slide presentation on gardening for the NASA Vegetable Gardens Club on Thursday, April 13, at 11:30 a.m. in Room 180, Building 1208. Club members, their families, and other Center employees are welcome to attend.

DOG TRAINING CLASS. The James-York Dog Training Association, Inc. (formerly NASA Dog Training School) will register new classes in kindergarten puppy training and basic obedience on Thursday, April 13, at the Hampton Armory on North King Street, Hampton. The 12-week course includes the five basics in dog obedience: heeling, stand for examination, come, sit stay and down stay—for control and teaches you to train your dog in becoming a more socially accepted pet. Registration will be from 7 to 7:30 p.m. with classes from 7:30 to 8:30 p.m. Please bring your dog’s shot record. All shots have to be of up-to-date. Special training collars and 6-ft leads will be available. For information, please call 874-5708.

Bloodmobile Report

During the March 22 visit of the Red Cross Bloodmobile, 301 employees donated a pint of blood. This broke the 292 pint record set at Langley in June 1977.

Scotty McArthur, coordinator for the visit, said, “I never cease to be amazed at the continued response from our Langley Research Center employees and some contractors. Their constant and faithful participation is an act that is well-deserving of many thanks for a job well done.”

Those achieving gallon-donor status were:

12 gallons: James J. Fay
9 gallons: Billy Dancy
8 gallons: C. M. Hudson
5 gallons: James Link, Joseph Powers; James L. Leiffer; James McColskey; and Roger Amick
4 gallons: Stephen Devan; Wayne Sawyer; Nelson Seabolt
3 gallons: Cecil Burcher
2 gallons: John Haines; Garland Goodwin; Alice M. Frapolli; Samuel Sokol; Melvin Luczy; Leonard A. Wagner; and George Trombley.

1 gallon: Clarence Cole; John Kovtun; Charles Longacre; Danny Barrows; Michael Freed; Thomas McLehany; Wayne Melton; Charles Folwell; Gus Guastaferro; Robert Springfield; Carroll Little; George Judson; and Frank L. Jones.

Since it takes a minimum of fourteen months to reach one-gallon status, you can see that Langley people are indeed dedicated people, concerned with their fellow man.

Question and Answer

Question: There will be a large number of retirements from this Center this year. When does the Personnel Division plan another retirement symposium?

Answer: Thinking of future retirees, the last retirement symposium was videotaped and is available for viewing through the Training and Educational Services Branch. Plans call for periodic updating of the tape dealing with Civil Service retirement.

To schedule viewing this program, contact M. Eloise McGehee, extension 2611. For any questions about Civil Service retirement, contact J. W. Norris, Jr., extension 2212.

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Swap and Shop

To place an ad: Ads are restricted to Langley Research Center civil service and contractor employees and retirees. To place an ad, write it the way you would like it to appear and send it to: Editor, Mail Stop 115A. Please include your office phone number (in case there are questions when it is being prepared for publication). The deadline for ads is 12 noon the Friday before the Researcher is distributed.

FOR SALE

Articles
Conn tenor saxophone, student model with case, GC, $200. Call 722-8591.
Kenmore washer, EWC, 16 lb. capacity, $50. Call 827-0191 after 6 p.m.
Complete darkroom: Belleair 23C enlarger; El Nikkor 50 mm 12.8 lens; Saunders 14" x 17" easel; dry table w/formica top & storage for paper, chemicals and accessories; wet table w/stainless sink and plumbing; Lott dryer; three 8" x 10" trays; three 11" x 14" trays; DuPont contrast filters; developing tanks; gradient; storage bottles; $600 complete. Call 874-2480 after 5 p.m.
Sears dwelt/electrotherm $7; Bausch and Lomb aviator style sunglasses w/gold frames/green lenses, $5. Youngblood, 877-1224.

Sears, Craftsman 20" lawnmower, 3.5 HP, barely used, VGC. Original purchase in 1976 for $130; asking $85. Call Dick Morris, 3073, or 838-0678 after 5 p.m.

Vehicles
1964 Olds Dynamic 88, only 83,000 mi, one owner, AT, PS, PB, AC, good running condition but needs paint job. $250 or best offer. Call 596-2146 after 9:30 p.m.
Sunfish w/transom, $275. Call 723-8446 after 5 p.m.


1972, 22-Seahorse fiberglass, alum. mast and boom, swing veil, 12' draft keel set, 3 sails, 4 vinyl bins, cockpit, galle, spacy help. $2,000. Call Coombs, 2346, or 851-7620.

1975 Honda 400cc super sport motorcycle, EC plus additional features. Call Gardner, 838-7759 after 5 p.m.

1975 Burgundy Pinto Squire wagon, V-6, AT, PS, PB, AC, trunk, remote control dual outside mirrors. AM/FM stereo radio, new tires, towing package, tinted glass, low mileage, one owner. $2,000 cash or $1,100 and assume payments. Call Charlie, 3402.

Real Estate
Briarfield area: 3 BR rancher, AC, w/carpet, storm windows, utility room, disposal, dishwasher, large corner lot, conv. location, VA appraised $31,300. Call 826-4690.

York County: Robanna Shores: 3 BR, 2 BA, brick, 1975, mfg. warranty, AC, 4 speed, AM radio, rack, 14" wheels, EC, $690. Sportyak, 877-9151 after 6 p.m.

J. E. Center: 3 BR brick/siding rancher, 1 BA, w/carpet in LR/DA, large eat-in-kitchen, fence, back yard, conv. location, $32,500. Call 826-1485 for appointment.

For Rent
One or two year lease, modern Willow Green townhome in wooded setting: 3 BR, 1-1/2 BA, self-cleaning oven, refrigerator, dishwasher, disposal, compactor, drapes, carpet, PA & heat, washt-rin d connections, pool, tennis, clubhouse, water & sewage paid. Deposit $150. 300 per mo. Call Robert Carson, 3518, 595-6752 after 4 p.m.

One furnished bedroom to lady: 10 minutes from Langley. Call Doug, 838-7157 after 6 p.m.

Beach cottage on white sand dune beach; roomy beach house fully equipped, AC, $160/wk. Some weeks still available in June and July. Also available September weekends. Call Martin, 491 or 693-4241.

Sandbridge, new cottage: 4 BR, washer, dryer, dishwasher, fireplace, 1/2 block from ocean and Backay, AC, electric heat, telephone, 4-car parking, summer rate $350/wk., winter rate $300/mo. Call Kent, 3095 or Virginia Beach 420-8391.

Wanted
Additional driver for car pool from Williamsburg (Jameskawn Road and 199 area). Flexible, either 6-30 a.m. or 8 a.m. shift. Call Lois, 2991, or 826-5762.

Additional driving (Williamsburg): would like to join for 8-4:30 shift to Building 1212 area. Call Mann, 3711.

To trade: for your dishwasher, avocado, 22" wide 12" less wide, 2 small people-powered vehicle, or den sofa, 10' long, or Atlas sewing machine w/cab., or chest of drawers, or 3 id.

Cafeteria Menu

WEEK OF APRIL 10

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Pepper Steak; Chicken Chow Mein & Vegetables; Fried Pletz of Trout; Roast Beef Au Jus. Snack Bar: Grilled Cheese; Ham & Cheese Club; Roast Beef & American Cheese.

TUESDAY: Bull Island Clam Chowder; Fried Filet of Trout; Chili Con Carne; Roast Beef Au Jus. Snack Bar: Ham & Cheese; BBQ Pork; NASA Sub; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Soup; Fried Chicken Dinner; Framke, Bacon & Cheese; Barbecued Ham Steak. Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers; Pork Chopettes; Braised Beef & Noodles. Snack Bar: Grilled Cheese; Ham & Cheese Club; Roast Beef & American Cheese.

FRIDAY: Beef Noodle Soup; Fish Dinner; Steak Smothered with Onions; Western Omelette. Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF APRIL 17

MONDAY: Tomato & Rice Soup; Baked Lasagna; Spanish Steak; Savory Baked Chicken. Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Manhattan Clam Chowder; Braised Beef & Vegetables; Fried Filet of Trout; Roast Beef Au Jus. Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Soup; Roast Runyke Dinner; Baked Tuna & Noodle Casserole; Meat Loaf. Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey Noodle Soup; Veal Parmesan; Braised Beef Liver & Onions. BBQ Franks Over Rice, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

FRIDAY: Chicken Egg Drop Soup; Fish Dinner; Beef Pot Pie; Baked Chicken & Noodles. Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

Menu
Dinner, or bookcase-rm. divider, or Page 23 channel CB, or brown w/orange 90" contemp. sofa; for your adult-size desk/my chest of drawers, or commercial duty dining table, or Page 23 channel CB; my bookcase-rm. divider (2 pc) for your 20 sheets 1/2 sheet of metal paneling (2 color-10 sh. ea.); my Atlas sewing mach. w/sec. cab., & case for your cab. to fit Sears free arm. Call Gene Conn, 3402 or 451-1380 after 4:15 weekdays or anytime weekends.

Partner
Roll of 35 mm color film; in front of Building 1155. Finder pressed film in hopes of identifying owner—appears to be photos of wedding. Call Randy, 3521.
RSRA Makes First Fixed-Wing Flight

A new kind of research helicopter--equipped with rotors, wings and two engines--lifted off the runway at the Wallops Flight Center on the Eastern Shore the morning of April 10.

It was the first flight of the Rotor Systems Research Aircraft (RSRA) in its full compound helicopter and fixed-wing configuration.

Powered by two TF34 turbofan engines, the RSRA accelerated down the runway and climbed to an altitude of 2,000 feet, using the combined lift of its 45-foot wing and five-blade S-61 rotor system.

The compound RSRA was flown by experimental test pilots Charles Reine and Gerald Stofer of Sikorsky Aircraft, builders of the RSRA.

On hand to witness the first flight were Oran Nicks, Langley Deputy Director, and Leo Kingston, Chief of Advanced Research and Development for Sikorsky Aircraft.

Two RSRA vehicles were built by Sikorsky for a program jointly managed by NASA and the U.S. Army. The program will develop technology to increase rotor aircraft speed, performance, reliability, and safety, and will seek to reduce helicopter noise, vibration and maintenance.

Both RSRA vehicles will be tested by Sikorsky, under contract to Langley, for approximately 80 hours of flight time before they are delivered to NASA and the Army for flight research at the Ames Research Center in California.

Sam White, NASA/Army Project Manager for the RSRA, said that the aircraft "will provide the United States with a highly sophisticated and much needed public facility for continued development and understanding of rotary wing technology."

"The RSRA helicopters will be used by NASA and the Army to investigate and evaluate a wide variety of existing and advanced rotor systems," White said. "The RSRA will help eliminate the costly practice of having to develop or extensively modify helicopter aircraft in order to conduct flight investigations for each promising new rotors and provide precise measurements of a variety of rotors under repeatable test conditions."

Kilgore to Receive Jones Award

Edwin C. Kilgore, Director for Management Operations, has been selected as one of two recipients of the first Roger W. Jones Award for Executive Leadership, 1978.

The Jones Award recognizes federal career executives who have demonstrated superior leadership resulting in outstanding organizational achievement, and who have been successful in developing managers and executives for career service.

Kilgore was nominated for the award by NASA Administrator Robert A. Frosch. He will be honored with a reception and awards presentation at The American University in Washington, D.C., on Saturday, May 13, where he will receive a bronze statue and a citation. The Jones Award is sponsored by the School of Government and Public Administration, College of Public Affairs, The American University.
The Search for Anti-Gravity

AIAA MEETING

Hap Hazard, Navy Spaceflight Coordinator, Navy Space Systems Activity, will be the guest speaker for the April 25 meeting of the Hampton Roads Section, AIAA. He will speak about "The Search for Anti-Gravity."

The meeting will be held at the Langley Officers Club. There will be a cash bar in the Hampton Room from 6-7 p.m. Dinner will be in the Williamsburg Room from 7-8 p.m. and the program will follow dinner. The dinner will be $5 per person.

Hazard's career to date has covered a wide field. He was with JPL from 1952-1961, when he advanced from Supervision Propulsion and Ground Equipment to Senior Development Engineer. From 1961-1968, he was at Space General Corporation as their Manger, Space Suit Operations. For a short time, he worked as a Test Engineer for Weber Aircraft Corporation on the Gemini Ejection Seat. In late 1969, he became Project Manager, Military Experiments, for the Navy, planning and coordinating Navy Activities related to the Manned Orbiting Laboratory.

Hazard has promised an evening of no dreary equations, but of insightful and delightful logic into the field of anti-gravity.

Road Closed During Construction

As everyone has noticed, the construction phase of the National Transonic Facility, Building 1236, is well underway. This construction will require extensive radiographic operations, normally conducted on night shifts or weekends. All such activities are performed under strict NASA safety procedures and Nuclear Regulatory Commission guidelines.

It will be occasionally required that Taylor Road and other areas adjacent to the construction site be closed and barricaded to prevent access by personnel into areas of potential health hazard. All employees whose duties might require their presence near the NTF site should avoid the secured areas and honor the barricades.

Savings Bond Information Seminar Planned for Today

A Savings Bond Information Seminar will be held on Friday, April 21, 1978, in the 7'x10' Conference Room (upstairs in Room 200) in Building 1212. The program will begin at 1:30 p.m. and will feature Robert W. Dickerson, Area Manager, U.S. Department of the Treasury, U.S. Savings Bond Division.

This program will afford Center employees the opportunity to gather information and obtain answers to questions they might have concerning U.S. Savings Bonds. Dickerson's discussion will include, but will not be limited to, the following topics:

- Interest Rates
- Old Bonds and Interest
- Lost or Stolen Bonds
- Tax Benefits and Advantages
  - educational planning
  - retirement planning
  - state and local taxes
- Registering Bonds
  - single owner
  - co-owner
  - beneficiary
- Transferring Bonds
- Limit on Holdings
- Survivor(s) Benefits
- Probate
- Series E vs. Series H Bonds
- Exchange Privileges

All interested Center personnel are encouraged to attend.

Secretaries Honored at Langley

National Secretaries Week will be observed this year April 23-29. As a special tribute, Langley will hold a special "Breakfast" for secretaries, clerk typists and their supervisors on Tuesday, April 25, in the Activities Center (Building 1222).

The guest speaker for this occasion will be Marie D. Tyler, Head of the Secretarial Science Department at Thomas Nelson Community College. Her topic will be "The Ghost of Girl Friday."

Formal invitations have been issued to all secretaries and clerk typists, and they are to invite their supervisors. Attendance will be limited only by building capacity.

Donna M. Thibodeau won the 1st place award in the Regional Shorthand competition held at Old Dominion University in March. Taking dictation at 100, 110 and 120 words per minute and then transcribing her notes, Donna beat 15 others who were competing. She competed in the State competition in Richmond on Saturday, April 15. Donna is a secretarial co-op student and works part-time in the Systems Engineering Division. She will graduate from Pembroke High School in June.

Travel Accident Insurance Reminder

Remember that NEBA Travel Accident Insurance expires on midnight, April 30, 1978. A NEBA representative will be in the West Cafeteria from 11 a.m. to 1 p.m., all next week to accept premium payments for the new year. If you prefer, you may mail your check to NEBA, Mail Stop 136.

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2 Langley Researcher, April 21, 1978
TCV Returns from Montreal

Langley’s TCV Program travelers arrived home this week after a busy month in Canada, demonstrating a new Microwave Landing System (MLS) for the Federal Aviation Administration (FAA).

Neither snow nor sleet nor a late spring in Montreal could keep the TCV’s B-737 research plane from completing scores of demonstration flights during a world-wide meeting of the International Civil Aviation Organization (ICAO).

The TCV plane was a major demonstration tool for the MLS that has been developed by the United States and Australia, and managed by the FAA.

The ICAO is attempting to create a standard MLS that will replace existing Instrument Landing Systems (ILS) throughout the world.

Major competition has developed between the U.S.-Australian MLS, which uses a Time Reference Scanning Beam technique, and the MLS developed by the United Kingdom, which uses doppler radar.

A decision by ICAO concerning which system will be adopted by the nations of the world is expected this week.

More than 40 Langley people, from pilots to technicians to managers, worked long and irregular hours to show ICAO delegates and other observers what the U.S. system can do.

About 213 observers were witnesses to the accuracy of the system as the TCV airplane made 100 demonstration landings—70 of them automatic—during more than 40 hours of flight.

Observers represented many countries, from Western Europe to Red China, as well as such diverse groups as the Canadian Mounted Police, the U.S. State Department, international airlines, and several avionics equipment manufacturers.

Everyone seemed impressed with the system and with the Langley airplane, according to Jack Reeder, TCV Program Manager. The plane’s automatic controls and pinpoint accuracy never cease to amaze most observers who see it in operation.

Despite the weather, some equipment problems (not connected with the TCV airplane), a competitive atmosphere, and occasional frictions that develop in most multi-agency operations, the entire demonstration program was a success, and the TCV people are proud of their contribution.

Now they, even more than the rest of us, are ready for spring.

The Case of the Missing Bottles

Langley employees who like problem-solving exercises may want to put their minds to this puzzle.

Nine thousand soft drink bottles were lost at Langley during March. That’s seven thousand more than are usually lost each month, or almost three bottles for every Civil Service employee. If the trend continues, Langley may get an entry in the Guinness Book of Records.

What happens to 9,000 empty soft drink bottles in a month?

With a 10-cent deposit on each bottle, March’s mystery cost the Langley Exchange Council $900. Since the Council supports the Activities Association’s sports and hobby clubs and subsidizes the cafeteria, everyone at Langley lost that $900.

Profits from soft drink machines are among the largest sources of income for the Exchange Council. At the present rate of loss, one of two things will happen: the price of soft drinks will rise or employee activities will not be as fully supported as in the past.

The choice is ours.

Daylight Savings Time

Daylight Savings Time begins on Sunday, April 30, at 2 a.m. Remember to turn your clock forward one hour before retiring on Saturday, April 29.

LAA to Donate Bonds

In support of the 1978 Savings Bond Campaign, the Langley Activities Association will donate two Series E $25 Savings Bonds. Two drawings will be held to determine the recipients. One name will be drawn from among former non-participants who enrolled in the 1978 savings bond program. The other name will be drawn from among those individuals who increased their level of participation in the 1978 savings bond program. The drawing for the two bonds will be held Tuesday, May 9th, during the monthly meeting of the Langley Activities Association’s Executive Board. Winners will be notified shortly thereafter and will be featured in the Researcher.

Langley Researcher, April 21, 1978
Chicago Bridge and Iron Works, the prime contractor for the NTF Wind Tunnel shell, has almost finished erecting this S-60 Stiff Leg Derrick. Three temporary buildings, in which wind tunnel sections will be constructed, are being built on the site. The buildings will have removable roofs and the derrick will be used to remove roofs and lift the sections into place. The center leg of the derrick is 100 feet tall; a 200-foot long boom with a 30-foot jib is attached. It can lift 100 tons at a radius of 175 feet and 228 tons at a 50-foot radius. It can reach any of the three temporary buildings and any part of the wind tunnel. This towering derrick will be a part of our skyline until about Spring 1980.

**Job Openings**

CORRECTION: The closing dates of the Merit Promotion Vacancies announced in the last issue of the Researcher should be changed from April 18, 1978, to April 21, 1978.

The following Merit Promotion Announcement is currently open:

78-12 - Production Controller; GS-1152-10 or 11; Fabrication Division; Planning Control Office; Closes April 28, 1978.

**Correction Notice**

LRC Announcement No. 6-78, dated March 1, 1978, concerning Langley Forms 125 and 126, had an error in it. In the paragraph entitled “RQA Program Class,” the procedure shown as RQA53142 should read RQA5312R2.

**Cookies Needed**

Any employee who is willing to donate two dozen cookies for Senior Citizen’s Day on May 9, 1978, please call Ann Suit, Office of External Affairs, on 3966.

**Savings Bond Participation**

The following organizations have achieved 100 percent participation as of April 17, 1978.


Structures Directorate: Director's Office.

Space Directorate: Director's Office.

Electronics Directorate: Director's Office and Nimbus G Experiment Project Office.


The following organizations have achieved 90 to 99 percent participation as of April 17, 1978.

Office of the Director: Director's Office and Office of External Affairs.

Structures Directorate: Materials Division, Acoustics and Noise Reduction Division and Structures and Dynamics Division.

Space Directorate: Atmospheric Environmental Sciences Division.

Electronics Directorate: Flight Dynamics and Control Division.

Systems Engineering and Operations: Systems Safety, Quality and Reliability Office; National Transonic Facility Project Office; Operations Support Division and Systems Engineering Division.

Aeronautics Directorate: Aeronautical Systems Division.

Projects Directorate: Project Technical Operations Division and Scout Project Office.

Management Operations: Personnel Division and Programs and Resources Division.
Composite Materials
Workshop Held

A mini-workshop was held recently at Langley for Principal Investigators of composite materials experiments to be carried on the Long Duration Exposure Facility. The first LDEF mission is scheduled for February 1980.

The workshop provided the opportunity for the Investigators to review their experiments and discuss anticipated results. The approved composite materials experiments and Principal Investigators are:

- Materials for Large Space Systems, Wayne Siemp, NASA-Langley; Spacecraft Materials, Gene Borson and Dr. Paul Schall, Aerospace Corporation; Graphite/Polyimide and Graphite/Epoxy Mechanical Properties, Doug Welch and Howard Powell, Rockwell International (Tulsa Division); High-Toughness Graphite/Epoxy, Dr. David Felbeck, University of Michigan; Polymer Matrix Composite Materials, Dr. Rod Tennyson and Dr. Jon Hanson, University of Toronto, Canada; and Properties of Metallized Dielectrics and Selected Resin Matrix Composites, Dr. Richard Delasi, Grumman Aerospace Corporation.

Honor Roll

The following Engineering Technician apprentice trainees completed the 1978 Winter Quarter with a grade point average of 3.5 or higher for the quarter:


In computing the GPA for the 1978 Winter Quarter, Training and Educational Services Branch included both the course work taken under the Thomas Nelson Community College and courses taught by NASA Langley, which are a part of the approved Engineering Technician apprentice program curriculum. TNCC does not include the grade for these courses in the college GPA, but does allow the student transfer credit.

Speakers Bureau

On March 16, Bob Witoofski spoke to the Central Virginia Chapter, Virginia Solar Energy Association, about "Hydrogen and Other Alternate Fuels."

Fred Gregory spoke about the Space Shuttle and careers in aerospace to the following groups:
- March 17 - August Martin High School, New York
- March 21 - Hodges Manor Elementary School, Virginia
- March 22 - Epes Elementary School, Virginia
- March 29 - Decatur High School, J. C. Calhoun Jr. College and West Morgan High School, Alabama
- March 30 - Career Fair in Huntsville, Alabama

On March 22, Dave Stephens spoke to the York Rotary Club on "Noise Effects on Airport Communities."

On April 1, Olaf Storaasli spoke to the Data Processing Management Association on "Distributed Processing."

On April 5, Walter Bressette spoke to the Zion Methodist Church on "Water Pollution Monitoring from Aircraft and Spacecraft."

On April 8, John Samos spoke about the Tech House to the Hampton Roads Chapter, Retired Officers Association.


On April 19, Baxter Carr spoke about energy conservation to the Newport News Office of Human Affairs.

On April 20, Irv Hamlet and Bill Swain participated in a NASA Headquarters seminar on "Housing for the Future." Their topic was "NASA's Tech House: A Reflection from the Engineer and the Occupant."

5 Langley Researcher, April 21, 1978
Q & A - Civil Service Reform

Part II

Q. What would be the structure and functions of the Federal Labor Relations Authority?
A. The Federal Labor Relations Authority would be an independent establishment in the Executive Branch, comprised of a full-time Chairman and two full-time members. It would replace the Federal Labor Relations Council and would administer the Federal Government's labor-management disputes. The Reorganization Plan would also establish a General Counsel with functions of the Federal Labor Relations Authority.

Q. How does the proposed system for performance evaluation differ from the present system?
A. The principal changes are:
- Agencies would no longer be required to rate employees as satisfactory, unsatisfactory or outstanding. Instead, each agency would establish its own performance rating system, tailored to its own particular purposes, yet subject to OPM guidance and review.
- An individual's performance evaluation, more thorough in detail, would be more widely used as the basis for rewarding, training, disciplining, or removing the employee.
- Performance ratings would no longer be appealable.

Q. Why is it necessary to streamline the process for hiring, rewarding and disciplining Federal employees?
A. The present system, originally built to protect against the "spoils system" of political appointments, has now become so encrusted with excessive regulations that it is, in many instances, a major obstacle to Government productivity and a shield for mediocrity. Existing rules on hiring are so rigid that it can take up to a year to fill a vacancy, and many managers who are charged with the responsibility of seeing that services are delivered have little or no say over who is hired. Likewise, agencies that wish to dismiss or demote employees with proven records of poor performance face years of appeals and red tape before the separation can be effected. In short administrators have lost the power to make hiring, promotion, or firing decisions based on performance.

Q. Would the proposed new flexibility open the system to political abuse?
A. No, on the contrary. The recommended changes should prevent political manipulation. Since MSPB Board members could only be removed for cause, they would be less subject to politically-motivated attempts to influence their decisions and would be independent in the exercise of their responsibilities for the adjudication of employee appeals and the protection of merit systems. In addition, career Government workers would also be more firmly protected from political pressures as the proposed legislation would specify penalties for the use of official authority to coerce political action.

Q. How would the procedures for demoting or discharging employees be changed?
A. Employees who are not performing at an acceptable level would be given at least 30 days' notice that their performance must improve. If they fail to improve they must be demoted or discharged. An employee who is demoted or discharged may appeal to the MSPB. The employee would be required to show that there were serious procedural deficiencies, that there had been discrimination in the action against him or her, or that the decision to remove or demote the employee was arbitrary and capricious.

Q. Why do veterans' preference laws need to be changed?
A. The veterans' preference system, which gives priority treatment to all veterans throughout their Federal careers in hiring and lay-off situations, does not take into account the present condition of the labor market. This condition includes the pressing employment needs of women and minorities, the availability of more sophisticated methods for examining and matching candidates for specific jobs, and the particular needs of the young and disabled veteran. The proposed legislation would assure that maximum employment benefits are provided for the disabled and recently-discharged veteran but would modify the effects of the present system on women and minorities.
Happenings

NAGS TRIP TO SMITHSONIAN. The Hampton Roads Branch of the National Association of Government Secretaries is sponsoring a one-day excursion to the Smithsonian Institute on Saturday, April 29. Visitors are welcome if space permits. The cost of the trip will be $14 for nonmembers. Interested persons should contact Susan Wilson, ext. 4135.

AFGE MEETING. The regular monthly meeting of AFGE Local 2755 will be held on Tuesday, April 26, 1978, at 7:30 P.M., in the Activities Center, Building 1222.

ARTS AND CRAFTS. The LAA Arts and Crafts Show will be held May 6, from 1 to 6 p.m., in the Activities Center. Space is still available for those who wish to display their handiwork. Call Betty Farmer, ext. 2062.

KARATE CLASS. The NASA Langley Karate Club of Cuong Nhu Karate is considering starting a new class May 1, at 5 p.m. if there is enough interest. Call R. Booth, 3446, or Ivan Clark, 3661, for more information.

LANGLEY ROD AND GUN MEMBERSHIP MEETING. A general membership meeting will be held at the club, building 1007 at 6 p.m. on Saturday, April 22. The meeting will feature an auction and door prizes. Beverages will be available at reduced prices. Skeet and trap rounds will be reduced to $1.00 from 4:30 until meeting time. For further information, stop by the club or call Thom Jennings at 764-3769.

TRAP LEAGUE. The Langley Rod and Gun Club will host a Spring Trap League beginning the week of 1 May which will run for 8 weeks. A handicap system will be used making the league competitive for both new and experienced shooters. Fifty "birds" will be shot per week at a time convenient for the shooter. League entry fee is $10.00. The entry fee will cover the cost of awards and a big party at the end of league shooting. For additional information stop by the club or contact Buck Buchanan at 826-5456.

ATTENTION TENNIS PLAYERS. The Langley Women's Tennis Team needs A and B league players to compete in singles and doubles matches in the Peninsula Tennis Players Association. For more information, call Janet Schmitz, 596-8079.

USED BOOK SALE. The Hampton Branch of the American Association of University Women will hold its annual used book sale in the Community Room of the Coliseum Mall (outside entrance next to Chamber of Commerce) on: Thursday, May 4, from 10 a.m. to 6 p.m.; Friday, May 5, from 10 a.m. to 9 p.m.; and Saturday, May 6, from 10 a.m. to 1 p.m. Proceeds will be contributed to the AAUW Fellowship Fund.

A STAR TREK CONVENTION will be held June 30 - July 2 at the Atlanta Hilton in Atlanta, Georgia. Confirmed guests include William Shatner (Capt. Kirk), James Doohan (Scotty), Nichelle Nichols (Lt. Uhura) and George Takei (Lt. Sulu). For information, write: Star Trek Atlanta, 88 New Dorp Plaza, Staten Island, NY 10306, or contact Charlotte Yielding, Mail Stop 157C, phone 838-4043.

PYSP. The regular monthly Chapter meeting of the Peninsula Young Singel Parents will be held on Wednesday, April 26, 1978, at 7:30 p.m. at St. Stephen's Episcopal Church. A member of the Newport News Police Department will speak on "Alcohol - The Legal Hassle." Even if you don't drink, someone else's drinking could affect the safety and well-being of you and your children.

TIDEWATER DINNER THEATRE. The current attraction at the dinner theatre is "Don't Drink the Water," written by Woody Allen. Discount tickets, priced at $10.50, are on sale in the Activities Association Office. Depending on which night you attend, the discount is from $3 to $4. Discount tickets are not honored on Friday nights.

LRC HISTORICAL AND ARCHAEOLOGICAL SOCIETY SPECIAL PROGRAM. On Monday, May 1, at 7:30 p.m., the Society will present two short programs in the Visitor Center auditorium. Dr. Frank Farmer, Society President and Archaeologist, will review progress on the excavation of the site believed to be George Wythe's birthplace. Artifacts from the site will be on display. A film, entitled "The Peach Gang," will also be shown. This film recreates the circumstances surrounding the first trial in America in which Americans were tried for the murder of an American Indian.
Swap and Shop

FOR SALE

Articles
Sears window air conditioner, 1850 BTU, $150. Call Baldwin on 595-2105 after 5 p.m.
Aluminum storage shed, 5x7 with solid wood floor, EC, $75. Call Smith, 887-2256 after 5 p.m.
Early American hide-a-bed sofa, 73" long, structurally sound but needs new fabric, $50. Call Zaepfel, 3681, or 826-9286.
Singer Slantamatic zig-zag sewing machine, $175 for machine head, $75 for cabinet. Stitches, with cabinet of maple hardwood, French Provincial style, additional cams for decorative stitches, all sell separately or together, $175 for machine head, $75 for cabinet. Call Carol Olsen, 2968, or 897-8727 after 5 p.m. on weekdays.
Four antique ladderback chairs, rush seats, $25 ea. Westinghouse roasting oven, GC, $15. Call Brian Phillips, 2855, or 838-5737 after 5 p.m.

Vehicles
1970 Chevrolet, 2 dr. hard top, air, only $450. Call Baldwin, 595-3105 after 5 p.m.
Eight-foot hydroplane, plywood and fiberglass construction, with Sears 5 hp outboard motor, fuel tank and transfer line, $150. Call 599-4321.
1970 Ford Maverick, 84,000 mi., AT, G/MC, $500. Call 595-2853 after 5 p.m., except Tues. and Thurs.
1972 Dutch Craft travel trailer, 17'6" feet, AC, sleeps 6, self-contained, $2,000. Call Shortt, 826-5090.
1972 Suzuki T500 Titan, fairing, saddlebags, luggage rack w/highway pegs, shop and parts manuals, EC, $600. Call Rusts, 899-3913.
1975 Vega GT, 4 spd, AC, radio, brand new miles, 37,000 engine, still under warranty, must sell, $1,800. Call Sandra, 723-8446 after 5 p.m.
1977 Mercury XR-7 Cougar, fully equipped w/P/S, P/B, AT, AC, PW, twin comfort lounge leather seats, AM/FM stereo, cruise control, interval wipers, vanity light, map lights; still under warranty, $5,600. Call Wanwurth, 2411, or 877-3985 after 5 p.m.
1975 Honda motorcycle CB-750K, EC, with luggage rack,issy bar and windshield, 16 qts of oil, garage kept, original owner, less than 6,000 miles, $1,700. Call 838-7259.
Ranger 26 sailboat, fully equipped for cruising and racing. Three jibs and new spinnaker. Ton horsepower Envirotec engine, deep sounder and log. Yacht condition. Call 898-5707 after 5:30 p.m.
Swedish sailboat with transom wheels, EC. Call 898-5707 after 5:30 p.m.

Real Estate
Mobile Home, 12'x22' Havelock 1973, 2 bedrooms, 1 bath, L/R with front kitchen. Furnished with many extras. May be seen anytime at Gaston Lake. Call 596-9764 after 5 p.m.

Cafeteria Menu
WEEK OF APRIL 24

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Pepper Steak; Chicken Chow Mein, Snack Bar; Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.
TUESDAY: Bull Island Clam Chowder; Fried Filet of Trout; Chili and Carne; Roast Beef & Chips; Snack Bar; Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.
WEDNESDAY: Vegetable Soup; Fried Chicken & Dumplings; Fried Filet of Trout; Barbecued Ham Steak; Snack Bar; Hot Italian Sausage Sub; Ham & Cheese Special; Steak & Onion & Cheese Sub; Bacon, Lettuce & Tomato.
THURSDAY: Chicken & Rice Soup; Braised Chicken Livers; Pork Chopettes; Braised Beef & Noodles; Snack Bar; Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese.
FRIDAY: Beef Noodle Soup; Fish Dinner; Steak Smothered w/Ontions; Western Omelette; Snack Bar; Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF MAY 1
MONDAY: Tomato & Rice Soup; Baked Lasagna; Spanish Steak; Savory Baked Chicken, Snack Bar; Ham & Cheese Club; Egg Salad; Steak; Onion & Cheese Sub; Hot Reuben.
TUESDAY: Manhattan Clam Chowder; Braised Beef & Vegetables; Fried Filet of Trout; Roast Beef & Vegetables.
WEDNESDAY: Vegetable Soup; Roast Turkey Dinner; Barred Tuna & Noodle Casserole; Meatloaf; Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.
THURSDAY: Turkey Noodle Soup; Veal Parmesan; Broiled Liver; BBQ Franks Over Rice, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Ham, Ham & Cheese.
FRIDAY: Chicken Egg Drop Soup; Fish Dinner; Beef Pot Pie; Baked Chicken & Noodles; Snack Bar; Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

FOR RENT
Vacation cottage, Matterson Island, NC. Three BR, kitchen complete with dishwasher, 400 feet to beach, 400 yds to fishing pier. Call Fripp, 3661.

FOR SALE
Lot in Windor Forest, Williamsburg area, 70 acre wooded, city water and sewage, Sherif's Drive, $17,800. Lot in Queen's Lake, approx. 3/4 acre wooded corner lot, 218x150 ft. on Allendale Pl., $26,500. Call 639-5311.
Modern kitchen, dishwasher and disposal, fully carpeted, CA and heating. Convenient to Langley. $43,000. Call 820-6630 after 4:15 p.m. on weekdays.
Animals
Chihuahua terrier puppies, $25 each; exc. house pets, gentle with children. Call Brian Phillips, 2855, or 838-5737 after 5 p.m.

FOR RENT
Vacation cottage, Matterson Island, NC. Three BR, kitchen complete with dishwasher, 400 feet to beach, 400 yds to fishing pier. Call Fripp, 3661.

FOR RENT
Townhouse, 3 BR, 1 1/2 bath, den/dining room, carpet, drapes, self-cleaning oven, dishwasher, O/D, garbage disposals, w/d connections, air conditioning, patio, 3 BR, 2 bath, L/R & and sewing paid, children allowed, pets conditional, $150 deposit, $325 per mo., 1-year lease. Call 868-7655 after 5 p.m. and weekends.

Don't Drink the Water!" is now playing at the Tidewater Dinner Theatre. The setting is an American Embassy somewhere behind the Iron Curtain. The Ambassador leaves his bumbling son in charge of the embassy which has a resident refugee, a priest, a typical American tourist couple and their daughter. The embassy is quickly placed under siege by angry citizens. The story continues through two acts of typically outstanding Woody Allen comedy. See the Happenings column for ticket information.

Lot for a vacation cottage on Matterson Island, NC. Good view of water. Call Fripp, 3661.

Menu
MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Pepper Steak; Chicken Chow Mein, Snack Bar; Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.
TUESDAY: Bull island Clam Chowder; Fried Filet of Trout; Chili and Carne; Roast Beef & Chips; Snack Bar; Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.
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FRIDAY: Beef Noodle Soup; Fish Dinner; Steak Smothered w/Ontions; Western Omelette; Snack Bar; Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.
WEEK OF MAY 1
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WEDNESDAY: Vegetable Soup; Roast Turkey Dinner; Barred Tuna & Noodle Casserole; Meatloaf; Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.
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Blackstock Receives Energy Award

Thomas A. Blackstock recently received the first major award for an Energy Savings Proposal and the largest monetary suggestion award ever presented at Langley. Blackstock, of the Aerothermodynamics Branch, Space Systems Division, was recognized for his outstanding contribution toward upgrading the high-pressure air supply system for the Continuous Flow Hypersonic Tunnel (CFHT).

For years, the CFHT has been one of the premier hypersonic test facilities in the United States. It represents Langley’s only large scale, Mach 10, aerothermodynamic test capability. It played an important role in the Shuttle program and will play a key role in developing low cost advanced space transportation vehicles.

Blackstock’s suggestion enables the CFHT to use its intermittent, short-duration flow blow-down test capability rather than operating in the longer duration, continuous flow mode. The energy savings in the first year after incorporating his suggestion are estimated at $30,000. Blackstock’s innovativeness, initiative, and sound engineering judgment enabled him to achieve a significant economy in the use of energy without compromising the research capability of the CFHT.

Wind tunnels consume over one-third of the electrical energy purchased at Langley. By reducing our energy consumption, we save money and conserve vital national resources.

An Energy Savings Committee has been established at Langley to assist in the administration and promotion of energy suggestions as part of the Incentive Awards Program. As an incentive, additional emphasis is being placed on monetary awards for Energy Savings Proposals (ESP). If you have an ESP, contact the Awards Office, ext. 2214. They will provide you with an ESP form and will assist you in submitting your idea.
Small Businesses Supported by Langley

President Carter recently proclaimed the week of April 30-May 6 as Small Business Week. Of the 14 million businesses in the United States, more than 13 million of them are small, including some three million farms. Together they provide employment for over half the business labor force and account for more than 48 percent of the gross business product.

At Langley, small businesses are strongly supported. In 1977, small firms were awarded approximately $36 million in contracts. Joseph F. Braig, Small and Minority Business Staff Specialist, Procurement Division, said “At the midpoint of fiscal year 1978, approximately $31 million in contracts has gone to small firms.” The goal for fiscal 1978 is $42 million.

Under these contracts, small firms provide services such as security guards, transportation, research and development, base maintenance and warehousing.

On Saturday, April 29, Braig participated as a panelist in a Small Business and Minority Contracting Seminar. Frank V. Moore, Chief, Procurement Division, was Seminar Coordinator. Held at the Hampton Coliseum, the seminar was sponsored by Congressman Paul Trible, the Peninsula Chamber of Commerce and the Hampton Chapter, National Contract Management Association. Representatives from about 500 firms attended.

GWU Summer Registration Held May 15

The George Washington University at NASA Langley will conduct Summer Semester 1978 Registration on Monday, May 15, 1978, from 9 a.m. to 12 noon, in Building 1220, Room 127A. The following course will be offered: EngS 283—Application of Computer Graphics in Engineering.

Students must register, if necessary, for thesis research, continuous registration and graduation at this time. A student must be registered in a course in which he plans to graduate.

Any questions concerning the Summer Semester 1978, should be directed to the GWU-NASA Office at 3020 or 2219.

Viking Art Exhibit Open

A Viking Art Exhibit will be held at the Visitor Center for the next few weeks. About eight paintings are on display in the lobby.

Jim Butcher, of Bel Air, Maryland, was commissioned by NASA Headquarters to record on canvas the Viking Mission to Mars. The Viking Project, managed by Langley, successfully landed two automated spacecraft on the red planet in the summer of 1976.

Butcher is a free lance commercial illustrator. During the Viet Nam war, he was a combat artist for the Marine Corps.

Syvertson Named Ames Director

Clarence A. Syvertson, Deputy Director of the Ames Research Center, was named Ames Director, effective April 30. He has been Acting Director since the resignation of Dr. Hans Mark in August 1977.

Syvertson began his career in 1948 with NACA as a research scientist and assistant branch chief at Ames. He was Ames Director for Aeronautics from 1966 until he was appointed Deputy Director in 1969.

He received the NASA Exceptional Service Medal in 1971 and was named an AIAA Fellow in 1976. Earlier awards include the AIAA’s Lawrence Sperry Award and the Space Act Invention Award (shared with three others).

Syvertson earned his bachelor of science degree in aeronautical engineering from the University of Minnesota in 1946 and his master of science degree there in 1948. He graduated from the Advanced Management Program of Harvard Business School in 1977.
Friedman Discusses Our Economic System

Dr. Milton Friedman, 1976 Nobel Laureate in Economics, spoke on "An Example of System Dynamics in Economics" at the Langley Colloquium lecture on May 1. That evening, he spoke at the Hampton Coliseum on "Equality and Freedom in the Free Enterprise System." His evening lecture, sponsored by Langley and the College of William and Mary, was part of the free public lecture series, "Our Future in the Cosmos."

In his lecture to Langley employees, Friedman began with the year 1960 and showed that inflation and unemployment have oscillated about a rising trend since then. However, these two variables have been 180 degrees out of phase. He attributed the oscillations to the oscillations in the rate of new money supply as controlled by the Federal Reserve System.

In this country, unemployment levels have been treated as being responses to demand and inflation. Because of differential system lags, unemployment is out of phase with inflation. Friedman's explanation for the constant rising trend was that "with each cycle, a higher inflation and/or higher unemployment is required for the Federal Reserve to respond."

Friedman believes that each response simply perpetuates the cycling. His remedy for no inflation and low unemployment is to have less government spending and to reduce the rate of new money from its present level and then keep it constant.

Friedman's professional fame arises from his eight-point theory of monetary dynamics. His popular fame is for his ability to discuss economic issues at the layman level. He is presently a Senior Research Fellow at the Hoover Institution, Stanford, CA. In addition to his earned PhD from Columbia University, he is the recipient of 11 honorary degrees. He is the author of over 20 major writings, including the books Capitalism and Freedom and There is No Such Thing as a Free Lunch. Dr. Friedman has a regular column in "Newsweek."

Recordings of Dr. Friedman's two lectures are available to NASA-LaRC personnel. The audio recordings are in the NASA Technical Library, and the video recordings are in the Training and Educational Services Branch.

ASNDT Meeting

The American Society for Nondestructive Testing, Hampton Roads Section, will meet on Tuesday, May 9, at Parker's Bar-B-Q, 3110 High St., Portsmouth. Dinner will be at 7 p.m., and at 8 p.m., William H. Lewis, Manager, Nondestructive Testing Technology, Lockheed-Georgia Co., will speak about "Projection of Aircraft Service Failure by Use of NDT." This meeting is also "Charter Member Night." All interested persons please contact J. D. Hart, Phone: Home 877-6844, Office 380-4840; M. E. Clark, Phone: Home 838-0960, Office 380-4840; or Sonny Forest, Phone: 489-2599.

3 Langley Researcher, May 5, 1978
A "Nor'easter" blew into the Tidewater area on Wednesday, April 26, bringing winds up to 50 mph, temperatures in the low 40's, and tons of rain. The ever-sharp Langley photographers, Bob Nye and Fred Jones, braved the elements to get this picture of an uprooted tree near the Langley NCO Club.

The high winds and water left this boat on the rocks near the Langley Yacht Club.

Shuttle Service May Be Discontinued

A survey was made recently to determine costs related to the operation of Langley's taxi and shuttle service. The survey was triggered by the apparent lack of use of the two shuttles. It showed that if the shuttles were used as designed, the taxi service would be greatly relieved and a great deal of money would be saved.

At present, the shuttles are a liability from both an economic and a time standpoint. In an effort to increase usage, a map and schedule will be placed near taxi phones at the entrance to buildings served by the shuttle. If you are near the shuttle route, please remember that one of the shuttles passes you every ten minutes. The maximum time you would have to wait is something less than ten minutes.

It is conceivable, certainly, that you might have to ride a longer period of time in the shuttle than in a taxi. However, in many cases, the shuttle is quicker. Each individual will have to decide for himself according to his individual schedule.

The shuttle route is being modified to go by the cafeteria in both directions of its run and hopefully this would decrease the need to call a taxi to or from the cafeteria. Particularly occupants of Building 1251, 1250, 1209, 1202, 1299 and 1298 should be able to get excellent shuttle transportation to the cafeteria.

This is a "last ditch" effort to make the shuttle pay. If it does not succeed, the shuttle service will be discontinued after 60 days.

Speakers Bureau

On April 18, Cary Spitzer spoke to the IEEE on "Viking, A New View of Mars."

On April 19, Dave Throckmorton spoke to the National Research Club about the Space Shuttle.

On April 22, Ira Abbott spoke about the Tech House to the American Chemical Society.

On April 25, Bill Swain spoke to the Exchange Club of Hampton Roads about the Tech House.

Brain Teaser

In an alley between two tall buildings two ladders are erected. One has its base against one of the buildings with the top leaning against the opposite wall; the second ladder has its base against the opposite building with its top leaning against the first building. One ladder is 30 feet in length, the other is 40 feet long. From the end of the alley, they appear to form an unsymmetrical X whose intersection is 16 feet above the ground. How wide is the alley?

ASM to Meet

The Hampton Roads Chapter, American Society for Metals, will have its installation of officers and ladies night dinner on Friday, May 12, at the Tidewater Dinner Theater, I-64 and Route 13, Lake Wright Motel, Norfolk. Dinner will be at 7 p.m., and at 8:20 p.m. the musical "Carousel" will be presented. All interested persons please contact Al Moberg, Phone: Home 823-3533, Office 380-4820, or Jim Kiss, Phone: Home 851-6837, Office 827-3998.
Happenings

TENNIS CLUB. The LRC Tennis Club’s 1978 membership drive is currently underway. A preseason ladder tournament will be played beginning the week of May 12 and ladder competition will continue throughout the summer. Annual dues for 1978 are $3.00. LRC and contractor personnel desiring membership should send their name, mail stop, office phone, home address and phone, and dues to: Jack Neubauer, M/S 249B, by May 8.

ARTS & CRAFTS. The LAA Arts and Crafts show will be held May 6, from 1 to 6 p.m., in the Activities Center. The show promises a wide range of items including paintings, wood craft, flower arrangements, ceramics, china painting, macrame and many other items suitable for Mothers’ Day gifts.

NEW LAA ACTIVITIES. The LAA has received several suggestions in the last month for bus trips to Washington, DC, for a day’s sightseeing; to New York City to see the Rockettes; and for a dinner-theatre to be held in the Activities Center. If you are interested in having the LAA sponsor these or other activities, contact your LAA delegate.

RETIREES CLUB. A club for former NASA employees is being planned and will be sponsored by the Langley Activities Association. An organizational meeting will be held at the Activities Center (Building 1222) on Tuesday, May 16, at 7:30 p.m. If you plan to attend, send your name to AI Sabol, P.O. Box 143, Williamsburg, VA 23185. For further information, call Sabol on extension 2005 or Betty Farmer on extension 2062.

KARATE CLASS. The NASA-Langley Karate Club has started a new class in Cuong Nhu karate at the Activities Center. Classes are Monday and Thursday at 5:00 p.m. Call R. Booth, 3446, or Ivan Clark, 3661, for more information.

HAPPY HOUR TODAY. Happy Hour will be held today in the Activities Center from 4 to 7 p.m. Free chips and dip will be served.

TIDEWATER DINNER THEATRE. Don’t miss the hilarious play “Don’t Drink the Water” playing at the Tidewater Dinner Theatre through May 14. Discount tickets are available through the Activities Association Office for $10.75.

About 240 secretaries and their supervisors enjoyed breakfast in the Activities Center on April 25 in recognition of National Secretaries Week. Marie D. Tyler, Head of the Secretarial Science Department at Thomas Nelson Community College, was the guest speaker at the breakfast.

Recent Retiree

Richard E. Kuhn, Office of Director for Aeronautics, retired on April 28.

In Memoriam

Olive S. Schmidt, a former Langley Technical Illustrator, died in Hampton General Hospital, on March 19, after a short illness. She worked at Langley intermittently from 1944 to 1971. She is survived by her husband, Ferdinand W. Schmidt, Materials Division.

The musical hit “Carousel” will open on May 15. For further information contact Susan Condra on extension 2183.

SMOKE DETECTORS. Guardian smoke detectors are on sale for $35 in the Activities Association Office, Building 1222.

BINGO. Every Thursday evening the LAA sponsors BINGO. The first game starts at 7:30 a.m. in the Activities Center, Building 1222. Bring your friends and family and get in on the cash prizes.

BUSCH GARDENS & KINGS DOMINION. Discount tickets are on sale for both parks at the Activities Association Office. Both parks will be open daily beginning May 27. For further information and tickets contact Susan Condra on extension 2183.

Question and Answer

Q. In the March issue of the Personnel Newsletter, they were bemoaning the fact that Langley’s “Merit Promotion Program (MPP) still generates employee questions on such items as preselection.” They go on to caution, “When a vacancy occurs, each individual who desires to be considered must make that desire known by properly applying for that vacancy.”

My question concerns those positions that are filled without vacancy announcements. When these unadvertised vacancies occur, how does an individual who desires to be considered make that desire known before the position is filled?

Q. Reference the latest Personnel Newsletter: How come people in the Personnel Division can move around from position to position without benefit of an announced Merit Promotion?

A. Merit Promotion is only one of several ways to fill a vacancy. When a vacancy occurs, management determines which method is best. The so-called ‘unadvertised vacancy’ is in fact a vacancy being filled by methods other than merit promotion; therefore, applications are not solicited.

In reference to the second question, it is not necessary to advertise under merit promotion when the position being filled offers no increased promotion potential to the employee being reassigned and he/she meets the qualification requirements of the new position.
Job Openings

The following Merit Promotion Announcements are currently open:

78-13 - AST, Fluid and Flight Mechanics; Supervisory Aerospace Engineer; GS-861-14 or 15; Subsonic-Transonic Aerodynamics Division; Theoretical Aerodynamics Branch; Closes May 12, 1978; NASA-Wide.

78-14 - Management Assistant (Typing); GS-344-4 or 5; Management Support Division; Administrative Services Branch; Closes May 5, 1978.

78-15 - Secretary (Stenography); GS-318-5 or 6; Office of Director for Systems Engineering and Operations; Closes May 12, 1978.

78-16 - Procurement Agent; GS-1102-5; Procurement Division; Facilities and Materials Contracting Branch; Buying Section; Closes May 12, 1978.

78-17 - Property Utilization Specialist; GS-1104-6 or 7; Management Support Division; Property Management Branch; General Supply and Warehousing Section; Closes May 12, 1978.

78-18 - Visual Information Specialist; GS-1084-6 or 7; Office of Director for Management Operations; Scientific and Technical Information Programs Division; Graphics Branch, Closes May 12, 1978.

78-19 - Resources Management Specialist; GS-301-7 or 9; Projects Management Systems Division; Resources Analysis and Control Office; Closes May 12, 1978.

78-20 - Facilities Engineer; GS-801-9; Plant Engineering Division; Management Systems Branch; Plant Planning and Development Section; Closes May 12, 1978.

GO-78-2 - Supply Clerk, GS-2005-5 or 6; Supply Technician, GS-2005-6; Management Support Division; Property Management Branch; Stock Management Section; Closes May 12, 1978.

Data Management

Conference to be Held

A conference on "Engineering and Scientific Data Management" will be held on May 18 and 19 in the Langley Activities Center (Building 1222). The conference will be jointly sponsored by NASA Langley, the Institute for Computer Applications in Science and Engineering, and the George Washington University.

Data management has achieved maturity in areas such as airline reservations, parts inventory, personnel records and banking transactions. This capability, however, does not appear well-suited for managing the highly dynamic characteristics of data associated with engineering and scientific applications.

There is a pressing need to advance the technology for managing engineering and scientific data by providing a better understanding of its special requirements and by assessing current and future capabilities for its management.

This conference will provide a forum for recent advances in the computer handling of engineering and scientific data. It will also bring together the developers of the data management systems and the engineering and scientific users.

Registration will be held on Thursday, May 18, beginning at 8 a.m. Co-coordinators for the conference are David D. Loendorf, Army Air Mobility R&D Laboratory, and Patricia L. Sawyer, Structures and Dynamics Division.

Retirement Party

Lewis B. Thurston, Jr., who retired from the Materials Division April 14, 1978, will be honored with a retirement party at the Langley Activities Center, Building 1222, on Wednesday, May 24. A cash bar will open at 6 p.m. and dinner will be served at 7 p.m. The cost of the party will be $7 per person, $13 per couple (includes gift). Donations for $1 gift only are acceptable. For reservations send cash or check to William E. Howell, M/S 188A, Ext. 4582, by May 15.
Q&A -
Civil Service Reform

Part III -

Q. What aspect of veterans' preference would remain intact under the new legislation?
A. Disabled veterans and spouses, widows, widowers and mothers of veterans who are entitled to this preference will continue to receive full life-time preference for Federal employment, including higher standing for appointment, protection against selection of a lower-standing nonveteran, and retention in lay-off situations. Most veterans who have recently been discharged from the service will continue to have preference for the first few years after their service while they need assistance in readjusting to civilian life.

Q. Why do we need a change from the present system of managing executive personnel?
A. The present system lacks adequate incentives for performance and unduly restricts managers in assigning senior personnel. Discharge of marginal performers is virtually impossible.

Q. How would the Senior Executive Service make it easier for agency heads to manage their executive personnel resources?
A. The complex and time-consuming processes of having the Civil Service Commission set pay levels and approve qualifications each time a job is filled would be repealed. Instead, the Office of Personnel Management would approve the individual's managerial qualifications only once. The agency head could then assign the individual to any senior position and set the appropriate pay level within a preestablished range. Up to 50 percent of senior executives could receive a performance bonus each year. Unsatisfactory or marginal career managers could be removed without appeal, but would have the right to retire if they are eligible or take a lower level job.

Q. Why are you proposing to establish a merit pay system for managers and supervisors? How will it work?
A. Pay increases for most Federal employees have been viewed as "automatic" or tied to length of service and not necessarily related to level of performance. The new system of incentive pay for supervisors and managers, GS-13, 14 and 15, would award salary increases based on an objective appraisal of performance. Bonuses similar to those given in the private sector would be awarded to top performers in lieu of automatic increases, and would be withheld from those whose performance was marginal.

Q. Would the incentive pay system cost more than the current pay system?
A. No. The salary structure of the incentive pay system would be designed to cost the same as the existing system—the present longevity payments and a portion of the costs of the Key Positions

Cornelius Driver has been selected Acting Head, Advanced Supersonic Technology Office, Aeronautical Systems Division.

Willard W. Anderson has been selected Acting Head, Flight Management Branch, Flight Dynamics and Control Division.

comparability increases being replaced by performance incentive payments. Furthermore, tangible savings can be expected from giving agencies the flexibility to assign executives to those positions where they will make a maximum contribution.

Japanese scientists visited Langley recently to discuss the Japanese program to provide "ground truth" measurements for LRC's Stratospheric Aerosol and Gas Experiment (SAGE) to be launched in late January, 1979. Shown are Professor Matokazu Hiroto of Kyushu University, and Dr. Tadashi Aruga of Japan's Radio Research Laboratory, discussing with Dr. M. Patrick McCormick, SAGE lead scientist, aspects of LRC's 48-inch lidar system. Professor Hiroto is the science point-of-contact for the Japanese SAGE "ground truth" program and is a member of the SAGE Ad Hoc Ground Truth Team. Approximately 30 scientists from at least seven different universities and laboratories are involved in this program. They include Kyushu University, Nagoya University, Radio Research Laboratories, Tohoku University. During SAGE overpasses, they will be providing atmospheric profile data on aerosols, ozone, atmospheric neutral density, NOx's, SO2, ions, H20, and OH. Other than the Japanese membership, the SAGE Ground Truth Team includes scientists from the U.S., Italy, France, Belgium, Germany, Switzerland and the United Kingdom. Mr. L. R. McMaster, science manager for SAGE, also served as host for the visitors.

Langley Researcher, May 5, 1978
Swap and Shop

FOR SALE

Articles
Kodak EL-35 no. 1, 35 mm slide trays, new and never used for $1.50 each or lot of 20 for only $25. Pierpoint, 898-3774.
Sliding glass patio door, 8'x6' 80¢; complete with "swing" screen door, $7.50. Auto wheels, two chrome sports wheels and tires, size 72-inch to adapters to convert to oversize for V&V, $4.50 each, 10 836-1455 after 6 p.m.
Single slant-a-matic zip zap sewing machine in EC; decorative stitches (cams) included. Head $175; Maple hardwood table, $75. Electric toaster in GC, $5. Call 884-4727 after 5 p.m. or extension 2968.
Mattress, Simmons sofa bed, queen size, innernog, brand new, $45. Call 599-4321.
Pool table, 74 model with single piece slate bed, professional quality. Call Woerner, 229-5233.
Sears Coldspot freezer is being sold by the Activities Association. The freezer may be viewed at the Activities Office during normal working hours. Closed bids will be taken through May 15. For further information, contact Billy Holliday on extension 3561 or Susan Condra on extension 2183. Bids should be turned into the Activities Office.

Vehicles
1977 Honda, 750 Four K, extended front end, king commander seat, 1200 miles, Call 887-0851.
1973 Honda, CB175 motorcycle, 175 cc, low mileage, GC, $425 or best offer, includes two helmets. Call Wells, 251-1 or 838-1727.
1971 Pontiac Astre SJ (lux. int.) 4 spd, AC, AM/FM, steel belted radials, sport wheels, low mileage, avg. 26 MPG, EC, $2,500. Call 827-0137 after 5 p.m.
Roastal Riviera Buick GS (1973). All power, 455 cu. in., stereo, rear window defrost, remote mirror, matched tires; reason for selling is that I have one car too many. No price calls--leave your note at 635 Ridgeway Avenue, Hampton, near Hampton General Hospital. The names of two full-time professional mechanics who service this car will be given to you. L. F. Lawson, 1977 Volare station wagon with six cyl. eng., 4-speed overdrive trans., radial tires, PS, PB, limited slip differential for easy handling, AM/FM radio, rear window defroster, light package, other access. Call Don Phillips, 722-6160 for further information.
1976 Buick Skyhawk, V-6., AC, postignition, AM/FM, new steel belted radials, sports wheels, 17,000 miles, EC, $3,750. Call Wyatt, 3421 or 877-8960.

Real Estate
Beachmont area: Beautiful two-story brick and aluminum siding house; quiet cul-de-sac, 4 br, 2½ ba, formal DR, LR, eat-in kitchen, dbl. garage, CA and gas heat, 1,900 sq. ft., assume 6 %3/4% loan or $56,500. Call 874-4688.

Cafeteria Menu

WEAK OF MAY 8

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Steak; Chicken Chow Mein, Snack Bar; Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.
TUESDAY: Bull Island Clam Chowder; Steak Teriyaki; Fried Fish of the Month; Barbecued Ham Steak; Snack Bar; Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.
WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Franks, Cheese & Bacon; Beef Ball Stroganoff, Snack Bar; Hot Italian Sausage Sub; Ham & Turkey; Steak; Onion & Cheese Sub; Bacon, Lettuce & Tomato.
THURSDAY: Chicken & Rice Soup; Roast Beef Au Jus; Braised Chicken Livers; Breaded Veal Cutlet, Snack Bar; Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese.
FRIDAY: Vegetable Soup; Fish Dinner; Pepper Steak; Western Omelette, Snack Bar; Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEAK OF MAY 15

MONDAY: Tomato & Rice Soup; Baked Lasagna; Savory Baked Chicken; Country Style Steak, Snack Bar; Ham & Cheese Club; Egg Salad; Steak; Onion & Cheese Sub; Hot Reuben.
TUESDAY: Manhattan Clam Chowder; Broiled Beef & Vegetables; Fried Fish of the Month; London Broil, Snack Bar NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.
WEDNESDAY: Vegetable Beef Soup; Roast Turkey Dinner; Baked Tuna & Noodle Casserole; Meatloaf, Snack Bar; Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.
THURSDAY: Turkey Noodle Soup; Veal Parmesan; Broiled Beef Liver; BBQ Franks, Snack Bar; Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.
FRIDAY: Cream of Mushroom Soup; Fish Dinner; Beef Pot Pie; Pineapple Chicken, Snack Bar; Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

Langley Runners' Club Event

Back by popular demand will be the 1-mile by 1-mile mixed relay along with three shorter races.

These will take place on Saturday, May 20, starting at 12:00 on the course in front of building 1199. The schedule of events is as follows:

12:00 - mixed relay (one mile each for the man and woman, hand tag)
12:45 - mixed relay (110 yards each for the man and woman, baton exchange)
1:15 - half-mile
1:45 - 100 yard dash

For the mixed relays, either the male or female must be a NASA or contractor employee. For the half-mile and 100 yard dash, all entrants should be either NASA or contractor employee. Members of the Langley Runners' Club who participate in this event can receive achievement ribbons for their improved performance. For more information call Larry Rowell, 2289.
Whitcomb Gives Grierson Lecture

Dr. Richard T. Whitcomb delivered the premier Grierson Memorial Lecture at the National Air and Space Museum in Washington, D.C., last night, May 18. Titled "Toward More Efficient Aircraft," Dr. Whitcomb's lecture concerned aeronautical innovations and improvements that are being applied to present aircraft and future designs. Innovations include Whitcomb's own developments in area ruling, supercritical wings and aircraft winglets.

The Grierson lecture will be an annual event at the Air and Space Museum to honor important developments and people in the field of aeronautics.

Hearth Receives Doctorate Degree

Donald P. Hearth, Langley Director, received the honorary degree of Doctor of Science during commencement exercises at George Washington University, Washington, D.C., on Sunday, May 7.

Guest speaker at graduation ceremonies for the School of Engineering and Applied Science, Hearth discussed "Technology and the Future."

During his address, Hearth said, "There will continue to be a strong tendency to characterize technology as either the savior of society's problems or the villain in the drama of life."

"Technology is not magic," he continued, "but it can help solve some of society's problems." The address included a short history of technology and projections of some of the possibilities and uses of technology in the near future.

Hearth used the motion picture "Star Wars" to make an analogy about technology. "It's not just about good guys and bad guys, but about good technology and bad technology... We want a computer age with room for feelings. We want machines, but not the kind that run us. We want technology, but we want to be in charge of it."

One person was killed in the crash of this Air Force vehicle on Friday, May 5. The accident occurred about 4:30 p.m. near the Activities Center parking lot. Air Force officials are responsible for investigating the accident.
New Travel Regulations Remove Many Annoyances

The Researcher has received several inquiries concerning changed travel regulations which were discussed at the March R&D meeting by Edward A. Howe, Chief of Financial Management Division. Responding to our request, Howe has furnished the following information:

"Langley travelers will be pleased to learn that several requirements which they found to be most annoying are no longer required.

For example, written justifications through channels have been replaced by verbal justification of the traveler when he cannot share a rental vehicle or where a compact car will not meet his needs or when on actual expenses he has unusually high costs for certain items such as food.

Another change is for travelers to the West Coast. Previously, the traveler was required to fly via Chicago or pay the extra cost of direct flight from personal funds. While the Center will still attempt to use this routing, where the traveler objects, he will be permitted to fly the direct route at government cost.

In the past, when travelers wished to deviate from the travel as officially required, they were told that inasmuch as circuitous travel is personal preference they would have to work with the Scheduled Airline Traffic Office (SATO) personnel directly. The only SATO was located in the East area, and if it was necessary for the traveler to pay an additional cost, it became necessary for him to make a trip to the East area. A branch of the SATO has now been located adjacent to the Passenger Transportation Branch, in Building 1195 (West area). In addition, Travel Office now furnishes to that office the official approved travel data on the traveler and then asks that the SATO contact the traveler or the traveler may call or come over to the SATO Branch Office to make his personal arrangements. This office will also take care of all personal travel of family.

Constructive travel computations in connection with driving private vehicles to Washington, DC, on a personal preference basis has also been liberalized when traveler stays overnight. The travel is now based on the time actually used plus mileage up to the total cost of traveling by common carrier. This will also reduce or eliminate charges to annual leave.

Previously, when a traveler was traveling to a high geographic rate area, he had to be placed on an actual expense basis even though it might have been to his advantage to be placed on a per diem basis. NASA Headquarters has now authorized the Center to authorize the per diem basis. However, this action requires the approval of the Director for Management Operations.

A recent decision of the Comptroller General also permits the agency to allow reimbursement for long distance calls to a traveler's family in some instances. The decision states "31 U.S.C. 680a provides that long distance telephone calls must be for transaction of official business and that agency heads or officials designated by them must determine and certify that such calls are in interest of Government before payment is made from appropriated funds. If, after examining facts surrounding long distance tolls on travel vouchers to traveler's family, properly designated officials determine said calls were in interest of Government, General Accounting Office (GAO) will not question such determination."

Mrs. Louise C. Storms, Head, Passenger Transportation Branch, and her staff, all have adopted "Service to the travelers" as their motto, and will do their utmost to be responsive to the traveler's needs."

Robert A. Jewell and Terry L. St.Clair, Materials Division, and John D. W. Barrick, Operations Support Division, received cash awards and certificates for their NASA Tech Brief, "LaRC-160: A New 550°F Polyimide Laminating Resin."

Instrument Showings Scheduled for May 22

There will be two van-type instrument showings/demonstrations on Monday, May 22, in the parking areas of Buildings 1230 (Instrument Research Division) and 1299 (Flight Electronics Division).

Keithly Instruments will demonstrate their latest line of data acquisition systems, instrumentation scanners, electrometers and a broad line of measuring instruments. Their showing hours will be 8 to 11:30 a.m., Building 1230; noon to 4 p.m., Building 1299.

Hewlett-Packard will demonstrate their latest computer/calculator line, as well as peripherals such as plotters, printers, flexible disc and more. These items will be shown in a "data acquisition environment." Their showing hours will be 10 a.m. to 2 p.m., at Building 1230 only.

All interested personnel are invited to attend.

The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115A, telephone 2934.

Editor: Karen Miller
Editorial Assistant: Jean Drummond
Staff Photographer: Bob Nye

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.

2 Langley Researcher, May 19, 1978
Senior Citizens Day

They're not getting older; they're getting better. Senior citizens produced the entertainment portion of their day at Langley.

- Gospel singing
- Inventions, like this retirement chair
- Mexican hat dancing
- Ballroom dancing
- A clarinet recital
- Exotic dancing

- And the 80–85 year-olds receive special recognition
Behind the Scenes

A look at those people and groups who provide support for Langley's projects and research programs. Photos by Bob Nye.

Joel K. Zoeffel, Technology Utilization Specialist, monitors the new technology property rights and inventions clauses of Langley contracts. He handles public inquiries about the Tech House and is responsible for in-house reportable items of new technology.

Technology Utilization Office

Aerospace spinoffs rarely occur automatically. They are an outgrowth of interactions of people—from space technologists and inventors to the ultimate users in industry. To stimulate the secondary use of aerospace technology, NASA established the Technology Utilization (TU) program in 1962.

The TU program has organized its activities on a nationwide basis, with offices at all the NASA field centers. These are augmented by NASA-supported application teams, professionals from a variety of disciplines who go out to the public sector to learn what problems might be solved by applying NASA technology. There are Biomedical, Technology and Manufacturing Applications Teams, Industrial Applications Centers, and a Computer Software Management and Information Center.

Kathy Hillard (right) is a Technology Utilization Assistant and is responsible for monitoring funds for applications projects. She also handles the Tech Brief awards and the secretarial work for the TU Office. Debra Lett (left), a student at the College of Hampton Roads, works part-time in the TU Office under the Work-Study program.

Here at Langley, the TU Office is supported by a Center-wide network of Division Technology Transfer Agents. The agents are responsible for identifying potential secondary applications for the ideas, hardware or systems developed in their respective Divisions. Funding is available for such projects through the TU program. When the technology has been demonstrated and published (usually in the form of a Tech Brief), monetary awards are presented to the innovator.

Continued on page 5

Charles J. Shoemaker is a TU Engineer. He monitors the new technology clause in Langley contracts, coordinates the publishing of Langley Tech Briefs with a contractor and is responsible for the computer program phase of the TU office.

Sheila Long examines a composite material (graphite reinforced epoxy) long leg brace, which was developed at Langley. She is a TU Engineer and is responsible for the biomedical applications programs.

Kathy Hillard (right) is a Technology Utilization Assistant and is responsible for monitoring funds for applications projects. She also handles the Tech Brief awards and the secretarial work for the TU Office. Debra Lett (left), a student at the College of Hampton Roads, works part-time in the TU Office under the Work-Study program.

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Continued on page 5

John Samos (left), is Head of the Technology Utilization and Applications Program Office. In this photo, he shows Les Rose a rechargeable cardiac pacemaker, an example of aerospace technology that has been applied to directly benefit man. Rose is a TU Engineer who handles non-medical applications projects, such as water quality monitoring.
Behind the Scenes Continued

The TU Office staff and your Division Technology Transfer Agent are available to discuss your ideas for adapting NASA-developed technology to solve nonaerospace problems. They will also help formulate your concepts into a TU publication or a potential application project.

The transfer agents are: ACD, M. K. Morin (extension 3160); FED, A. R. Sinclair (3601); IRD, W. B. Jones (3907); TCVPO, E. D. Schult (2377); AESD, F. M. Smith (2861); MATD, J. C. McFail, Jr. (2486); SSD, W. M. Piland (3887); ANRD, K. Margolis (3577); MD, L. A. Teichman (2361); SOD, W. C. Walton, Jr. (3121); ASRD, R. W. Mulac (2961); FD, J. D. Buckely (3131); OSD, C. G. Baab (3131); RFED, R. C. Basford (4541); SED, M. J. Long (4621); and PED, R. E. Johnson (4501).

Thanks

Thank you so much for the concern you showed my wife, Mrs. Carol Fernald, when you donated the 23 units of blood in her name. We received the letter from the blood bank on about March 25. She asked me to write this letter then, but before I could she was back in the hospital and I became too busy! Her fight with cancer ended April 1 when she went home to heaven.

Donald Fernald

Guy Meador would like to express his appreciation for the honors given him by his many friends and co-workers at a retirement luncheon on April 27. "I hope eventually, to express myself personally to each and every one of you. Thanks a million."

David C. Spence thanks all his many friends and co-workers for the lovely gifts and retirement luncheon held for him recently at the Langley NCO Club. In his own words, "It truly was a memorable occasion."

Kerry Pratt thanks all his friends for the "heartwarming retirement party and thoughtful gifts. They are great!"

Mary T. Lemke, Training and Educational Services Branch, and Charles E. Jones, Security Branch, demonstrate how not to celebrate National Secretaries Week.

Brain Teaser Solution

The problem in the last issue of the Researcher was submitted by Bruce Conway, Office of the Director for Electronics. His solution is:

"Let A be the angle the 40' ladder makes with the ground, and let B be a similar angle for the 30' ladder. If w, the width of the alley, is considered to be made up of two parts, a and b, by dropping a plumb (h = 16') from the apparent intersection of the two ladders, then w = a + b.

\[
\cot A = a/16 \quad \text{and} \quad \cot B = b/16
\]

Also,

\[
w = \sqrt{40^2 - w^2} \quad \text{and} \quad \cot B = \frac{w}{\sqrt{30^2 - w^2}}
\]

Again,

\[
w = \frac{\sqrt{1600 - w^2}}{1600} \quad \text{and} \quad \frac{w}{\sqrt{900 - w^2}} = \frac{w}{16}
\]

Simplifying somewhat,

\[
\sqrt{900 \cdot w^2 + \sqrt{1600 \cdot w^2}} = \frac{\sqrt{900 \cdot w^2 - \sqrt{1600 \cdot w^2}}}{16} = 0
\]

Probably the quickest way to effect a solution is through iteration of w on a calculator." After 10 trials, Bruce got an answer of 11.903' for the width of the alley.

Others who got the correct answer were: I. S. Raju, Materials Division; Edward Ganger, Wyle Labs; Doyle Swofford, Systems Engineering Division; Tom Finley, Instrument Research Division; Al Wenzel, ICASE; John Duberg, Associate Director; Wayne Erickson, Senior Scientist; Olaf Storaasli, Structures and Dynamics Division.

Bruce Holmes, Flight Research Division, worked the problem graphically and came close with an answer of 12 feet.
LFCU Opens Riverdale Office

The Langley Federal Credit Union opened a new office complex at the Riverdale Shopping Center on May 15. Located at 1120 West Mercury Boulevard, it contains the Main Office functions of management, administration, comptroller, student/real estate loans, and marketing and accounts control.

The hours of operation for the NASA and Air Force Branches remain unchanged, 8:30 a.m. to 3:30 p.m. Hours for the Riverdale Branch will be 9:30 to 4:30 Monday—Thursday, 9:30—6:00 Friday and 9:00 to 1:00 Saturday.

All members and their families are invited to attend the “Grand Opening” of the Riverdale complex on June 10, 1978, from 9:00 to 3:00. There will be favors for all and some special prizes.

LAA Travel Update

There are two cruises sailing from Norfolk during the remainder of this year to Bermuda September 20 for 6 days and to San Juan, St. Croix, St. Thomas with a fly-back from Nassau (four ports-of-call) December 16 for 7 days. Substantial group discounts are available on either.

Charters include a departure from Patrick Henry International Airport for Las Vegas, September 14, for four days, with a choice of accommodations in five hotels, priced from $269 per person; or, from Norfolk October 1 for five days priced from $289.

Fifty spaces have been reserved by United Airlines for LAA on a departure from Patrick Henry International Airport to Hawaii on October 10 for a stay of eight days and eight nights with a choice of hotels—Napualani, $459, Princess (Sheraton) $489, Holiday Inn, $529, or the Sheraton Waikiki, $549.

Call the LAA Office, 2183, or Ernie Greene, 2312 (Home 838-0567) or Herb Boulter, 3234 (Home 838-4773) for reservation forms or particulars.

Running Meet Results

Langley finished seventh (38 points) in the two-mile event and sixth (39 points) in the four-mile event among the nine centers who competed. Ames (97 points) and JPL (90 points) placed first and second in the two-mile, while in the four-mile there was a tie for first between Ames and Johnson (86 points each).

The following Langley runners placed in the top ten in their age groups and, thus, earned points for placing: Bob Cushing (2nd in both events), John Hoppe (tied for first in 4-mile, 3rd in 2-mile), Al Graham (4th in both events), Al Wenzel (5th in both events), Linda Rowell (8th in 4-mile), Lucy Parks (9th in 4-mile), Phil Dillard (9th in 2-mile), and Judy Watson (9th in 2-mile).

Everyone who ran helped earn the participation points collected, and all participants will receive their ribbons by mail. An even larger turnout will be needed in October when Langley sponsors the Sixth Intercenter Meet.

For those who would like to begin training this month, on Saturday, May 20, there will be four short races for fun—no categories, no ribbons (except Runners’ Club members who reach new levels). Open to all NASA and contractor employees will be a half-mile and a 100-yard dash (1:15, 1:45, respectively). Open to male/female couples will be two mixed relays (2 X 1 mile at 12:00, 2 X 110 yards at 12:45), and at least one member of each team must be a NASA or contractor employee. Races will take place in front of the Activities Center except for the 2 X 1 mile relay which begins in front of Building 1199. No pre-registration is necessary.

For information, call Larry Rowell, 2289.

NASTRAN Luncheon

The Langley NASTRAN computer program maintenance activity is being completed. All employees associated with the NASTRAN maintenance over the past eight years, along with all members and former members of the NASTRAN office, will get together for a memorial luncheon “wake” on May 25, 1978. The meal will be Dutch-treat at the Family Fish House Restaurant at 12:15 p.m. Please notify Deene Weidman or Barbara Burbank, 2551, by the end of May 24 if you plan to attend or need transportation.
Happenings

LRC TENNIS CLUB. The Men's Singles Ladder Tournament was played last week. Dennis Bartlett, Charles Bryant, Jerry Creedon, and Alan Wilhite are semi-finalists. The Women's Singles Ladder Tournament will start Saturday, May 20, at 8:00 a.m. at the LRC courts. Late entries will be accepted at the courts. A new no-elimination format will be followed. The Men's Doubles Ladder Tournament will be postponed to June 3–4. Anyone desiring membership information please call Jack Neubauer at ext. 4576 or 599-5425.

YOGA FOR BEGINNERS. The first class for Yoga will be held on May 23, 1978, at 7 p.m. at the Activities Center, Building 1222; please bring a towel. If you need further information please contact Octavia Judge at ext. 2717.

ECVP MEETING. The Annual Spring Meeting of the Engineers Club of the Virginia Peninsula will be held Wednesday, May 24, at the Newport News Shipbuilding General Office Building (Bldg. 520, 6th floor). Cocktails will be served from 6:15 - 7 p.m., compliments of ECVP. The buffet dinner will be served at 7 - 8 p.m. ($7 per person). The program will be at 8 p.m. and will feature outstanding science/math students from each of the Peninsula high schools. Dinner reservations must be called in to Charles Newell, 380-2362 or 596-4566, by May 22.

AFGE MEETING. The regular monthly meeting of AFGE Local 2755 will be held on Tuesday, May 23, at 7:30 p.m., in the Activities Center, Building 1222.

REGISTERED SKEET SHOOT. The Langley Gun Club will host a 12 gauge/410 bore registered, closed club shoot on Sunday, May 21, 1978. The shoot will be open only to Club members and associate members. Competition shooting will begin at 9:00 and registration will close at 1:30. Club memberships/associate memberships are available and can be made on the day of the shoot. For further information contact Alan Anderson at 838-6955 or 764-2404.

HAM SHOOT. The Langley Gun Club will host a ham shoot on Sunday, May 21, 1978. Sixteen hams will be awarded as prizes. The shoot will be at the club's rifle range beginning at 12:30. Planned events are a "Lucky 22" and a "Pie Plate" shoot. Contestants may enter each event as often as desired. The entry fee for each event is $1. You need NOT be a Gun Club member to participate. Club guns will be available or shooters may use their own guns. For additional information contact Thom Jennings at 764-3769.

DANCING LESSONS. If you are interested in ballroom/disco dancing lessons at the Activities Center ($30 for 8 weeks instruction), send your name, mailing address and telephone number to Mail Stop 115.

KARATE CLASS. The NASA-Langley Karate Club has started a new class in Cuong-Nhu karate at the Activities Center. Classes are Monday and Thursday at 7:00 p.m. Call R. Booth, 3446, or Ivan Clark, 3681, for information.

Job Openings

The following Merit Promotion Announcements are currently open:

78-21 – Clerk-Stenographer; GS-312-4 or 5; Plant Engineering Division; Construction Engineering Branch; Closes May 31, 1978.
78-22 – Aerospace Technologist; (Flight Vehicle Acoustics); GS-861-9; Acoustics and Noise Reduction Division; Noise Technology Branch; Closes May 31, 1978.

Recent Retiree

Ira W. Ramsey, Jr., Systems Engineering Division, retired on May 10.

Retirement Parties

Helen B. Mulcahy, Technical Editor of the Technical Editing Branch, STIPD, will be honored with a retirement party at the Activities Center, Building 1222, on Wednesday, June 7, at 4:45 p.m. There will be a cash bar and an hors d’oeuvre buffet. The cost of the party will be $5 per person (includes gift). Donations for $1 gift only are welcome. Please send your reservations and/or contributions to Betty Hughes, M/S 180A, ext. 2691, by May 31.

F. Edward McLean, who retired from the Aeronautical Systems Division May 19, 1978, will be honored with a retirement party at the Activities Center, Building 1222, on Wednesday, June 14. A cash bar will open at 6:30 p.m. and dinner will be served at 7:30 p.m. The cost of the party will be $7.50 including gift. Donations of $1 per person for gift are acceptable. For reservations, please call Roy F. Brissenden, M/S 249A, ext. 3838, by June 5.

Dr. Guenther Reitz, Professor Horst Bucker, and Dr. Gerda Horneck, investigators for the German Biostack experiment, which is being developed for LDEF, recently visited Langley to discuss experiment design requirements. The Biostack experiment will investigate the effect of cosmic radiation on biological specimens by placing spores, eggs, and seeds between radiation and track detectors. Of special interest are the effects of individual very heavy ions (HZE-particles) and disintegration stars. The experiment will assist in the establishment of radiation protection guidelines for man in future space flights. (In comparison to the Apollo lunar mission data obtained to date, the LDEF mission will provide a data increase of approximately 300 percent.) Professor Bucker has conducted Biostack experiments on previous Apollo missions. He will assemble a group of international co-investigators to participate in the LDEF Biostack experiment.
Swap and Shop

FOR SALE

Articles

Early American hide-a-bed sofa, 73" long, structurally sound but needs new fabric, $50. Call Zaeppeli, 826-9286.

Wall hanging (or rug): two hand hooked 2½x2 ft. size; red and white starburst design on blue background or yellow, blue, brown, $30 (new). Call 838-1576.

Electric Sunbeam 2-slice toaster, EC, $5. Call 898-4727 after 5 p.m.


Shoe Skates, rink size—5, $5. Call 723-0004.

Vehicles

1975 Mercury Marquis Sedan, EC, $2,750. Call Fripp, 3661.

Owens Express Cruiser (22 ft. 9 in.), wood covered with fiberglass, fresh water cooled Chevy 283 engine. Price—will negotiate. Call Press 826-0038 after 5 p.m.

1972 Kingswood Chev. 9 passenger wv, PS, PB, AC, AM-FM, like new radial, $1100. Call 826-0619 or 838-6418.

1976 Honda Gold Wing motorcycle, luggage rack, garage-kept, immaculate condition, $1,950. Call ext: 2354.

1975 Mercury Montego MX Brougham, 4D "H"Top, V8, AC, PB, PS, steel belted radial, radio, vinyl top, 44,000 miles, EC. Call K. Haggard, 2537 or 851-0214.

Real Estate

Lots, Veterans Memorial Garden: Two lots in choice locations, with below ground crypts, selling below market price for quick sale. Call 826-0619 or 838-6418.

Lot, Windsor Forest, Williamsburg Area: .70 acre wooded lot, Sheffield Drive, city water and sewage hookup included, $16,800. Call 838-5311.

Lot, Queens Lake: Approx. 3/4 acre wooded corner lot, Almondale Pl., 218 by 150 ft. Call 838-5311.

WYTHE—Great view of Hampton Roads water. Brick & Alum Cape Code, Garage with attached enclosed patio with upper sun deck, LR with fp, DR, den, 3 BR, 2 BA. Kitchen with built-in stove and DW. Storm windows, tool shed and lovely shrubs. $42,500. Call 826-1560.


FOR RENT

Sandbridge: New cottage with living-kit-din-area, 4 br, washer, dryer, dishwasher, fp, ½ block from ocean and Backbay (fresh water), AC, electric heat, telephone, 4-car parking, summer rate $250/wk; winter rate, $300/mo. Call Kent, 420-8391 after 5 p.m. Weekends 426-6764, extension 3095.

FOR SALE

Vacation cottage on Hatteras Island, N.C. Call Fripp 3661.

WANTED

Wheels for Jeep, Ford, Dodge truck or Scout, 5 lugs on 5½ in., dia. bolt circle, 4½ in. dia. hub hole, 5 to 6 inches wide, for 15 in. tires. Call 826-2105.

Car pool to West Area on 8 a.m. shift, from Todds Lane-Macon Rd. vicinity. Call A. Todds, 2537 or 838-5311.

Recent Retirees

William C. Johnson, Jr., Scientific and Technical Information Programs Division, retired on May 5.

Juanita C. Haskins, Management Support Division, retired on May 5.

MONDAY:

WEEK OF MAY 22

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner Smothered with Onions; Chicken Chow Mein over Noodles. Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato; Quarter Pound Hot Dog.

TUESDAY: Beef Island Clam Chowder; Fried Filet of Trout; Barbecued Ham Steak; Country Style Steak, Snack Bar: Hot Reuben Sandwich; BBQ Pork; NASA Sub; Roast Beef & American Cheese; Quarter Pound Hot Dog.

WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner: Franks, Cheese & Bacon; Beef Balls Stroganoff over Noodles, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato; Quarter Pound Hot Dog.

THURSDAY: Chicken & Rice Soup; Roast Beef Au Jus; Braised Chicken Livers w/Onions; Breaded Veal Cutlet, Snack Bar: Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese; Quarter Pound Hot Dog.

FRIDAY: Vegetable Soup; Fish Dinner: Pepper Steak; Western Omelette; Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club; Quarter Pound Hot Dog.

WEEK OF MAY 29

MONDAY: HOLIDAY

TUESDAY: Manhattan Clam Chowder; Braised Beef & Vegetables; Fried Filet of Trout; Savory Baked Chicken. Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese; Quarter Pound Hot Dog.

WEDNESDAY: Vegetable Beef Soup, Roast Turkey Dinner; Baked Tuna & Noodle Casserole; Meat Loaf with Tomato Sauce; Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato; Quarter Pound Hot Dog.

THURSDAY: Turkey Noodle Soup; Veal Parmesan; Baked Beef Liver with Onions; BBQ Franks over Rice, Snack Bar; Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese; Quarter Pound Hot Dog.

FRIDAY: Cream of Mushroom Soup; Fish Dinner; Beef Pot Pie; Pineapple Chicken, Snack Bar; Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork; Quarter Pound Hot Dog.
The annual Patent Awards luncheon, held on May 18, honored thirty-three Langley inventors and recognized the Langley contribution to NASA's patent program in 1977.

Awards were presented by Dr. Donald P. Hearth, Director, and Dr. Howard J. Osborn, Patent Counsel. Frederick J. Lees, Chairman of the NASA Inventions and Contributions Board, was the guest speaker.

Dr. Clarence D. Cone, Jr., was honored as the 1977 NASA Inventor of the Year. Dr. Cone is now with the Veterans Administration in Hampton and his invention concerned a process for controlling cell division.

Others who received awards are: Joseph G. Thibodaux, Jr., for a method of making a solid propellant rocket motor; Wayne S. Slemp, for a particulate and solar radiation stable coating for spacecraft; Dr. Judd R. Wilkins, for a method of detecting the presence of microorganisms;

Harry V. Fuller, for a binocular device for displaying numerical information in a field of view; Vernon L. Alley and Austin D. McHatton, for an amplifying ribbon extensometer; Wilford E. Sivertson, Jr., for a method of locating people in distress; Daniel I. Sebacher and Alexander P. Sabol, for a solar hydrogen generator;

Dr. Robert C. Costen, for a vortex generator for controlling the dispersion of effluents in a flowing liquid; Theodore R. Creel, Jr., and Robert A. Jones, for an apparatus for determining thermophysical properties of test specimens; Dr. Judd R. Wilkins and Stacey M. Mills, for an automated single-slide staining device;

Mark R. Nichols, for a dual cycle aircraft turbine engine; Marvin D. Rhodes and Dr. Martin M. Mikulas, Jr., for a composite sandwich lattice structure; Oran W. Nicks, for an aircraft total energy sensor; Dr. Joseph S. Heyman,

Continued on page 4.
WHAT IS IT? Can you guess where this picture was taken? Turn to page 8 for the answer.

**Bond Drive Ends With 85.7 % Participation**

The 1978 Savings Bond Campaign ended Friday, May 5, with 85.7 percent of Langley employees participating. Twenty organizations reached 100 percent participation and sixteen obtained between 90 and 99 percent participation.

Tom Pinelli, Campaign Chairman, extends his personal thanks to each campaign canvasser; to Joyce Fly, Payroll Office; to the Langley Activities Association; to Todd Fraser, Jr., and the Graphics Branch, STIPD; to Cecil Burtner and the Models Coating Unit, FD; and to all the individuals who worked to make the 1978 campaign a success.

The rate of participation by organization is as follows:

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<th>Organization</th>
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Continued on page 5.

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Values Film to be Shown

The film entitled “What You Are Is Where You Were When...” will be shown in the Langley Activities Center (Building 1222) on Tuesday, June 6, at 7:30 p.m. The film, which is about value programming, features Dr. Morris E. Massey, Associate Dean of the College of Business at the University of Colorado. It will last about 2 hours.

Tickets are free and may be secured from Ms. Sue Land in the Training and Educational Services Branch, Ext. 2611, Building 1195-X, Room 144. Retired persons who wish to view this film may call her at 827-2611 and request that tickets be left at the Activities Center in their name.

If you have any questions concerning this film, call Eloise McGehee at 2611.

Swen G. Anderson, Fabrication Division, was presented a cash award and certificate for his Tech Brief, “Fuel Injector for Jet Stirred Combustors.”
Speakers Bureau

On May 9, Joel Levine spoke at the Peninsula Nature and Science Center on "The Evolution of the Atmospheres of Earth and Mars."

On May 11, Jim Williams spoke at Louisa Junior High School about aeronautics.

On May 20, Christine Darden spoke to the Portsmouth Alumnae Chapter, Delta Sigma Theta, on "New Horizons for Today's Woman."

On May 22, Sheila Long spoke at the Hampton Institute Center for the Study of the Mature Adult on "Space Food for the Elderly."

On May 23, Les Rose spoke to the Newport News Rotary Club about the Tech House.

On May 25, Jim Norris spoke (through an interpreter) to the deaf children's class at South Morrison Elementary School about "Kinds of Work at NASA." On the same day, Fred Gregory spoke to the Physics Club of Richmond about the Space Shuttle.

Employee Store to Open Soon

The NASA Langley Exchange will open a Gift Shop/Convenience Store in mid June in the Cafeteria Building. The store will be in room 142 on the west side of the building near the tray-slide exit. There is a separate entrance to this facility. The store is being opened to benefit Center employees with low markup convenience and gift items. Items stocked will depend in large part on employee requirements and suggestions. Hours of operation will be during the Center's scheduled lunch period. Students from a local high school will staff the store. The Exchange Council urges employees to come in, look around, suggest things we may stock, and even make an occasional purchase. If the store proves successful over a trial period of about 6 months, it will become an added Exchange benefit for all of us.

ASNDT Meeting

The American Society for Nondestructive Testing, Hampton Roads Section, will have its installation of officers and ladies' night dinner Saturday June 10 at the Planters Club, Bennetts Creek, Driver. Dinner will be at 7 p.m., and the "Satisfactions" will play at 9 p.m. All interested persons please contact J. D. Hart, home: 877-6844, office: 380-4840; M. E. Clark, home: 838-0960, office: 380-4840; or Sonny Forrest, 489-2599.

Robert S. Rogowski, Atmospheric Environmental Sciences Division, and Edmund J. Conway, Space Systems Division, were recently presented checks and certificates for their NASA Tech Brief, "Simplified Ozone Detection by Chemiluminescence."

3 Langley Researcher, June 2, 1978
Seniors Appreciate NASA Program

Letters of appreciation for Senior Citizens Day are still coming in. Here's a sampling of some of the letters:

Dr. Clarence Cone, the NASA Inventor of the Year for 1977, and Al Sabol, Langley's most prolific inventor.

Inventors Honored

Continued from page 1.

Jr., for a continuous wave ultrasonic bolt tensioning monitor; Ronald N. Jensen, for a solar heating system;

Dr. Robert S. Rogowski and Dr. Edward R. Long, Jr., for a thermoluminescent aerosol analysis; Lloyd S. Keafer, Jr., Ernest E. Burcher and Leonard P. Kopia, for a transmitting and reflecting diffuser; Dr. Reginald J. Exton, for a TV fatigue crack monitoring system;

David B. Rhodes, for an optical scanner; Renaldo V. Jenkins and Alexander P. Sabol, for a rotary engine; George M. Dudley, for a mono-page paper distributor; Donald J. Progar, Dr. Vernon L. Bell, Jr., and Dr. Terry L. St. Clair, for polyimide adhesives; and George E. Dickerson, for a composite lamination method.
## Bond Standings

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LRC Tennis Club News

Charlie Bryant defeated Dennis Bartlett in the Men’s Championship Singles Ladder Tournament, 6–4, 6–1.

The Women’s Singles Ladder Tournament is off to a rousing start. First round wins were posted by Diane Zuckerwar, Helen Reed, Becky Lovelace, Dariane Stevens, Joanne Re, Margaret Sobieski, Loretta Pincus, Angela Harvey, and Jeanene McKissick. Seeded players Pat McDougal, Judy Spain, Pat Murray, Carol Smith, Jackie Findlay, Betty Hughes drew first round byes.

The Men’s Doubles Ladder Tournament starts tomorrow, June 3, and continues through Sunday, June 4.

The Senior Men’s Singles Tournament (45 and over) is scheduled for June 10–12. Entries should be sent to Howard Edwards, M/S 235 before June 7, 1978.

Telephone Directory Call Notice

This call notice is to remind all offices that any changes in the Organizational Listing or the Service Directory Listing for inclusion in the July 1978 issue are due at M/S 123 by June 7, 1978.

Furnishing accurate information for the Alphabetical Personnel Section of the Directory is the responsibility of each individual employee. Langley Form 133 entitled, “NIPPS—Telephone Directory Transcript,” (Change Notice) is provided in the back of the Langley Telephone Directory for reporting change in mail stop, building number, room number, and telephone number. These changes must be submitted no later than June 14, 1978, for inclusion in the July issue.

Brain Teaser

Find a number X, such that (X^2 + 5) equals a perfect square, (X^2 - 5) equals a perfect square, and of course X^2 equals a perfect square.

Send your answer to the Researcher, Mail Stop 115A. The correct answer will be in the next issue.

"Lines Written in Early Spring"

PERSONNEL PROFILES

By Allan C. Hanrahan

Although these words are written in the early spring, this time of the year holds no particular significance in the life of our guest.

It is not the anniversary of his birth; that occurred December 19, 1940 in Halifax County. It is not the anniversary of his coming to the Center; that took place in the early Autumn of 1962 when he entered the NASA Apprentice School. It is not the anniversary of his marriage to the former Jeanne D. Coleman; their wedding transpired on September 28, 1963.

Oh, if we searched long enough we could discover that late March, April, or even May was the time of a noteworthy occurrence in his life, but these words are not written to call attention to an event. Rather, they are for the purpose of calling attention to an interesting individual, John C. Covington, Employee Development Specialist in the Training and Educational Services Branch of the Personnel Division. He transferred to this position by way of a Merit Promotion in 1973. He is presently the Engineering Technician (Apprentices) Training Coordinator and Technical Co-op Coordinator.

Covington’s early childhood was spent on a farm in Halifax County and his early education was in a two-room schoolhouse: grades one-to-three were in one room and grades four-to-six were in the other. He completed the fourth grade before his family moved to Newport News, where he graduated from Warwick High School in 1959.

High School was followed by service in the Navy, which included a tour of duty as a Yeoman aboard the Carrier Forrestal. Medically released from the Navy in 1961, John worked for a spell as an Electrician in the Shipyard before entering the NASA Apprentice School. He graduated as an Electronics Technician in the Fabrication Division in 1966. That training was followed in 1974 by an Associate of Arts degree in Business Management conferred by Thomas Nelson Community College.

As this is written, it is noticed that camellias are in bloom, and it is recalled that John “likes to putter with flowers, and is especially fond of camellias.” we were informed.

It was added that John “enjoys home improvement projects, making Christmas decorations, (and) most any craft.”

Genealogy is another of his long-time interests, to the extent that he has taken at least one course (maybe more) on the subject, and has traveled on occasion in pursuit of ancestral information. In addition, as with so many other people involved in the subject, his interest was not generated by “Roots.”

John and his wife, Jeanne, are members of the Deer Park Baptist Church where John has aided in teaching capacities and has served on the Social and Counting Committees. Jeanne worked in past years as an Accountant in the Fiscal Division.

He and Jeanne have two children: Deena, going-on-ten years of age; and Chris, age six.

As you may have noticed, no quotes have been attributed to John. That is because this piece was written without his knowledge, and all information was garnered from family and friends.

Because we began this “Profile” with a line from the poet, Wordsworth, it seems appropriate that we end it with the same, and thus we have attempted to write “... On that best portion of a good man’s life, ...”
**Happenings**

**NASA SOUVENIR SALE.** A special sale of NASA souvenir items will be held on June 7 for Langley and contractor employees. Discounts up to 40% will be offered. The sale will be held in the cafeteria (Bldg. 1213) from 10:45 a.m. to 1 p.m.

**RETIREES CLUB.** Former NASA-NACA retirees held their first meeting May 16. John Thomson was appointed temporary chairman and a committee was selected to canvass retirees as to the desired activities for the club. The next meeting will be on Tuesday, June 20, at 7:30 p.m. at the Activities Center to elect permanent officers. James W. Norris, Jr., of the Staffing and Special Programs Branch will be the speaker. Retirees and their spouses, as well as those planning to retire soon, are encouraged to attend.

**HISTORICAL AND ARCHEOLOGICAL SOCIETY.** The Langley Historical and Archeological Society quarterly business meeting and program will be June 5, 1978, at the Langley Visitor Center at 7:30 p.m. The program, entitled "Richneck Plantation: Excavations at the Miles Cary Home Site," will be presented by Carter Hudgins, Staff Archeologist with the Virginia Research Center for Archaeology, who directed the excavations. The business meeting will include the election of officers for the 1978-79 year.

**SUMMER BAND CONCERT.** The Tactical Air Command Band’s Wind Ensemble will hold a concert on the Activities Center grounds on June 13, from 7 to 8 p.m. Everyone is invited to attend. There will be musical selections for the entire family.

**Retirement Party**

Harry L. and Madeline Smith, who are retiring from SSORO and MATD, respectively, on June 23, 1978, will be honored with a retirement party at the Langley Officers’ Club, on Wednesday, June 21. A cash bar will open at 6:00 p.m. and dinner will be served at 7:00 p.m. The cost of the party will be $7.50 per person or $14.00 per couple (includes gift). Donations of $1.00 for gift only are acceptable. For reservations, send cash or check to James N. Chacamaty, M/S 268, ext. 2528 by June 13, 1978.

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The Ayres Thrush S2R-800, one of the largest agricultural aircraft, is undergoing tests in the Full-Scale Tunnel. This airplane has 800 horsepower and can carry 400 gallons of liquid.

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Professor A. Thompson, Dublin Institute for Advanced Studies (DIAS), Ireland; Dr. K. P. Wenzel, European Space Agency, The Netherlands; and Professor D. O’Sullivan (DIAS), Ireland, recently visited the LDEF Project Office to participate in a design review of their Cosmic Ray Nuclei experiment. The experiment will investigate the charge and energy spectra of cosmic ray nuclei using stacks of Lexan polycarbonate detectors housed in pressurized aluminum containers which are placed in LDEF trays. LDEF exposure of the detectors will increase the world sample of ultra heavy cosmic ray nuclei by at least an order of magnitude. The data will yield astrophysically important information concerning nucleosynthesis in source regions. The discovery of either super heavy nuclei or heavy antinuclei would be of fundamental significance to both nuclear physics and astrophysics.
FOR SALE

Articles
Hang Glider, Falcon 5, new, never flown, bag, and all parts, $800. Call 955-0184.
1977 Evinrude 9.9 HP outboard motor, electric start, alternator for battery charging, long shaft, remote controls, has been used only a few hours, runs well, like new. $1200, replacement—$800. Call 898-6421.
Hammond "cadette" organ, double keyboard, bass pedals, reverb, tremelo, GC $200. Call 838-4227.

Kitchen cabinets, sink, GE drop-in range, must be removed in June for remodeling, price negotiable. Call Brooks, 2977, or 898-6517.
French provincial bedroom furniture: twin bed, bass pedals, reverb, tremelo, GC $200. Call 838-4227.

Vehicles
14-foot Sears painted Jon boat, EC, used twice, $150 or best offer. Call Culotta, 3535.
1975 MGB, burgundy with black interior, AM-FM radio, wire wheels, 35,500 miles, GC $3495 or make offer. Call 898-7923.
1968 Corvette, blue, convertible, 327-4 speed, E-T map-wheels, Call 723-9654 after 5 p.m.
Bicycle: Gitane Tour de France, white, frame 23½ in., 331 d.b. tubing, campanoio hubs, mavic rims, elvezia sew-ups, stronglight crank and head set, mafac brakes, simplex seatpost, ideal leather seat, iyotar dual pedias, toeclips, pump, like new, $300. Call 596-3776.
1968 Coachman 15 ft. travel trailer, GC, gas stove, icebox, sink, porta-potty, mirrors, stands, electric brakes, sleeps 6, $895. Call 958-3695.

Real Estate
York County, Maribank (Wormley Creek Dr.): 3 BR, 1 BA, 1048 sq. ft. brick veneer rancher on nearly an acre wooded lot, LR/DR area, kit. and hall pine paneled, utility room, storm windows, electric heat, screened porch, excellent location, in 40's. Call 898-5543.

Photo Answer
The photo shows the turning vanes inside the Unitary Plan Wind Tunnel, downstream from the test section. Bill Salyer is in the background and Virginia Burchett is in the foreground.

Cafeteria Menu

WEAK OF JUNE 5
MONDAY: Old Fashioned Bean Soup; Special Christmas Dinner; Chicken Chop Suey Over Noodles; Country Style Steak; Snack Bar: Quarter Pound Franks; Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.
TUESDAY: Bull Island Clam Chowder; Fried Filet of Trout; Ray Beef Au Jus; Pepper Steak; Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese; Quarter Pound Franks.
WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Barbecued Ham & Ham; Franks, Cheese and Bacon; Snack Bar: Hot Italian Sausage Sub; Ham & Turkey; Steak, Onion & Cheese Sub; Beef, Lettuce & Tomato; Quarter Pound Franks.
THURSDAY: Chicken Rice Soup; Braised Chicken Livers; Beef Balls Stroganoff; Pork Chopettes. Snack Bar: Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese; Quarter Pound Franks.
FRIDAY: Vegetable Soup; Fish Dinner; Stuffed Pepper; Steak, Smothered with Onions. Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club; Quarter Pound Franks.

WEAK OF JUNE 12
MONDAY: Tomato & Rice Soup; Veal Parmesan; Pineapple Chicken; Country Style Steak; Snack Bar: Quarter Pound Franks; Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.
TUESDAY: Manhattan Clam Chowder; Fried Filet of Trout; Braised Beef & Vegetables. Broiled Beef Liver, Snack Bar: Quarter Pound Franks; NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.
WEDNESDAY: Vegetable Beef Soup; Roast Turkey; Meat Loaf with Tomato Sauce; Beef Pot Pie; Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato; Quarter Pound Franks.
THURSDAY: Turkey Noodle Soup; Baked Lasagna; Breaded Veal Cutlet; Baked Tuna & Noodle Casserole. Snack Bar: Quarter Pound Franks; Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.
FRIDAY: Cream of Tomato Soup; Fish Dinner; Savory Baked Chicken; BBQ Franks over Rice. Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork; Quarter Pound Franks.
Certificates of Recognition have been presented to:

Marvin D. Rhodes, Structures and Dynamics Division; and Delwin L. Croom and James C. Patterson, Jr., Subsonic-Transonic Aerodynamics Division.

Not pictured: Oran W. Nicks, Office of the Director; Dr. Judd R. Wilkins, Marine and Applications Technology Division; Donald E. Barthlome, Systems Engineering Division; Lucio Maestrello, Acoustics and Noise Reduction Division; Bobby L. Berrier, High-Speed Aerodynamics Division; Joseph S. Heyman, Instrument Research Division; Martin M. Mikulas, Jr.; Structures and Dynamics Division; Morriss L. Holliday, Fabrication Division; Wilford E. Sivertson, Jr., Atmospheric Environmental Sciences Division; Walt C. Long, Flight Electronics Division; and Nelson W. Jalufka, Frank Hohl, Michael D. Williams, and Russell J. De Young, Space Systems Division.
Special Achievement Awards

Special Achievement Awards have been presented to:

Phillip M. McElveen, Philip H. Glaude, Victor E. Wilson, and Vincent J. Fleck, Jr., Fabrication Division; Gary L. Carl, Mickey R. Gardner, and Howard R. Williams, Jr., Operations Support Division; and Edwin F. Williams, Systems Safety, Quality and Reliability Office.

Not pictured: Nathan R. Johnson, Flight Research Division; Frederick F. Eubank, Fabrication Division; Jerry N. Hefner, Charles D. Trescot, Jr., Carolyn C. Wilt, and L. Robert Jackson, High-Speed Aerodynamics Division; Dr. Perry A. Newman, William D. Grantham, and Sue R. Orr, Subsonic-Transonic Aerodynamics Division; Sandra S. Chaney, Office of Director for Electronics; Louise S. Anderson, Financial Management Division; Ronald L. Baker and Edward J. Roberts, Systems Engineering Division; Michael A. Freed and Gina L. Hargett, Procurement Division; C. Wayne Williams, Scientific Technical Information Programs Division; and Nathaniel R. Spaulding, Research Facilities Engineering Division.
Suggestion Awards

Suggestion Awards were presented to the following employees:


Honorary Suggestion Awards

Honorary Suggestion Awards were presented to:

Not pictured: Randall C. Davis, Structures and Dynamics Division; Frederick J. Hines, Operations Support Division; James W. Youngblood, Space Systems Division; and Charles F. Bryan, Jr., Fabrication Division.
Tech Brief Awards

Tech Brief Awards were presented to:

Austin D. McHatton and Laurence J. Bement, Systems Engineering Division; Gerald L. Gregory and Olin Jarrett, Jr., Marine Applications and Technology Division; and G. Burton Northam, High-Speed Aerodynamics Division.
Langley Simulator Aids in Shuttle Studies

For the past four years, Langley's Space Systems Division (SSD) and Flight Dynamics and Control Division (FDCD) have been analyzing the Space Shuttle Orbiter entry guidance and control system, at the request of the Johnson Space Center. This system controls the Orbiter from deorbit until it comes to a landing, directing both aerodynamic surfaces and a Reaction Control System (RCS). The RCS is composed of small rocket thrusters, such as Apollo spacecraft use. Thus, the control of the Shuttle Orbiter is a hybrid between aircraft and spacecraft.

The entire entry of the Shuttle Orbiter can be directed by onboard computers with no required pilot input (automatic mode). However, if the situation warrants, the pilot can take over any portion of the controls himself. For example, he could manually control the roll of the vehicle while the computer controlled the pitch.

One of the primary tools used to perform this analysis at Langley is the Reentry Flight Dynamics Simulator (RFDS). Located in the Real Time Simulation System area of Building 1268A, this simulator was developed by SSD and the Analysis and Computation Division. The simulator allows for evaluation of the onboard control system, both in the automatic and manual modes. It also aids in the development of alternate control systems that the pilot can activate if the current control system is unable to handle unforeseen situations.

The simulator cockpit is not an accurate representation of the Orbiter cockpit, but it does contain all the instruments and controls necessary to simulate flight. The TV monitors, or cathode ray tubes (CRT's), show the actual displays that will be used onboard. These displays show guidance information which changes automatically as the Orbiter enters different flight regimes. The instrument panel is similar to that found on modern aircraft. Included are an artificial horizon indicator, altimeters, a rate of climb or descent meter, an airspeed indicator, and Orbiter attitude indicators. Lights have also been provided to show when any portion of the Reaction Control System is activated.

Push buttons and toggle switches allow for pilot takeover of any of the control functions. Controls available include speed brake and body flap, rudder pedals, and a side arm controller to give roll and pitch commands.

Continued on page 2
Frosch Speaks to Employees

Dr. Robert A. Frosch, NASA Administrator, thinks Langley will continue to have an important role in aeronautical research within NASA.

Frosch spoke to a large audience of Langley employees during a special Colloquium to which he was invited. About 500 employees filled the newly remodeled Activities Center, and more than 200 workers heard his talk from Building 1220.

NASA has what Frosch called four-and-a-half principle tasks. These are:

1. Aeronautics Research and Development. "NASA has the most deep knowledge in many aeronautical research areas," Frosch said. Both Congress and the Office of Management and Budget are in agreement concerning NASA's definite jobs and responsibilities in aeronautics.

2. Space Technology. Flying the Space Shuttle and learning how to use it are important parts of this task. Frosch believes that NASA managers and researchers must break away from thinking of launch vehicle constraints, because many of these constraints, mainly concerning payload size and weights, will vanish in the Shuttle era.

He said he doesn't see any space colonization in the near future, but it will come eventually.

3. Space Science. There are a large number of things to do in this area, Frosch said, more than can be done, even with highly qualified people and unlimited funds.

Frosch said that NASA should not contract too much science research. "There must be a balance between the amount of in-house and outside scientists. There must be at least as much first class competence inside as outside to keep pace," he said.

4. Applications of Space Research. This is an area of work that is considered important in the present administration. Questions of when and how to move from a research and development situation to operational status in areas like remote sensing satellites, such as Landsat and Seasat, are examples of problems to be considered.

The half problem on Frosch's list is how to put the knowledge gained from space research to other uses, transferring information and improving interaction with other government agencies.

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Happy New Year

On June 7, 1978, at 7:23:48 a.m. (EDT), exactly one Martian year had passed since the first Viking spacecraft landed on Mars.

At 8:12:07 a.m. (EDT), on July 20, 1978, two Earth years will have passed since landing.

Retirement Party

Dorothy A. Hicks, who is retiring from the Space Technology Branch, Space Systems Division, on June 30, 1978, will be honored with a luncheon at 12 noon at the Langley Activities Center on Friday, June 30. The cost is $5.00 per person (includes gift). Donations of $2.00 for gift only are acceptable. For reservations, send cash or check to Dana McPherson, M/S 160, ext. 3781 by June 23.

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Langley drivers had better slow down. Radar units like this one are being set up periodically around the Center.
Happenings

RETIREES CLUB will hold its second meeting on June 20, at 7:30 p.m. at the Activities Center. All NACA-NASA retirees and their spouses are welcome to attend.

AFGE MEETING. The regular monthly meeting of AFGE Local 2755 will be held on Tuesday, June 27, at 7:30 p.m., in the Activities Center, Building 1222.

NAGS TRIP. The National Association of Government Secretaries is sponsoring a one-day trip to the Smithsonian Institute on June 24. The bus will depart from the parking lot in front of the NASA Hangar at 6 a.m. and will return at approximately 10 p.m. While in Washington, you may visit the buildings of your choice; it will not be a formal tour. For non-members, the cost of the trip is $14. For more information, contact Susan Wilson, ext. 4135, between 8 and 4:30.

Carnival Plans Begin

The Activities Association is making initial plans for the 1978 Carnival to be held on the picnic grounds August 25 and 26. The Grand Prizes for Friday and Saturday night will be $1,000 cash each night. The two other major prizes for Friday and Saturday night will be announced soon. Smaller prizes will be awarded every half hour during the Carnival.

Many volunteers are needed to work in the Carnival this year. If you would like to help out, please contact one of the following Carnival chairmen.

Casino—Ernie Greene, ext. 2312
Fiscal—Bill Goad, ext. 3234
Booth and Grounds Operation—Billy Holliday, ext. 3561
Children’s Booths and Games—Dana Morris, ext. 3274
Food and Beverages—Hugh Forrest, ext. 2303
Bingo and Games—Charlie Harris, ext. 3937
Decorations & Special Events—Betty Farmer, ext. 2062
Publicity—Margaret Hunt, ext. 3511

Brain Teaser Answer

The brain teaser in the last issue of the Researcher led to some confusion. Using rational numbers, which for this problem is implied, the answer is 41/12. Only three people submitted this answer: Doyle Swofford, SED; John Strikwerda and Jim Epperson, ICASE.

If irrational numbers are allowed, then $x = \sqrt{a/b}$ is a solution, where $a$ and $b$ are any integers. One team, Aaron Ostroff and Arum Nadkarni, ODU, recognized this solution in part for the situation of $b = 1$. One person, C. N. Robeson, Jr., AVIS/IRD, gave this solution as only one irrational number, $x = \sqrt{125}/24$.

With imaginary numbers, at least two solutions are possible. Dave Middleton, FDCD, and Jeff Cleveland, ACD, gave $x = 2i$. Another is $x = 2$, which was the answer submitted by a number of people: R. R. Monahan, PED; Shushi Gupta, ODU; Bobby Rash (son of Bill Rash, SED); Ellis Remsberg, AESD; Randall Harris, FDCD; David Schryer, IRD; John Wallace, MATD; David F. Thomas, MATD; Al Taylor, Hampton Technical Center; Bruce Conway, Office of the Director for Electronics; Jean Mason, ANRD; Bill Weaver, MATD; Olaf Storaasli, SDD; Page Fournier (daughter of Paul Fournier, STAD); and Youn H. Oh, ODU.

The Researcher thanks Al Sabol for submitting the problem and John Houbolt for explaining some of the solutions that were submitted.

This 4.5 percent scale model of a four-engine supersonic transport has been undergoing preliminary ground effects testing in the V/STOL wind tunnel as part of Langley’s Supersonic Cruise Aircraft Research (SCAR) Program. Compressed air powered the model’s engines to simulate the effects of jet exhaust near the ground. Further tests are planned after results of the preliminary tests have been analyzed.

3 Langley Researcher, June 16, 1978
From Steeples to Stamps
PERSONNEL PROFILES

By Allan C. Hanrahan

Perhaps this article should have been written a few years back when HAROLD A. HAMER was simultaneously the Chairman of Deacons of North Riverside Baptist Church, the Manager of the Hidenwood Swim Team, and Cubmaster of his neighborhood Cub Scout Pack. But “a man’s life, at any given time, is the sum of his past, present, and future” (according to that Sidewalk Socrates, Abie Aristotle), so while Hamer is presently less active than previously, his service in the past merits mention.

For example, his church involvement also included chairmanship of the music committee and ten or twelve years’ work with the youth. His Scout work ranged from Neighborhood Cub Scout Commissioner and Boy Scout Merit Badge Counselor (positions he still holds) to Webelos Den Leader and beyond: “I was a ‘Den Mother’ for a year once,” smiled Hamer. “I couldn’t get anyone so I had to do it.”

While in Cub Scout work, he employed an inherent art talent in the creation of plaques, trophies, and other awards, which are an integral element of the Cub Scout program.

Harold’s eldest son, nineteen-year-old Joseph, also known as Joey, is a rising sophomore at Virginia Commonwealth University and enjoyed the Scout program up to and including Eagle rank.

Hamer’s other son, sixteen-year-old Thomas (Tommy) was also active in scouting and attained Eagle Scout rank.

Hamer, a fifty-one-year-old native of Elmira, New York, holds a B.S. degree in Aeronautical Engineering from Pennsylvania State University.

Presently he is an Aerospace Technologist in the Stability and Control Branch of the Flight Dynamics and Control Division. The beginning of his Center career was spent in the now-defunct Maneuver Loads Branch in the Flight Research Division where a Miss Virginia Fox, a local native, was an office co-worker for ten years before she became Mrs. Hamer.

When we first talked with Harold in May, which coincidentally was National Juvenile Diabetes Foundation Month, we learned that Mrs. Hamer is a long-time sufferer of that illness, even to the point of near-blindness which, hopefully, can be remedied. Other effects of diabetes, in addition to blindness, are kidney failure, heart disease, and infection.

When we broached the subject of mentioning his wife’s illness, Harold suggested that we do so. “I think people should learn about diabetes, as well as all the effects of it,” he stated.

(Reading on the subject revealed that it is estimated ten million Americans suffer from the disease, with approximately sixteen thousand diabetics located on the Peninsula.)

Another subject about which Harold was eager to talk—in contrast with his reticence about discussing himself—was the subject of stamp collecting, specifically “first day covers,” which he recounted were interesting, educational, and relatively inexpensive.

Briefly, collecting first day covers entails obtaining envelopes on which is a stamp, cancelled on the day and at the location of its issue. The envelope often has reproduced on it art work representative of the event, person, etc., honored by the stamp. Not too long ago regulations were modified to allow including on the envelope previously issued stamp(s). Taking advantage of this, and the many old stamps given him by his father, Harold includes all those previously issued stamps (if any exist) relative to the same subject as the new issue.

“I really recommend that hobby,” he said. “You learn so much about history as well as geography and many other subjects.”

He agreed that the full range of Philately could be expensive (and this was even before the recent postage price hike) but reiterated his endorsement of the hobby, particularly in the area of first day covers.

In the accompanying photograph he is shown with some of his favorites. On two of them he did the depictive art work himself, employing a talent mentioned earlier.

When we first approached Harold about a “Profile” he expressed his doubt that there was enough about him to warrant an article. If you have read this far you have proven him wrong.
Runners’ Club Meet

Thursday, June 22, has been selected as Family Day for the members and families of the Runners’ Club. Beginning at 5:00, races will be held in distances between 100 yards and 6 miles so everyone can demonstrate his ability as a runner, regardless of his best distance (some others may now find there is no best distance). These races will be against the clock, and awards will be given according to the performance, not the position at the finish. Members can receive a ribbon by reaching, in any race, a level higher than their previous best. All family members who enter will be given a ribbon based on their best performance of the day. The schedule of events is as follows:

<table>
<thead>
<tr>
<th>Starting time</th>
<th>Event</th>
<th>(No pre-registration required)</th>
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<tbody>
<tr>
<td>5:00</td>
<td>3 Mile and 6 Mile</td>
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<tr>
<td>5:30</td>
<td>100 Yards</td>
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<td>6:00</td>
<td>220 Yards</td>
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<td>6:20</td>
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<td>6:40</td>
<td>880 Yards</td>
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<tr>
<td>7:00</td>
<td>1 Mile and 2 Mile</td>
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<tr>
<td>7:30</td>
<td>Presentation of Ribbons</td>
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</tbody>
</table>

The picnic grounds have been reserved for those who would like to bring picnic dinners, and the Activities Center (1222) will be open (BINGO night) until 10:00.

NAGS Meeting

The National Association of Government Secretaries will meet on June 20 at the Hampton House Restaurant at 6:30 p.m.

Dr. Charles W. Swain, currently serving as an Employee Development Specialist in Langley’s Training Office, will be the guest speaker. Swain is on assignment from Florida State University, where he is Assistant Professor of Religion. He will speak on “Work Planning and Performance Appraisal.”

Training certificates will be issued to those who attend. You are not required to hold the title of secretary to attend.

For reservations or menu information, contact Reachie Hall at extension 2159.

4th of July Picnic

The Activities Association will hold its annual 4th of July Picnic starting at 10 a.m. on the Activities Center picnic grounds. This year everything will be bigger, better and cheaper. The food and beverages will be sold at “Olde Tyme” prices such as: $.05 for coke and beer; $.10 for hot dogs and baked beans; and $.15 for hamburgers and barbeque. Games and contests such as volleyball, horseshoe, and tug-of-war teams will be held for your entertainment. Competition between divisions, branches and sections is encouraged. Send your entries to the Activities Center, Mail Stop 496. There will be prizes for the winners.

Tennis Club News

Billy Haigler and William Haigler defeated Dennis Bartlett and Alan Wilhite in the finals of the Men’s Doubles Ladder Tournament, 6-2, 6-2. Leonard Credeur with Bob Smith and Jim Mueller with Dick Princus were semi-finalists.

The Ladies Singles Ladder Tournament completed the third round of play with Judy Spain, Pat Murray, Margaret Sobieski, Nerien Clark, Joanna Re, Jackie Findlay, Jeanette Dunham, Roseline Srokowski, Jean Murrow and Janet Schmitz posting victories. Second round wins were also achieved by Dariene Stevens, Betty Hughes, Becky Lovelace and Carol Smith.

The Senior Men’s Tournament got underway last weekend with Bob Murray, Lou Buldain, Dick Storey and Bev Overman reaching the semi-finals.

As part of a membership drive, the Tennis Club will host a New Member/Get Acquainted Mixed Singles Summer League. Entries will be limited to 64 players, with preference given to new members and present members not on the ladder. League play will be scheduled between the July 4 and Labor Day weekends, and consist of 6 rounds each, during the eight weeks (equivalent to 6 Tournaments). All you inactive and active tennis players, here’s the incentive to get out and improve that game! For details and an entry form, please call extension 4576 or write Jack Neubauer, Mail Stop 249B.

Entries close July 1, so get a buddy and get your entries in for a fun event.
Navy Experimental Plane Tested

Several months ago, a Navy experimental plane arrived at Langley for testing at the Impact Dynamics Research Facility, or crash facility, as it is often called. But this plane was not to be crashed. It came for in-place tethered flight testing.

Built by Rockwell International’s Columbus Aircraft Division, the XFV-12A is a V/STOL aircraft that is designed for supersonic flight. A demonstration prototype for the thrust augmented wing concept, it is the only one of its kind which has been built.

The testing at Langley is being performed under a cooperative agreement between NASA and the U.S. Navy. Rockwell International is under contract to the Navy for the XFV-12A. Representatives are: Richard Culpepper from Langley’s Flight Research Division, Ron Murphy from the Naval Air Systems Command, and Marque Debenport from Rockwell.

Langley was chosen as the test site because it has the only government facility capable of performing in-place tethered vertical flight testing. During the tests the XFV-12A is tethered to the gantry by a single cable supplied from a powerful winch mounted 210 feet above ground. During statically restrained tests, ground cables attached to the nose and main landing gear hold the aircraft in place at various heights. Watching a static test flight is very unusual - the XFV-12A is “flying” at full power, engine roaring, but it never moves. It just sits there, suspended 30 feet in the air.

Based on the results of the static tests, the XFV-12A is now undergoing dynamic tests. The dynamic tests allow greater freedom for motion as the aircraft is not restrained by ground cables. The upper tether cable automatically reels in and out to provide a safety tether as the aircraft maneuvers within the gantry. A shock absorber on the winch cable prevents the airplane from experiencing loads any greater than 2 g’s.

Because of safety reasons, the tests are closed to viewers. When this series of tests concludes in July, the Langley crash-worthiness tests will resume.

In the control room are, from left, Dwight McSmith, NASA Facility Coordinator; Robert Wolcutt, data control, Rockwell International; Warren Kniekpamp, console operator, Rockwell International; Ed Gillespie, flight test director and Rockwell chief test pilot; and Max Goode, FRD, NASA Safety Observer.

The XFV-12A is lifted thirty feet from the ground for testing. The winch installed on the gantry can lift about 20,000 pounds at a rate of about five feet per second. It is a converted Navy high-line winch which was used for ship-to-ship supply at sea. Seven cables attached to the ground hold the airplane in place while the engine runs at idle and at full power during tests.
Calvin Bragg, Operations Support Division, Electrical Systems Support Section, "I like it for myself... it suits me fine. I do have a family doctor, but I don't go to him as much now. I have him mostly for the rest of my family. I almost never go to him."

Victor L. Vaughan, Jr., Structures and Dynamics Division, "I think the program is very good. I think everyone needs an exam and a lot of people who would not normally get one are probably getting one now through this program. I give a copy of my physical results to my family doctor. He still offers to give me a physical when I want one, but I find that I go to him less since this program started."

Leonard Clark, TCV Program Office, "I think the program is fantastic. I do not have a family doctor so I really appreciate it. As a matter of fact, I just had the stress test and I think that's an excellent program."

Wayne McKinney, Subsonic Transonic Aerodynamics Division, "I really think it's a good program. I go to my family doctor less since this program started."

Barbara Hogge, Office of the Director, "I think it's an excellent idea. I think it's turned up a lot of things in people that they probably would have never known about until it was too late."

Robert Boswinkle, Office of the Director for Aeronautics, "I think it's really great. I take part in it and I'm looking forward to taking the treadmill test in two weeks. When necessary, I have gotten a copy of my physical results for my family doctor. For example, on my hearing loss in one ear, I got a copy for that. I think I go to my doctor less now; if they didn't have the program, I'd probably get at least an annual physical from him, which I don't now because I rely on this."

Vernon Vann, Procurement Support Office, "I think it's very thorough. I've been very impressed with it. Last year when I started working out here, I had an appointment for a physical with a family doctor and everyone said, 'If you're going to work at NASA, they've got a great clinical program, so you ought to cancel your appointment and take the physical at NASA.' So I did and I was very pleased with it."

Note from the Editor: If you have any questions you would like to be covered in this column, please send them to "Personal Opinions," Mail Stop 115A.
FOR SALE

Articles

Hitch, Reese equalizer, receiver, ball mount, needs swasy bars, like new. $50. Call 877-4422 after 5 p.m.

Wedding gown and veil, never worn (we eloped!), size 8p, hand made. $50. Call 826-5625.

New: crib, bassinet, baby bed, bassinet scale, bathinette, $8; high chair with table, $20; GM infant seat, $7; rocker/carrier, $6; formula/diaper bag, $4. Call Ostroff 877-9455.

Clothes line (China), 8 Traverse Rods, $5 ea. or ($101.45 less retail). Call 3561.

One case (12 quarts) Moly, 14 in. depth, new, $15. Call Ostroff 877-9455.

China, Noritaki Fairmont, 8 5-piece pl. sets, 4 soup bowls, $250. Call 289-6245.

New: Vegetables: Barbecue Ham, $6. Call 8 Traverse.

Hitch, Reese equalizer, needs sway bars, $50. Call 877-4422 after 5 p.m.

Wooden & metal, 4 oz. aluminum mugs, $2. Call 826-5625.

Vehicles

Custom wheels and tires, 4 ea., Wester cast aluminum wire wheels, 15 x 7 w/bolt, 4 3/4 to 5 in. unlug bolt pattern, 4 ea., Bridgestone G60 x 15 steel belted radials mounted on above rims, 15K miles on tires, includes lug locks and two hub covers, all for $425. Call McMillian, 2661 or 868-9545.

1973 Honda Civic - 4 speed, GC, 35 mpg around town, $1,500. Call 2127 or 723-3037.


1969 Buick Riviera, AC, power steering, power windows, power seat, power brakes, automatic transmission, good mechanical condition, needs minor body work, $595. Call Turner 2109 or after 5 p.m. 868-7485.


Bicycle: 16-Foot Starcraft canoe, padded seats, EC, $125. Call 877-4422 anytime.

Bicycle: 10-speed, Iverson lightweight racing bike, will trade for heavy bike of equal value or sell for $75. EC. Call 826-5625.

Bicycle: Girl’s “Swing bike,” 20 in. wheels, GC, $50. Call 693-2023 (Gloucester).

Motorcycle, BMW 1975 R-90/6, Immaculate condition, Call 238-3268 (Smithfield).

Retirement Party

Ira W. (Bill) Ramsey, Jr., who retired on May 10, 1978, will be honored with a Retirement Luncheon at the Langley NCO Club on Tuesday June 27 at 12:00 noon. The cost of the party will be $4.50 per person or $8 per couple (includes gift). Donations of $1 for gift only are acceptable. Please make reservations with and send check or money to Virginia Vohringer, extension 4539, M/S 430 by June 22. Make checks payable to MSS Social Club.

Real Estate

Riverdale: 3 BR brk rancher, LR w/FD, dining area, w/v carpet, storm doors & windows, 3/4 baths, pantry, den, large screened porch, eat-in kitchen, w/all appliances, new c/a & heat & attic fan. Approx. 1/4 acre lot; neighborhood schools. Call 838-6245.

Water front home (Hot area), 4 BR, 2 baths, beam ceilings, sandy beach, quiet neighborhood. Call 851-3000.

York County, Robanna Shores 3 BR, 2 BA, Brick rancher on beautiful 3/4 acre wooded lot with water easement on Lawson’s Cove, 2 FP’s, large den, central air, lots of privacy, $55,900. Call 969-3632.

Harris Landing - 3BR, 2 baths, L-shaped brk rancher, eat-in kit, LR, DR, all with w/all appliances, new c&a & heat & attic fan. Approx. 1/4 acre lot; neighborhood schools. Call 838-6245.

WANTED

2 additional drivers in combination from Norfolk to W.A. on 8 a.m. shift. Call Johnston, 3294.

WEEK OF JUNE 19

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Chicken Chow Mein; Country Style Site; Snack Bar: Quarter Pound Frank; Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce, & Tomato.

TUESDAY: Bull Island Clam Chowder; Fried Filet of Trout; Roast Beef & Swiss; Pepper Steak, Snack Bar: Quarter Pound Frank; Hot Reuben; BBQ. Pork; NASA Sub: Roast Beef & American Cheese.

WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Barbecued Ham Steak, Franks, Cheese; Snack Bar: Bacon, Snack Bar: Hot Italian Sausage Submarine; Ham & Turkey; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Baked Chicken Livers; Beef Balls Stroganoff; Pork chops; Snack Bar: Quarter Pound Frank; Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese.

FRIDAY: Vegetable Soup; Fish Dinner; Stuffed Pepper; Steak Smothered with Onions; Snack Bar: Quarter Pound Frank; Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF JUNE 26

MONDAY: Tomato & Rice Soup; Veal Parmesan; Pineapple Chicken; Country Style Steak, Snack Bar: Quarter Pound Frank; Ham & Cheese Club; Egg Salad; Tuna, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Manhattan Clam Chowder; Fried Filet of Trout; Baked Beef & Vegetables; Braised Beef Liver, Snack Bar: Quarter Pound Frank; NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Beef Soup; Roast Turkey Dinner; Meat Loaf; Beef Pot Pie; Snack Bar: Quarter Pound Frank; Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey Noodle Soup; Baked Lasagna; Breaded Veal Cutlet; Baked Tuna & Noodle Casserole, Snack Bar: Quarter Pound Frank; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

FRIDAY: Cream of Tomato Soup; Fish Dinner; Savory Baked Chicken; BBQ Franks; Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork; Quarter Pound Frank.

Ride from Beach Drive, Newport News, to Bldg. 1299 on the 7:30 shift. Contact Ruby Sherwood, 3947.

Car Pool from Todd Point/Bayclay Road area of Newport News, to west area on 8 a.m. shift. Call Poole, 2871.

Car Pool to West Area on 7:30 shift. Call R. Gale Wilton, 3551.

LOST

Gold necklace in vicinity of Bldg. 1232 parking lot. Call Youngblood, 3666.
Seasat Launched

Seasat A, the first satellite to study the world's oceans, was successfully launched on Monday, June 26, from the Western Test Range, Vandenburg Air Force Base. The "proof-of-concept" mission is being flown to determine if microwave instruments scanning the oceans from space can provide useful scientific data for oceanographers, meteorologists and commercial users of the seas.

Seasat-A will send back information on surface winds and temperatures, currents, wave heights, ice conditions, ocean topography and coastal storm activity.

An Atlas-Agena vehicle launched the satellite into an 800 kilometer (500 mile) near-circular polar orbit. The Seasat will circle the Earth 14 times a day, and its instruments will sweep across 95 per cent of the oceans' surface every 36 hours.

The satellite will be able to see as well at night as in daylight. Its payload includes four microwave sensors and a visual infrared radiometer.

The Jet Propulsion Laboratory manages the project and satellite system. Langley has been responsible for developing the microwave scatterometer ocean-surface wing sensor carried aboard Seasat. It is designed to measure wind speed and direction over an area 1,000 kilometers wide. It can measure wind speed from 4 meters per second to over 24 meters per second.

Viking Cameras Still Taking Pictures

New Views of the Mars Surface: These two mosaics show portions of the surface of Mars never before seen in pictures from the Viking landers. The mosaics each consist of seven individual pictures taken by one of the lander cameras looking through a mirror mounted on the surface sampler boom housing. The mirror was mounted in a position that allowed the camera to see the Mars surface where it was eroded by exhaust gases from one of the terminal descent engines. The individual pictures were taken at slightly different mirror positions (achieved by moving the boom housing) to provide the strip of coverage shown. The mosaics each cover an area approximately 10-20 cm (4-8 in) wide and 50 cm (20 in) long. The lander 1 mosaic on the left is dominated by a single large crescent-shaped crater outlined in white, approximately 10 cm by 20 cm, that was eroded by the exhaust gases during lander touchdown. Flat surfaces of very cohesive material have been exposed on the bottom of the crater. The lander 2 mosaic on the right is strikingly different from that of lander 1 since three small (6cm diameter) craters, "C", are evident. Each crater was probably produced by exhaust gases from separate nozzles. The outlined kidney-shaped depression was caused by exhaust gases deflecting around the exposed corner of a rock. Analysis of lander-induced surface erosion such as is shown here will contribute to the understanding of wind erosion and dust storm processes on Mars.

Personnel Changes

Duward L. Crow (Lt. Gen., USAF, Ret.), Assistant to the Deputy Administrator of NASA, has announced his plans to leave NASA on September 1, 1978.

Robert F. Allnut has been named NASA Associate Deputy Administrator, effective July 2, 1978. He is currently the Acting Assistant General Counsel for Legislation for the Department of Energy.
Civil Service Reform Briefings

Briefings on the President’s proposed civil service reform package will be presented to Center Personnel by the Personnel Officer on July 5, 6, and 7, in Building 1222 (Activities Center).

In order for Langley employees to understand the concept and overall purpose of the reform package, a schedule has been established whereby each employee will be given an opportunity to attend one of the sessions.

You are urged to attend this important briefing at the time and date designated for your Directorate:

<table>
<thead>
<tr>
<th>Directorate</th>
<th>Date &amp; Time</th>
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<tbody>
<tr>
<td>Space Structures</td>
<td>July 5 – 10-11 a.m.</td>
</tr>
<tr>
<td>Management Operations</td>
<td>July 5 – 1-2 p.m.</td>
</tr>
<tr>
<td>Office of Director Projects</td>
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<tr>
<td>Electronics</td>
<td>July 6 – 10-11 a.m. (Approx. 100 employees from Electronics Directorate will attend the afternoon session)</td>
</tr>
<tr>
<td>Aeronautics Electronics</td>
<td>July 6 – 1-2 p.m.</td>
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<td>System Engineering and Operations</td>
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<td>July 7 – 10-11 a.m.</td>
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<td>July 7 – 1-2 p.m.</td>
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Question & Answer

Q. Did the last LRC Promotion Board act, vote or decide on a person’s promotion while that person was present?

A. No. It is the policy that any person to be considered for promotion at a Promotion Board who happens to be a member or observer at that meeting will be excused during the discussion and before any action is taken. The presence at such discussion would inhibit the review process greatly. The same practice is adhered to on discussion concerning major awards, fellowship nominations, or requests for long-term training as reviewed by the appropriate committee.

Good-bye Party

The LAA/Bookeeper, Susan Condra, will be leaving the Association in July. On Friday, July 7, an “Open House” will be held for Susan at the Activities Center. Friends and acquaintances are invited to stop by for coffee and donuts between 8 a.m. and 4 p.m.

Closings Anticipate Energy Savings

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Literacy Workshop

A summer workshop for training young people and adults to teach reading to adults will be held July 10-11 and 17-18 from 7 to 10 p.m. at the Emmanuel Episcopal Church, 179 East Mercury Boulevard, Hampton. There is a great need for tutors to help adults with reading; especially needed are men to assist functionally illiterate men. Mary Lou Duberg will be the teacher trainer for the workshops. If this is an area of volunteer service you would like to consider, please call the Peninsula Literacy Council office, 839-5300, for further information.

Project Recoup is becoming a reality. For the past two months, workmen have been clearing about 4 acres where the refuse-fired steam-generating facility will be built. The clearing is now complete and fencing is being installed. Facility construction should begin in late July.

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Summer Faculty Fellowship Programs Begin

On Monday, June 5, fifty-two college and university professors arrived at the Center to participate in three summer faculty fellowship programs.

Two of the programs are sponsored jointly by NASA and the American Society of Engineering Education (ASEE). The ASEE Design Program consists of 19 professors who form an Engineering Systems Design Team to conduct a multidisciplinary systems study, entitled "An Integrated Air-Cargo Transport System." Dr. Griffith J. McRee, Old Dominion University, is Project Director. The ASEE Research Program includes 24 professors assigned to various research divisions throughout the Center for a 10-week period. Dr. Gene L. Goglia, Old Dominion University, is Director of this program.

The third program is the Langley Research Center-Hampton Institute Summer Research Fellowship Program. This program was developed through a cooperative agreement between the Center and Hampton Institute and brings nine professors to the Center for research assignments over a ten-week period. Dr. Geraldine C. Darden of Hampton Institute is Program Coordinator.

The ASEE Engineering Systems Design Fellows and their home institutions are as follows: Dr. Griffith J. McRee, Project Director, Old Dominion University; Dr. Richard J. Burns, Texas Technological University; Dr. John B. Crittenden, VPI & SU; Dr. Robert M. Eastman, University of Missouri; Dr. Ernest E. Enscore, Jr., Pennsylvania State University; Dr. Paul K. Grogger, University of Colorado; Dr. Arend H. Hagedoorn, Florida Technological University; Dr. Andrew Hargrove, Hampton Institute; Siew T. Koa, University of Arkansas; Dr. Alvin E. Keaton, New Mexico State University; Dr. Emanuel Maier, Bridgewater State College; Nathanial Matthews, LeMoyne-Owen College; Dr. Manindra K. Mohapatra, Old Dominion University; Dr. Richard A. Olsen, Pennsylvania State University; Dr. Edward T. Ordman, New England College; Dr. William A. Rabiega, Portland State University; Dr. Frank E. Rogers, Winston-Salem State University; Evelyn A. Thomchick, Clemson University; and Dr. John T. Ying, Rose-Hulman Institute of Technology.

The ASEE Research Fellows, with their home institutions and division assignments are as follows: Dr. Bassem F. Aramco, University of Missouri, SSD; Dr. Joseph R. Baumgarten, University of Nebraska, SDD; Dr. Alfred M. Buonchristiani, Christopher Newport College, SSD; Dr. Joseph W. Bursik, Rensselaer Polytechnic Institute, STAD; Dr. Frederick M. Carlson, Clarkson College of Technology, FED; Dr. Sehiew Chou, University of Nebraska-Lincoln, IRD; Dr. Peter C. Cornill, University of Rhode Island, MATD; Dr. Victor E. Delmore, Rutgers University, FED; Dr. Bruce H. Edwards, University of Florida, ACD; Dr. Henry F. Faery, Jr., U.S. Military Academy, FDCD; Dr. Edwin P. Foster, University of Tennessee, SDD; Dr. George E. Ioup, Xavier University, IRD; Dr. C. Richard Johnson, VPI & SU, FDCD; Dr. O'Sama A. Kandill, VPI & SU, SDD; Dr. Hollis P. Leighby, Jr., University of Missouri, IRD; Dr. Nicaiso P. Marulo, Clemson University, MD; Dr. Don H. Morris, VPI & SU, MD; Dr. Walter L. Melnik, University of Maryland, HSAD; Dr. Venulakonda Seetharamarao, VPI & SU, MATD; Dr. Andrew F. Seybert, University of Kentucky, ANDR; Dr. Ronald D. Sylvia, Old Dominion University, FERS; Dr. Gaylen A. Thurston, University of Colorado, SDD; Dr. Dennis E. Wilson, University of South Carolina, HSAD.

The Hampton Institute Summer Research Fellows, with home institutions and division assignments are as follows: Edith Bailey, Tennessee State University, STAD; Kresimir Blazevic, St. Augustine's College, MD; Winsom Coleman, Virginia State College, FRD; James Glover, Tuskegee Institute, SDD; Jacquelyn Long, Norfolk State College, ACD; Curtis Means, Southern University, MATH; Dr. D. Venable, St. Paul's College, MATD; Thasion Wei, North Carolina A&T State University, IRD.

For further information on these programs, call Frank Owens, of the Training and Educational Services Branch, extension 2611.

Speakers Bureau

On May 27, Joel Levine spoke to the Thomas Nelson Community College chapter of Phi Theta Kappa on "Everything you Always Wanted to Know About Ozone, But Were Afraid to Ask."

July 4th Picnic

Don't forget the big 4th of July picnic starting at 10 a.m. at the Activities picnic grounds. All Divisions are urged to form their own teams. Submit entries to the Activities Association, Mail Stop 496, by June 30, 1978. All food and beverages sold must be consumed on the grounds.

Viking Seafood Feast

A seafood feast will be held on July 19, at 6:30 p.m., to commemorate three Viking events: the third anniversary of the launches, the second anniversary of the landings on Mars, and the Viking Commemorative stamp.

The feast will be held at the Graham and Rollins Crab Company, 19 Rudd Lane, Hampton. Set-ups and all the beer you can drink will be provided. The menu includes scallops, oysters, clam chowder and crabs cooked several ways. Cost per person is $9.

Reservations must be made by July 7 by sending payment to Betty C. Quigley, Mail Stop 437. Please make checks payable to Betty.
Langley Employees Receive Advanced Degrees

Fifteen staff members, including one former employee, have received advanced degrees through the Center's Graduate Study Program during Fiscal Year 1978. Seven received doctorate degrees through various universities. Randolph A. Graves, Jr., Space Systems Division, and Clemens A. Powell, Jr., Acoustics and Noise Reduction Division, received the Doctor of Science from the Department of Civil, Mechanical, and Environmental Engineering, George Washington University; Karen R. Credeur, Research Facilities Engineering Division, received the PhD in Statistics from Harvard University; Jack D. Leatherwood, Acoustics and Noise Reduction Division, and Nathan D. Watson, Systems Engineering Division, received the PhD in Mechanical and Aerospace Engineering from North Carolina State University; George L. Roderick, Structures Laboratory, U.S. Army Research and Technology Laboratories, assigned to the Center's Materials Division, and Stephen S. Tompkins, Materials Division, received the PhD in Mechanical Engineering from Old Dominion University.

Seven received masters degrees through various universities. Vernon T. Helms, III, Space Systems Division, and Carl E. Swindlehurst, Jr., formerly of the Structures Laboratory, U.S. Army Research and Technology Laboratories, received the Master of Science from the Department of Civil, Mechanical, and Environmental Engineering, George Washington University. Also receiving the Master of Science from that Department were Willie R. Watson, Acoustics and Noise Reduction Division, and Alan W. Wilhite, Space Systems Division. Thomas E. Pinelli, Scientific and Technical Information Programs Division, received the Master of Public Administration from Golden Gate University; Debra E. White, Procurement Division, received the Master of Business Administration from the College of William and Mary; and John M. Franke, Instrument Research Division, received the Master of Science in Physics from Old Dominion University. Irvin M. Miller, Marine and Applications Technology Division, received the Professional Degree of Engineer from the Department of Civil, Mechanical, and Environmental Engineering, George Washington University.
Honor Roll

The following Engineering Technician apprentice trainees completed the 1978 Spring Quarter with a grade average of 3.5 or higher for the quarter:

- James M. Arbuckle; John R. Atherton; William B. Ball; Harold W. Beazley; James E. Bell, Jr.; Harold K. Carney; Dewitt Carter, Jr.; Sharon K. Crockett; James F. Dezern; Robert T. Fultz; David F. Johnston; Berkley A. Langford, Jr.; and George E. Lockard.
- Robert L. Lutinski, Jr.; Richard F. Mason; Dennis L. Mowrey; Edward J. Nisbet; Robin K. Rubrecht; Edward R. Self; Edward C. Taylor; Michael D. Vaccarelli; Brian M. Webber; George L. Willis; Alexander J. Witkowski III; and Stephen C. Wright.

In computing the GPA for the 1978 Spring Quarter, Training and Educational Services Branch included both the course work taken under the Thomas Nelson Community College and courses taught by NASA Langley which are a part of the approved Engineering Technician apprentice program curriculum. TNCC does not include the grade for these courses in the college GPA, but does allow the student transfer credit.

ASEE Lecture Series

The following will be presented as part of the American Society for Engineering Education (ASEE) program at Langley and are open to all interested persons. Each presentation will be in Building 1212, Room 200 from 10:30 - 12:00 noon.

- 7/13/78 Dr. A. Deepak, President of the Institute for Atmospheric Optics and Remote Sensing
  "Remote Measurement of Atmospheric Aerosol Properties of Active Passive Probing Techniques"
- 7/20/78 Dr. T. Pulliam, Ames Research Center
  "Implicit Finite - Different Simulations of the Three-Dimensional Thin-Layer Neighbor-Stokes Equations"
- 7/23/78 Dr. W. Melnik, University of Maryland
  "Highlights of the 6th International Conference on Numerical Methods in Fluid Dynamics"

296 Pints Donated

Two hundred ninety-six pints of blood were donated Wednesday, June 21, at a Red Cross Bloodmobile visit at Langley.

There were seven first-time donors and five persons were deferred for medical reasons. Dr. L. B. McDaniels and Dr. A. W. Ward Jr. were volunteer physicians.

Shirley S. Grice received an eight-gallon pin, Joseph A. Italiano a seven-gallon pin; William A. Tuck, Raymond E. Midden, Hal T. Baber, Billie Short and Carlton L. Hallemann six-gallon pins; William G. VonWald and John Borowski five-gallon pins; Irvin Miller, Edward Howe and Harry Carlser four-gallon pins; Donald Shortt, Joseph Guy, Don Ward, Charles Davidson Jr. and John Pajot Jr. three-gallon pins; Joseph Hickman a two-gallon pin and Robert Weston, and Donald Beasley, Edward Covington III, Douglas Whipple and Laurence Bement, one-gallon pins.

Tennis Club Tournament

The NASA OPEN Men’s Singles Tournament -- A Grand Prix 4-Star Event -- will be held July 13-18, 1978. The entry deadline is Monday, July 10, at 6 p.m. A $4.00 fee must be submitted with application, and entries will be limited to 64. Bob Murray at extension 3589 is Tournament Director.

Plenty of openings exist for the Summer League Match Play. Call Jack Neubauer at extension 4576 for information and entry.

Bob Murray won the Senior Men’s Singles Title over Lou Buldain 6-1,6-2.

Judy Spain emerged champion in the Ladies Ladder Tournament defeating Margaret Sobieski 6-1,6-1, after five weeks of competition among the 26 participants. Starting July 1, the Ladder will be open for challenges.

Dog Training Classes

Registration for new 12-week classes in kindergarten puppy training (KPT), basic and advanced obedience by the James-York Dog Training Association, is scheduled for Thursday night, July 6, from 7:00 - 7:30 with the first KPT and basic class immediately following from 7:30 - 8:30.

All puppies and dogs are required to have all shots recommended by veterinarian for their age and to have been checked recently for worms. Please bring your dog’s shot record.

Your dog will be fitted with a special training collar; six-foot leads are required and will be available at the registration.

NASA is providing a new training area located on Gregg Road (behind Activities grounds and adjacent to the water tank). All training will be done outside.

For additional information, call Doris Bryan, 2127 or 898-6273.

Thanks

Ted Larson expresses heartfelt thanks for honoring him with a retirement party recently. "Many thanks also for the fine gifts—they will be most useful in my retirement days of travel and engraving."

Brain Teaser

Here's another problem for you:

"Take integers a and b, the sum of whose squares equals the square of a third integer c. The smallest such integers are 3, 4 and 5. Find three more such sets of integers, where a and b differ by 1."

Send your answer to the Researcher, Mail Stop 115A. The answer will appear in the next issue.

6 Langley Researcher, June 30, 1978
Happenings

DISCO PARTY. LAA’s first Disco Party will be held in the Activities Center (1222) on July 8th. The cost to you is only $1.00 per person. Bill Lawrence will be the host D.J. for the evening. Dancing will start at 9:00 p.m. BYOB - set-ups are provided. Tickets are available at the Activities Office or can be purchased at the door.

DISCOUNT TICKETS. Tickets to Busch Gardens and Kings Dominion are on sale at the Activities Office at a savings of up to $1.50 per ticket. Tickets can be purchased Monday - Friday from 8:00 a.m. to 4:30 p.m. For further information or to purchase tickets contact Sue Juanarena (ext. 2183).

TIDEWATER DINNER THEATER. Tickets are on sale at the Activities Center with a discount of up to $5.00 per ticket. The new show starting July 18th will be “Lady’s Night in a Turkish Bath.” The musical hit “Carousel” is currently playing. For further information or to purchase tickets, contact Sue Juanarena (ext. 2183).

NOTICE. Due to the crowded parking conditions and traffic congestion, the service road at the rear of the Activities Center has been closed. Parking is available in the lot adjacent to the water tower.

HAPPY HOUR. Time—4:30 - 7 p.m., June 30, 1978, on the Picnic grounds.

BINGO: Every Thursday night in the Activities Center, 7:30 p.m. - 10:00 p.m.

NOTICE TO WATER FOWL HUNTERS. On or before July 15, the Commission of Game and Inland Fisheries needs duck hunters to help choose one of several duck season options for 1978-79. Choices are: 1) split season with second season having latest possible closing date; 2) split season with second season including Thanksgiving; 3) single season with latest possible closing date; 4) single season to include Thanksgiving weekend. Send your choice, your address and your signed 1977-78 duck stamp for a valid vote to: The Commission of Game and Inland Fisheries, Game Division, P.O. Box 11104, Richmond, VA 23230.

AMTRAK SERVICE. The response to Amtrak’s special rates for government personnel on their Colonial route has been so good that the offer is being extended until October 29, 1978. Under this offer, a round trip is $1 plus the one-way fare. The Colonial route runs between Newport News and Boston; for a copy of the listing of fares, call 2934.

RETIRES CLUB. The NASA Retirees Club will have a dinner meeting at the Activities Center (Building 1222) on Tuesday, July 18, at 6:30 p.m. Election of officers will follow the dinner. Please make your reservations by July 7, sending a check to: John Thomson, 16 Trincard Road, Hampton, VA 23669. Indicate the number attending and your choice of prime rib ($6.50), steak ($6.00), baked ham ($5.50), baked chicken ($4.25), or spaghetti ($4.00).

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The Tac Air Toastmasters Club is increasing its membership. Tac Air meets each month on the second and fourth Wednesdays at the Langley Officers’ Club. For more information, call Bob Lee, 2486; Jim Moss, 3770; or Jim Shipp, 2592.

NASA TEN-PIN BOWLING LEAGUE. Names of teams, team members, and team captains for the NASA league starting this fall should be submitted now so we can establish the number of lanes required and start negotiations with the bowling establishments. If you are not on a team but wish to bowl, either regularly or as a substitute, submit your name and desired status. Membership is open to NASA employees and NASA contractors. Send submittals to Sam Sokol, Mail Stop 488, extension 3581.

Two U.S. Navy admirals recently visited Langley to see a dynamic test of the Navy’s experimental X17A V/STOL aircraft. At the Impact Dynamics Research Facility are (from left) Langley Deputy Director Oran Nicks; Adm. Frederick H. Michaelis, Chief, Naval Material Command; Ed Gillespie, Rockwell International test pilot; Dick Culpepper, Flight Research Division, Langley Project Manager; Robert Gulcher of Rockwell; Vice Adm. Forrest Peterson, Commander, Naval Air Systems Command; and Cdr. Ernest Lewis, Navy Project Manager. The plane will complete its first series of tests in mid-July, then begin to share the facility with Langley’s Crashworthiness Project.

Key Position

Jerry C. South, Jr. has been selected Head, Theoretical Aerodynamics Branch, Subsonic-Transonic Aerodynamics Division.
FOR SALE

Articles
Coldspot Refrigerator Freezer, 20 cu. ft., $195; Stereo Tape Recorder, reel-type, sound, side-by-side, $125; Wollensak Stereo Tape Recorder, reel-type, sound-on-sound, $35; Frenchman, $15; Fridge. $5.


Camping Rig, 13 ft. Scottie Camping Trailer with attached breezeway and 10 ft. by 10 ft. wall tent, $450. Call Gloucester 693-3583.

Camping Rig, 13 ft. Scottie Camping Trailer with attached breezeway and 10 ft. by 10 ft. wall tent, $450. Call Gloucester 693-3583.

Snare drum with new Ludwig heads, adj. stand, $35. Sink/Top water-powered dishwasher, $7; 12 volt Auto Vacuum Cleaner, $3; Kentucky Rifle, 9mm, k/built, $15. Call Adams, 877-0438.

Camping Rig, 13 ft. Scottie Camping Trailer with attached breezeway and 10 ft. by 10 ft. wall tent, $450. Call Gloucester 693-3583.

Camping Rig, 13 ft. Scottie Camping Trailer with attached breezeway and 10 ft. by 10 ft. wall tent, $450. Call Gloucester 693-3583.

Coldspot Refrigerator

July 20,
Director's Comments

The week of July 16 is a time when space achievements are highlighted in the United States. During a ceremony on July 20, the second anniversary of the first landing on Mars, the U.S. Postal Service will issue a commemorative stamp honoring the Viking Project. This is a great honor for Langley and it is fitting that the ceremony will be held at Langley and will occur during this week.

During the past 20 years (yes, NASA is coming up on its 20th birthday this fall) Langley has contributed a great deal to the National space program. Examples include Project Mercury, communication satellites, Lunar Orbiter, atmospheric satellites, the Scout launch vehicle, aerothermodynamics technology, high temperatures structures technology, Viking, electronics technology, and Apollo (the ninth anniversary of the first lunar landing will occur during this week).

This laboratory is contributing to the major development going on within NASA today — the Shuttle. Langley people provided important inputs to Shuttle's basic concept, the aerodynamic and aerothermodynamic design, the structural design, etc. Thus far, about 70,000 facility hours at Langley have been devoted to Shuttle testing. Another example of the Center's involvement with Shuttle was illustrated a few weeks ago when 28 Langley people were presented special Agency awards for their contributions to Shuttle's Approach and Landing Tests. All of us at Langley will be tremendously proud when the Shuttle begins its task of economically transporting payloads to and from Space.

This year and next will include many other space activities which reflect the efforts of Langley people. Last week the Langley Scatterometer on Seasat 1 was turned on and is now measuring sea surface winds. This fall, we will recognize (at a special “roll out” ceremony) the many thousands of

Post Office to Issue Viking Stamp

The Viking missions to Mars will be commemorated by the issuance of a special postal stamp on Thursday, July 20, the second anniversary of the Viking 1 landing on Mars.

A First Day of Issue Ceremony, sponsored by the U.S. Postal Service and Langley, will begin at 11 a.m. in the Activities Center.

Because of extremely limited seating in the Activities Center, Langley employees without special invitations are requested to arrive no earlier than 10:50 a.m. This will assure seating for the invited guests of Langley and the Postal Service.

A temporary post office will be established for the day at the picnic area beside the Activities Center. The new Viking 15-cent stamp will be sold to the public and cancelled for collectors by Hampton postal workers. The temporary post office will be open from 8:30 a.m. to 5 p.m.

Director Don Hearth will buy the first stamp at 8:30 a.m.

The Viking stamp will also be on sale July 20 at the Hampton Post Office, and national sales will begin Friday, July 21.

Principle speakers at the First Day of Issue Ceremony will be Carl S. Ulsaker, Senior Assistant Postmaster General, and James S. Martin, former manager of the Viking Project.

Hampton Postmaster George S. Hunt will preside at the 30-minute ceremony, and Director Hearth will welcome the public and introduce special guests.

The Viking stamp was designed by Robert T. McCall, well-known space artist, who has designed several other stamps with space themes. Two of his large murals are on display at the Air and Space Museum in Washington.

NASA will not have an official cachet for the Viking stamp, but several philatelic organizations and individual collectors will have their own cachets for sale during the day. A special area near the temporary post office will be set aside for these sales.

Continued on page 6.
Watch for This Decal

It means that the person who displays it has completed the Heart Saver (CPR) course and has been certified by the American Heart Association (AHA).

During 1977 and 1978, there were 363 Langley employees certified by the AHA. To be certified, one must pass a 4-hour course which consists of films, slide presentations, lectures and practice sessions.

Instructors at Langley were: Harold E. Lowder, SDD (now resigned to attend medical school); James R. Williams, ACD; Jack E. Pennington, Douglas Price, FDCD; George B. Boyles, Jr., ACD; Edward F. Daniels, ANRD; Ray E. Haynes IRD; and John R. Gleason, OSD.

If you have passed the CPR course, but do not have a decal, you may get one by calling John Covington on extension 2611. He can also provide information about the course.

Recent Retirees

Leigh K. Lewis, Fabrication Division, retired on June 30.

Dorothy A. Hicks, Space Systems Division, retired on June 30.

Robert M. Henry, Atmospheric Environmental Sciences Division, retired on June 30.

Helen B. Mulcahy, Scientific and Technical Information Programs Division, retired on June 30.

Leon W. Fitchett, Procurement Division, retired on June 16.

Madeline W. Smith, Marine and Applications Technology Division, retired on June 23.

Harry L. Smith, Office of Director for Systems Engineering and Operations, retired on June 23.

Job Openings

The following Merit Promotion Announcements are currently open:

78-33 — Head, Mechanical Design Branch; GS-801-14 or 15; Research Facilities Engineering Division; Mechanical Design Branch; Closes July 25, 1978; NASA-Wide.

78-34 — Clerk-Stenographer; GS-312-4 or 5; Acoustics and Noise Reduction Division; Noise Technology Branch; Closes July 18, 1978.

78-35 — Accounting Technician; GS-525-5 or 6; Financial Management Division; Financial Analysis and Control Branch; Closes July 18, 1978.

78-36 — Clerk-Stenographer; GS-312-4 or 5; Marine and Applications Technology Division; Environmental Chemistry Branch; Closes July 18, 1978.

In Memoriam

Maxwell W. Goode, Flight Dynamics and Control Division, died Monday, July 3, in Riverside Hospital. A native of Cleveland County, N.C., he had been a Peninsula resident for the past 17 years. He was a Marine veteran of the Korean War and a member of Emmaus Baptist Church in Poquoson. He is survived by his wife, Joyce W. Goode, two daughters and one son.
Godfrey Selected
for Fellowship

Frank E. Godfrey, Projects and Services Contracting Branch, Procurement Division, was recently selected to participate in the Education for Public Management program at Harvard University. Frank was one of three employees selected as a result of NASA-wide competition. Participants for the program are selected from numerous Federal, State and local agencies.

Godfrey has been at Langley since 1974. He earned his undergraduate degree (summa cum laude) in business administration from Saint Augustines' College in Raleigh, North Carolina in 1967. After being honorably discharged from the Army in 1969, he pursued and earned a master's degree in business administration from Texas Southern University, Houston, in 1971.

Accompanying him to Harvard will be his wife, Andrea, and their children, Frank, Marlin and Shannon.

Brain Teaser Solution

Doyle Swofford, SED, submitted the "brain teaser" which appeared in the last issue. Here's his solution:

- set 1 = 20, 21, 29
- set 2 = 119, 120, 169
- set 3 = 696, 697, 985

He said "Setting a = m^2 - n^2, b = 2 mn and c = m^2 + n^2, (m > n) will always satisfy c^2 = a^2 + b^2, a and b will differ by 1 if m and n are taken as adjacent pairs of the series 1, 2, 5, 12, 29, 70, 169, 408, 985, ... Note that each term is twice the one preceding, plus the one preceding that. The set 3, 4, 5 results from m = 2, n = 1. The values 5 and 2 yield the set 20, 21, 29, and so on. I can't show that these solution conditions are either necessary or sufficient, but it works at least up to m = 13860, n = 5741; for which a = 159140519, b = 159140520, c = 225058681."

Submitting the same answers as above were: Ira Abbott, PED; Olaf Storaasli, Randall C. Davis, Rodney Ricketts, Hal Murrow, Irving Abel, SDD; Bob Reynolds, BDSD; Jim Meyers, C. N. Robeson, IRD; Davis H. Crawford, M. D. Williams, SSD; J. M. Alvarez, AESD; Joe C. Gowdy, Bobby Rash, SED; H. H. Heyson, ASD; R. Bruce, Ken Hopping, RFD; Todd Kaylor, ACD; Jim Luckring, Karen Washburn, STAD; Walter IIlg, I. S. Raju, Jaiiah Unnam, MD; R. Clayton Rogers, HSAD; Jean Mason, ANRD; Ernie Graves, Office of the Director; Barry Price, Charles Caldwell, Bill Conkling, D. Gene Bowen, FD; P. R. Pamidi, CSC; Daniel P. Giesy, LTU contractor; Leslie Yamosaki, Clarence Sherman, Wyle Labs; Aaron Ostroff, FED; Nadkarni, ODU contractor; Fred Prellen, Bob Flath and Rob Beyman, SDC Integrated Services; Youn H. Oh, ODU contractor; Doug Sneed and Keith Back, students participating in the Career Exploration Program at Langley.

Submitting answers that contained negative numbers were: Lou Ann Lawton, PED; John Bush, Procurement; David R. Schryer, IRD; Larry Pinson, SDD, and his daughter, Sharon. Deborah Clark, BDSD, submitted one correct set.

James E. Stitt (right), Director for Electronics, recently presented a $1000 check and Certificate of Recognition to Dr. Joseph S. Heyman, Instrument Research Division, for his invention entitled, "A Continuous Wave Ultrasonic Bolt Tensioning Monitor." Heyman received $100 in January for the same invention. In 1976, the bolt monitor was selected by Industrial Research magazine as one of 100 most significant new technical products of the year.
Var-o-o-o-m

PERSONNEL PROFILES
By Allan C. Hanrahan

PAMELA F. BRADLEY enjoys listening to music — "all kinds of music," she told us, and one kind she particularly enjoys hearing is the hum of tires on pavement as she guides her '72 Datsun 240Z down the straightaways and around the curves of race tracks, pitting her car and her driving skill against the inexorable progress of the clock.

She also drives in road rallies and with a friend has garnered two first place trophies.

"They are fun," she said of the rallies, "and I think they are a challenge to your intelligence," added the Aerospace Technologist who has already met other such challenges by earning a B.S. degree in Aeronautical and Astronautical Engineering from Ohio State University (where, incidentally, her three younger brothers are now students).

"But I like best driving on the track, competing for best time in the time trials. You are on the track alone and the challenge is to you and your car."

Pamela emphasized that she is still in "the lowest level of automobile competition," as she puts it, which she added later as "the hobby stage," or "learning stage."

She has not won any races as yet, she stated, and by way of attribution put it thusly: "They say I don't have as much guts as the guys," she laughed.

But as she said later of the car she drives on both road and track, "You don't want to break the car you need to drive to work. You have to maintain it for other use," and Pamela does maintain the car herself, because she says, "I got tired of getting ripped-off," and she continued: "I feel good being able to fix it myself. You tend to think there is something magical or mystical about them but there isn't," stated the twenty-five-year-old lady of self-reliance, who also enjoys riding and repairing a motorcycle - that is "in pieces right now," she said. Pamela confessed the biggest obstacle to overcome was the abhorrence of soiling her hands.

Of her car she said, "It's a simple car to work on," and she informed us it was mostly 'stock' with the suspension modified. This affords her better handling of the car in all driving but especially during events.

The events in which she drives, called Drivers School and Time Trials, are held five times a year and are sponsored by the "Z" Club of America, of which Pamela has been a member since acquiring her car in 1975.

The year 1975 was a momentous one for this native of Cincinnati because in June of that year she graduated from Ohio State and July she came to the Center, where she is presently assigned to the Heat Transfer Group in the Aerothermodynamics Branch of the Space Systems Division.

A member of the Tau Beta Pi honorary engineering fraternity and Sigma Gamma Tau honorary aerospace engineering fraternity, she is also a member of the Society of Women Engineers and the A.I.A.A.

Pamela enjoys reading science-fiction — by such authors as Tolkein and Allan D. Foster, and watching it - in the form of "Star Wars," which she has seen about five times.

Some things she does not like are cigarette smoke and other air pollution and informs us that Steubenville, Ohio, where she lived while in high school, has the dubious distinction of being cited by the EPA as the dirtiest city in the U.S., as regards air quality.

Returning to what she does like there is art, going to the beach, plants ("My apartment is full of them," she exclaimed), and listening to music, which is where we came in when we introduced you to Pamela F. Bradley, a unique young lady.

Thanks

Dorothy Hicks sends her thanks and greetings to friends and co-workers for a most wonderful luncheon-retirement party at the Activities Center on June 30. Also, to those who remembered her in other ways and who contributed toward her gift, a very special thanks. It was a very happy day and one which will be remembered for years to come.

Harry and Madeline Smith wish to express their deep appreciation to each one for the nice retirement party and the lovely gifts given them on June 21 during the party at the Langley Officers Club. "We will be living in Florida and the new address is: 1211 — 11th Circle S. E. Largo, Florida 33541. Welcome All."

系统无法解析的日期
Civil Service Reform Briefing

Because a large number of employees were on leave during the first week of July, an additional briefing on the president’s proposed civil service reform package will be held July 27, 1978, beginning at 1:00 p.m., in building 1222 (Activities Center).

Thank You

Ira “Bill” Ramsey wishes to “express my gratitude to the wonderful people that made my retirement party so memorable. It was indeed an honor and pleasure to see so many friends and associates in one assembly. Many, many thanks for the fine gifts, laughs, stories and well wishes. It was a beautiful feeling and best of luck to all.”

Helen B. Mulcahy would like to thank all those who made her retirement such a pleasant experience - the money gifts, the party, and the good wishes - each added so much. She is looking forward to a summer of travel and a chance in the fall to enjoy her new found leisure.

Pictured are Mr. and Mrs. Eugene Hicks, of the Analysis and Computation Division, with Activities Association President Herb Boulter (left) and Social Chairman Charlie Harris (right). Recently, the Hicks’ have enjoyed a remarkable streak of luck at the weekly bingo games. Mrs. Hicks won the $500 jackpot one week; the following week, Mr. Hicks was the $500 winner. Subsequently, they have won several games with prizes ranging from $50 to $75. To celebrate her winnings, Mrs. Hicks took a trip to Las Vegas; while she was away, Mr. Hicks won a $50 prize. Bingo continues at the Activities Center every Thursday at 7:30 p.m. See the “Happenings” column for further information.

TECHNOLOGY AWARDS. Cash awards and certificates for Tech Briefs were recently presented by Dr. John Duberg (left) to five Langley employees. Those receiving awards are: (left to right) Maywood L. Wilson; Samuel E. Harper, Jr.; William E. Stoops, Jr.; Jacob E. Garver; and Gordon Owsley (not pictured). Wilson, Harper, and Stoops received their awards for their Tech Brief entitled “Simplified Systematic Production of Graphite Polyimide Prepreg” (LAR-12266) and Garver and Owsley for theirs entitled “Protection Against Explosive Blasts” (LAR-12014). (Laurence J. Bement, co-innovator of Tech Brief LAR-12014, received his award check and certificate for this item at an earlier presentation.) Issued quarterly, “NASA Tech Briefs” is a current-awareness medium and a problem-solving tool for its industrial subscribers. Each issue contains information on more than 100 newly-developed processes, advances in basic and applied research, innovative concepts, improvements in shop and laboratory techniques, new sources of technical data, and computer programs.
Director's Comments

Continued from page 1.

Langley engineering and shop hours that went into the Long Duration Exposure Facility (LDEF). This spacecraft will contain over 46 experiments (7 from Langley) and will be carried into space and returned from space by the Shuttle. The Pioneer probes which will enter the atmosphere of Venus this December are based upon Langley aerothermodynamics technology and design data. Other Langley flight experiments which will be launched in the next few years include SAGE, LIMS, SAM-2, MAPS, and FILE. Next summer we will complete work on the SILTS hardware which has the potential of increasing the capability of the Shuttle by permitting changes to the thermal protection system.

As we look further ahead, it is important to first recognize that Langley will have a major role in the Nation's future space program. As we continue to increase the emphasis at Langley on aeronautics, some people may feel that we are getting out of space—that is not the case. We will continue to have the lead role in NASA for aerothermodynamics, space materials and structures, space electronics, and environmental quality. The emphasis will be on Langley's strength—research. While we will phase out of spacecraft project management, we will continue an aggressive ground-based research program in the disciplines noted above. In addition, Langley scientists and engineers will develop, fly, and perform data analysis for flight experiments in our various space disciplines. The recent initiation of Atmospheric Lidar, HALOE, Large Space Systems Technology, and the Earth Radiation Budget mission illustrate these commitments. Other opportunities will exist in the future; for example, reflights of LDEF will provide the opportunity for more Langley experiments aimed at increasing our understanding of the effects of the space environment on materials, structures, etc.

Make no mistake about it—Langley is increasing its emphasis on aeronautical research. At the same time, we are committed to continuing a major space research effort in aerothermodynamics, materials and structures, electronics, and environmental quality. This week is important at this Center because Space is important to Langley and because Langley is important to Space.

Linwood G. Burcher, Fabrication Division, recently received an award for his suggestion relative to "cryotunnel joint sealant."

LAA Travel 78

There are spaces at group rates available on the Las Vegas charter departing from Patrick Henry Airport September 14–17. A choice of accommodations can be had from $265 per person. (This is the only Las Vegas direct charter departing from Newport News during the remainder of this year.)

A choice of hotels is offered on the Hawaiian tours which include the Napualani—$459, Princess Kau Lani (Sheraton)—$489, or Holiday Inn—$529 per person. There is also a choice of departures from Patrick Henry Airport, October 10 or 17 for a stay of eight days and eight nights. Packages include: jet transportation, hotel accommodations, appropriate meals and drinks aloft, transfers, baggage handling, taxes and tips.

Cruise from Norfolk December 16–23 on the TSS Carnivale to San Juan, St. Croix, St. Thomas and fly back from Nassau. Prices start at $440 per person based on two to the cabin, all inclusive.

Watch for details on Atlantic City weekend bus trip, September 29—October 1. Call Ernie Greene 2312 (Home 838-0567) or Herb Boulter, 3234 (Home 838-4773) for details. Reservation forms and brochures may be obtained from the Activities Center, ext. 3130.

The Langley Federal Credit Union dedicated its new Riverdale complex at 1120 West Mercury Boulevard on June 10. The new facility offers drive-in windows, plenty of parking and extended Friday and Saturday hours. Participating in the dedication ceremonies were Al Braslow, LF CU President; the Honorable Paul Trible, Congressman from Virginia's First District; and Dr. Donald P. Heath, Langley Director.

6 Langley Researcher, July 14, 1978
Special NASA awards were presented recently to those who contributed to the successful Approach and Landing Test program for the Space Shuttle. Dr. Donald P. Heath, Langley Director, and Paul F. Holloway, Director for Space, presented awards to the following Langley employees at a luncheon on June 26: (from left) William I. Scallon; Robert W. Rainey; Roy E. Hanley; L. Raymond Gentry; Richard P. Kennedy; Fred C. Wilson; Everett S. Browne; George R. Veney; Clarence L. Brooks; John A. Tanner; Thomas J. Yager; Clifford L. Blizzard; Alan W. Wilthin; Thomas C. Kelly; Richmond P. Boyden; George M. Ware; W. Pelham Phillips; W. Hewitt Phillips; Mark R. Nichols; Larry K. Lofkin, Jr.; Delma C. Freeman, Jr.; Bernard Spencer, Jr.; Walter B. Horne. Not pictured: Joseph M. Freeman, Jr.; Frederick J. Lallman; Dr. Raymond C. Montgomery; Clarence T. Morris; Donnie K. Shinn.

Happenings

STAR TREK CONVENTION. There will be a Star Trek Convention September 2-4, 1978 at the Statler Hilton Hotel in New York City. Guests of Honor will be William Shatner (Captain Kirk), James Doohan (Scotty), Walter Koenig (Chekov), and Isaac Asimov. There will also be a mystery guest, an autograph session with William Shatner, and 3-D science fiction movies. For more information write Star Trek America, 88 New Dorp Plaza, Staten Island, NY 10306 or contact Charlotte Yielding, 827-3561, M.S. 463.

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The Tac Air Toastmasters Club is increasing its membership. Tac Air meets each month on the second and fourth Wednesdays at the Langley Officers' Club. For more information call Bob Lee, 2486; Jim Moss, 3770; or Jim Shipp, 2592.

HAPPY HOUR is scheduled for today from 4 to 6:30 p.m. at the Activities Center.

BINGO. On Thursday, July 20, a super game will be played at the Activities Association bingo game. Unless someone wins the current game within the prescribed number restriction, the super game will have a $1,500 cash prize. Numbers will be called until someone wins. It will be a special game and cards will be 3 for 50 cents. Regular cards are $1 each and 3 for $2.50. Hot sandwiches and drinks are available at the bar.

TEN-PIN BOWLING LEAGUE. Names of teams, team members, and team captains for the NASA league starting this fall should be submitted by August 4, 1978 so we can establish the number of lanes required and start negotiations with the bowling establishments. (Last years teams also must submit this information.) If you are not on a team but wish to bowl, either regularly or as a substitute, submit your name and desired status. Membership is open to NASA employees and NASA contractors. Send submittals to Sam Sokol, Mail Stop 488, Extension 3681.

SCIENCE FICTION CONVENTION. A science fiction convention will be held Saturday, July 22, in the Activities Center (Building 1222), from 10 a.m. to 5 p.m. Frank Kelly Freas will be the guest of honor. There will be computer games, hucksters, art exhibits, a theatrical production, films, and a karate demonstration. Admission will be $1 at the door, $5 for the huckster tables. For further information call Ivan Clark, ext. 3661, or Cuyler Brooks, ext. 2631.

HONEY BUNCH. The NASA-Langley Apicultural Club will meet from 7 to 9 p.m. on Tuesday, July 18, in the Activities Center (Building 1222). Following the business meeting, two films on honey bees from the VPI extension office will be shown. Preparations for participation in the NASA carnival will be made.

Thought For Today

Early we teach our kids to walk and talk Later we try to get them to sit down and shut up!

Key Positions

Michael F. Cavelli has been selected Head, Contract Negotiation Section, Research and Development Contracting Branch, Procurement Division.

John D. Shaughnessy has been selected Head, Stability and Control Branch, Flight Dynamics and Control Division.

NAGS MEETING. The Hampton Roads Branch, National Association of Government Secretaries, will meet on July 18, at the Hampton House Restaurant, 2710 West Mercury Boulevard, Hampton. A social will be held at 6 p.m., dinner at 6:30 p.m. and the program at 7:30 p.m. The guest speaker will be Professor Rick Lowe, psychology instructor at Thomas Nelson Community College. He will discuss "You and Your Dreams." For additional information or reservations, call Reachie Hall, ext. 4156.
Seasat Scatterometer in Good Condition

Langley's radar scatterometer aboard Seasat is in good condition. Operational checks of the wind-measuring instrument have verified that it is working normally, according to William L. Grantham, manager of the instrument project.

The Seasat ocean-monitoring satellite was successfully launched June 28 from Vandenberg Air Force Base in California. It will sweep across 95 per cent of Earth's oceans every 36 hours.

Four of the five sensors aboard Seasat were turned on July 3 and 4. The Langley instrument was turned on for the first time on July 6 to begin what was called a quiet performance period. Preliminary data indicate that the instrument is measuring winds as planned.

An engineering assessment of the scatterometer will be made six weeks into the mission (in early August) to verify its continued good operation.

The Langley instrument will translate the sea surface roughness caused by winds into wind velocities and directions.

Brain Teaser

On the straight track of a super-tornado 500 meters away are two brothers. Each runs for his life in a straight line. Long Tom runs at (7-.05t) m/s and Swift Sam goes at (8-.2t) m/s while the tornado moves at a constant 25 m/s. What angle to the track should each have taken to maximize the minimum distance from the center? At these angles what are the minimum distances and could each have escaped the kill radius of 120 meters?

FOR SALE

Articles

Full-size, contemporary-style sofa, Hureuion fabric in black and white houndstooth check, EC. Call C. Morris, 595-0433.

Home furniture sale: contemporary walnut dining room table with 6 captain's chairs, $400, 25" Zenith color TV, $150, 2 youth bunk beds with bookcase headboards, $50. Call Woerner, 229-9266.

Piano — Lowrey, console, EC, owner willing to split cost. Call 868-7251.

Desks, metal (black w/walnut grain top and chrome legs), like new condition, $45; Typist's table, $50. Call Sandra S. Chaney, 2533, 868-6373.

1971 VW Super-Beetle Conv., 75,000 miles, new top, new battery, am radio, $1300. Call Perry, 857-4350.

1969 Volkswagen Van, GC, completely rebuilt engine w/new parts, new master cyl. and front brakes w/rebuilt wheel cys., 12 v. electrical system, good tires, $795 or best offer. Call Backwill #456 or 642-2060, Gloucester Point.

Boat and trailer — Sears 15 Trihull "game fisher" — fiberglass boat and trailer, very good condition, $500 firm. Call Kent, Virginia Beach, 420-8391 after 5 p.m., weekends 426-6764.

1962 Zefer camper trailer, sleeps five, propane stove, ice box, cooking and eating utensils, $750. Call P. Snyder, 868-7091.

1971 18 HP Evinrude outboard motor, used very little, $450 or best offer. Call 722-6665.


Bicycle — 27" 10 speed, boys, Schwinn Sportabout, brand new, $120. Call 599-4942 after 4 p.m.

Real Estate


Dinahs in Immaculate 3 BR, 2 BA, LR, DR, den w/mpl., eat-in kit, CA, well landscaped, wooded lot, 1 block from neighborhood pool, $45,900. Call Posey, 2617 or 874-6097.

4 bedroom brick rancher with applicances, fenced back yard, shaded corner lot, Foothill area (Fairfield) of Hampton, easy access to local government installations, $38,500. Call 851-6019 after 5:00 p.m.

FOR RENT

Willow Green Townhouse, 3 BR, 1 1/2 BA, stove/refrig., dishwasher, trash compactor, tennis court, store, $295 and utilities. Call 596-7057.

Sandbridge: New cottage with living-kit-din-area, 4 BR, washer, dryer, dishwasher, 1/2 block from ocean and Backbay (fresh water), air conditioned, electric heat, telephone, 4-car parking. Summer rate $350/wk, winter rate, $400/wk.

WEEK OF JULY 17 — 21

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Steak Smothered with Onions; Chicken & Cheese; Barbecue Pork; Steamed Clams Chowder; Fried Filet of Trout; Beef Balls Stroganoff; Pepper Steak; Snack Bar; Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese; Pizza.

WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Barbecued Ham Steak; Franki's Pizza; Draggin' Aces; Roast Beef; Honey Ham & Cheese Sub; Bacon, Lettuce & Tomato; Pizza.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers; Roast Beef Au Jus; Pork Chop Stew; Snack Bar; Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese; Pizza.

FRIDAY: Vegetable Soup; Fish Dinner; Country Style Steaks; Stuffed Peppers. Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club; Pizza.

WEEK OF JULY 24 — 28

MONDAY: Cream of Tomato Soup; Baked Lasagna with Garlic Bread, Tea or Coffee; Chicken Fried Steak; Pineapple Chicken; Snack Bar; Ham & Cheese Club; Egg Salad; Steak; Onion & Cheese Sub; Hot Reuben; Pizza.

TUESDAY: Manhattan Clam Chowder; Broiled Beef Liver with Onions; Braised Beef & Vegetables; Fried Fried of Trout; Snack Bar; NASA Sub; Hot Italian Sausage Sub; BBQ Port; Good Burger; Bacon, Lettuce & Tomato; Pizza.

WEDNESDAY: Vegetable Beef Soup; Roast Turkey Dinner; Meat Loaf with Tomato Sauce; Bar: Deluxe Chicken & Cheese Club; Bacon, Lettuce & Tomato; Pizza.

THURSDAY: Turkey Noodle Soup; Veg Parmesan; Baked Tuna & Noodle Casserole; Salisbury Steak; Snack Bar; Hot Italian Sausage Sub; Ham & Turkey; Roast Beef & American Cheese; Hot Ham & Cheese Pizza.

FRIDAY: Cream of Potato Soup; Fish Dinner; Savory Baked Chicken; BBQ Franks over Rice; Snack Bar; Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork; Pizza.

$300/mo. Call G. O. Kent, 420-8391 after 5 p.m., Weekends 426-5764.

Bryce Mt. chalet; L.R., D.K. kit, 5 BR, 3 BA, game room, eating and dining tables, dishwasher, washer, dryer, disposal, elec. range, a/c and heat. Lease $1,000, 8 Nov. $300 per week, $50/day. Call E. B. Gee after 6 p.m.,weekends 723-5942.

HELP! Need ride to and from work during July and August. Live in the Sacramento Town House just off Armitage Ave. Contact Tom at 3732 or 827-5955. Willing to work out arrangements short of subservience.

Wanted: Cast, Aluminum Flat-Bottom Jon Boat, should seat at least three persons comfortably, will use with trolling motor for fresh water fishing. Call 877-0809 after 6 p.m.

Langley Researcher, July 14, 1978
Whitecomb Honored by Aircraft Association

Dr. Richard T. Whitcomb, Head of Langley’s Transonic Aerodynamics Branch, will be presented the Meritorious Service to Aviation Award by the National Business Aircraft Association in St. Louis on September 13.

He is being honored for his contributions to aeronautical research, design and development with NASA and its predecessor agency, the National Advisory Committee for Aeronautics (NACA).

Two of Whitecomb’s contributions to aviation are considered extremely significant breakthroughs in aeronautical design. The area rule aircraft design, discovered and verified in 1952, reduces drag and increases speed with no additional power.

The supercritical wing, developed in the early 1960’s, permits significant increases in speed and range of subsonic jet aircraft without increased power or fuel consumption.

Whitecomb is the 26th recipient of the Meritorious Service to Aviation Award. It will be presented at a banquet during the association’s annual convention.

Director's Comments

Work Planning and Progress Review (WPPR)

In the fall of 1972, NASA announced an Agency policy of conducting WPPR sessions between individual employees and their immediate supervisors. Langley moved ahead to be the first Center to fully implement WPPR.

In 1975, we received excellent responses to a questionnaire administered at all of the NASA Centers as part of a Civil Service Commission and Agency joint personnel management evaluation team report. A key reason for the favorable responses relative to most facets of the work environment locally was attributed to WPPR.

Within the past month, I had my own WPPR session with the Deputy Administrator. It is appropriate to take this opportunity to reaffirm my support for the continued need for WPPR at Langley. I conduct WPPR’s with each of my Directors For and they in turn with their Division Chiefs.

The positive benefits to be gained are many, but like any other program, you can only expect to get back about what you have put into it. If a supervisor or employee has not prepared for the session or if each would rather be doing something else, very little will be accomplished. I view the process as an excellent manner to keep communication channels open, to identify individual career goals and possible training opportunities, etc.

To further improve the WPPR process at Langley, I feel we are ready to integrate it with the performance appraisal review. A healthy WPPR should provide for more meaningful performance appraisals. The President’s Reform Proposals place heavy emphasis on performance appraisal for all employees.

A Personnel Division team has been formed to work with Division Chiefs in taking the step of integrating performance appraisals and WPPR’s. In the next few weeks, members of this team will be contacting each Division to assist in this transition. Your continued support and cooperation will be appreciated.

Ozone Workshop to be Held at Langley

A workshop on Ozone Investigations in Tidewater Virginia will be sponsored by Langley and the Virginia State Air Pollution Control Board Wednesday, August 3.

The workshop will begin at 9 a.m. in the Langley Activities Center. It is scheduled to end before 3 p.m., and interested Langley researchers are invited to attend.

About 50 representatives from throughout the state will be welcomed to the workshop by Axel T. Mattson, chairman of the State Air Pollution Control Board (SAPCB), and by H. Scott Wagner of Langley’s Marine and Applications Technology Division.

Eight short briefings on various aspects of ozone problems, projects and investigations in the Tidewater area will be presented during the morning session.

Speakers will represent the SAPCB, Langley, the Wallops Flight Center, Old Dominion University, and the Environmental Protection Agency’s National Environmental Research Center.

The afternoon session will consist of a panel discussion by five representatives of the participating organizations, followed by a critique and comments from people in attendance.
Rolls Royce Official to Speak

Dr. Peter Calder, project director for the Olympus 593 Engine at Rolls Royce Limited, Bristol, England, will be the guest speaker for the Langley colloquium on July 31. Held in the Activities Center (Building 1222), there will be a coffee at 2 p.m. and the lecture will be at 2:30 p.m.

Calder’s talk is entitled, “Engine Options for Supersonic Cruise Aircraft.” He will discuss the Olympus 593 twin spool turbojet engine, produced by Rolls Royce in Britain and SNECMA in France, which powers the Concorde. He will give the highlights in the development of the engine and its inlet and discuss some possible modification to improve the propulsion system operating efficiency and environmental acceptability.

Concorde supersonic passenger services from Paris and London to South America and the Middle East commenced nearly two and a half years ago and were extended to North America two years ago, initially to Washington, D.C. and then to New York.

Calder earned his bachelor of science degree (with honors) in mechanical engineering and motive power at Imperial College in 1945. After one year in Ministry of Aircraft production and one year in industry, he returned to London University to do research on supersonic transfer from heat gasses for which he obtained his doctorate degree in 1950.

He then joined De Havilland Engine Company, becoming chief development engineer in 1950. De Havilland Co. later became the Small Engine Division of Rolls Royce. He was responsible for a variety of engines, including obtaining the first civil type certificate for the Gnome helicopter engine and the further development of the Gyron Junior Mach 2.5 engine which powered the BAC 188 all steel supersonic research airplane.

He began building up the Rolls Royce team responsible for developing the Olympus 593 Engine in 1963. He is still in charge of the Olympus 593 powerplant and is also involved in other aspects of Rolls Royce civil engines.

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Moon Landing Anniversary Observed

July 20, 1978, was the ninth anniversary of man’s first walk on the moon. In honor of this occasion, the White House issued the following statement:

“Nine years ago today, the world paused to watch two brave men tread the surface of the moon. It was a moment without precedent in human experience, a moment when terrestrial life reached out to touch another world. It is a source of pride for us that those men were Americans. Today, the lunar surface is criss-crossed in a half dozen places with the footprints of American astronauts and implanted with a variety of American scientific instruments.

The space shuttle, our next major manned space project, will begin regular, routine economical operation in the early 1980’s. Through it, we will use the vantage point of space to learn more about the Earth surface features and processes and to improve our ability to manage our resources and cope with natural phenomena. We will continue to develop technology to realize the full potential of space communications and other practical applications of space technology.

In the deeper reaches of space, we will continue to seek to expand our knowledge of the solar system and the universe of which we are a part.

As time and technology take us ever more deeply into the space age, it will continue to be our policy to conduct operations in space as required for our national well being and to support the right of all nations to do likewise. In so doing, we remain committed to the underlying principal of the exploration and use of space for peaceful purposes and for the benefit of all mankind.”

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The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115A, telephone 2934.

Editor ..................... Karen Miller
Editorial Assistant ........... Jean Drummond
Staff Photographer .......... Bob Nye

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.
First Day of Issue Stamp Ceremony Draws Crowd

Former Langley Director, Dr. Ed Cortright, purchases stamps.

The first Viking stamp is cancelled.

Collectors from all over line up to buy Viking stamps and to have them cancelled. Cancellations were done by hand by Post Office employees.

Autographing cachets and programs were: (from left) Carl C. Ulsaker, Senior Assistant Postmaster General; James S. Martin, Jr., former Viking Project Manager; Donald P. Hearth, Langley Director, and Gerald A. Safflen, former Viking Project Scientist.

The lines were often very long.
Carnival Queen Candidates

One of the lovely ladies pictured here will be selected by Langley employees as Queen of the 1978 Carnival. You can cast your vote when you buy your carnival ticket.

The Queen will win a $100 prize and will preside over most of the carnival activities.

- photos by Fred Jones
Employee Gift Shop Expands Services

The Exchange Gift Shop has added the following services for the Center employees: postage stamp sales including Viking stamps; Viking First Day Covers, while they last; Kodak film, Kodak film processing, camera and binocular repair, greeting cards, luggage rollers, ladies pantyhose, travel games, catalog sales including major appliances and furniture, Scotch recording tape, Scout launch model, initialed stick pins, and padlocks.

Future services will include: tennis balls, ping pong balls, wrapping paper, seasonal items, NASA t-shirts and hats, communications equipment, orders for home computers, electronic pinball machines, and home video recorders.

Gift Shop hours are from 11:00 a.m. to 2:00 p.m.

Grand Opening

The Official Grand Opening will be celebrated on August 25th and 26th. The Gift Shop hours for this event will be from 11:00 a.m. until 8 p.m. for both days. Special discounts will be available and employee suggestions are welcome. The Gift Shop is employee-managed for the employees and volunteers are needed for tasks such as comparative shopping, organizing employee suggestions and many other small tasks.

LRC Tennis Club

The Men's Fall Singles Tournament will be held August 12-14. Entries should be sent to George Lawrence, Mail Stop 271, before Wednesday, August 2. The tournament is open to NASA employees and contractors.

The first round of the Summer League Match Play began this week. Play will continue throughout July and August for all 44 participants.

The Man Behind The Camera

Profiles

By Allan C. Hanrahan

For the seven years that Personnel Profiles has appeared in these pages, almost all of the accompanying and complementary (and always appreciated) pictures have been taken by ROBERT E. NYE, who has been the photographer for the Langley Researcher even before it was known by that name—when it was still the Air Scoop. But Bob Nye does more than take pictures, although photography is his long-time avocation as a photographic Branch of the Scientific and Technical Information Programs Division.

Away from the job, Bob has taught photography to Explorer Scouts and serves as the Church Photographer for the First Methodist Church (in Newport News) of which he is a member and served on the Church Board.

Born in Marion, Indiana, on September 8, 1929, Bob graduated from Marion High School and subsequently enlisted in the Air Force. An accomplished musician and trombone player, he was assigned to the Air Force band at Andrews Air Force Base, outside of Washington, D.C. From 1948 until his discharge in 1951 he was assigned to the band at Langley.

Then followed four years of civilian employment and performing with bands on the Peninsula before the self-confident young man came to work in the Center’s Photo Lab in January 1955. Incidentally, Bob’s wife, Wilma, was employed from 1962 to 1964 as a secretary in what was then Cost Engineering. Bob and Wilma have one son, Bobby, age thirteen.

In addition to picture-taking, Bob is an avid sports fan and himself enjoys swimming very much. Sedentary interests include reading.

“He reads a lot—most anything,” we were informed, although it was not Bob who informed us because this was written without his knowledge. But Bob has a good sense of humor so perhaps he will not mind this little surprise too much. Anyhow, we just thought you might be interested in a picture of the man who takes the pictures.

Happenings

LAA TELEPHONE CHANGE. The Langley Activities Association telephone number has been changed to 3130 or 3139. After hours and on weekends call 3139.

TRAFFIC NOTICE. Due to hazardous driving and parking conditions, the service road to the rear of the Activities Building has been closed to all but the Activities Center staff and service or vending vehicles. Parking is available in the old Klate Holt lot next to the water tower.

WEDDING BELLS. AESD and MATD had a merger when Mary Alice Eastwood and Charles Woerner of the Space Directorate joined lives together on June 24, 1978. The wedding was followed by a champagne breakfast.

SOCIETY OF WOMEN ENGINEERS. There has been some interest expressed in forming a Hampton Roads Chapter of the Society of Women Engineers. Membership requires a degree from an accredited university in science or engineering. If you would be interested, contact Karen Washburn or Sophia Ashley, ext. 3711.

HAPPY HOUR is scheduled for July 28 at the Activities Center from 4 to 6:30 p.m.

ARTS AND CRAFTS SHOW. There will be an Arts and Crafts Show this year at the LAA Carnival. Anyone interested in entering their arts and crafts should call Betty Farmer at 2062 to reserve a space.

SUMMER BAND CONCERT. The Tactical Air Command Band’s Wind Ensemble will hold a concert on the Activities Center grounds on August 8, from 7 to 8 p.m. Everyone is invited to attend. There will be musical selections for the entire family.

Atlantic City Bus Trip

The Langley Activities Association is planning a bus trip to Atlantic City, September 29 to October 1. The package includes transportation, accommodations, taxes, gratuities, show ticket for the superstar theater at the Resort International Casino, and transportation to the race track. Price per person is $99.00. A deposit of $25 insures your reservation.

LAA has space blocked at group rates on the Las Vegas Charter, September 7-10. Package price from $269 and to Hawaii, October 10 or 17, priced from $459.

Cruise from Norfolk to Bermuda, September 20 (only two cabins left) for $425 per person or to four ports-of-call December 16, San Juan, St. Croix, St. Thomas and fly back from Nassau priced from $440. Watch for details on the Rio De Janeiro trip January 28–February 4, 1979.

Call the Activities Office, 3130, Ernie Greene, 2312 (Home 838-0567) or Herb Boulter, 3234 (Home 838-4773) for reservation form and brochures.

TAC AIR Toastmaster Officers Installed

On July 12, 1978, Toastmaster International TAC AIR Club Officers were installed by Roy Powell, Representative of Toastmaster International Area 5. Beginning a six-month term of office are: Robert Lee, of LRC, President; James Moss, of LRC, Educational Vice President; Andrew Srokowski, of LRC, Administrative Vice President; James Bradley, of LAFB, Treasurer; Nancy Bauer, of LAFB, Secretary; and, Gale Wilson, of LRC, Sergeant of Arms.

Toastmasters provides the opportunity for individuals to develop their oral communication skills and leadership ability in a friendly educational atmosphere. If you are interested in improving your leadership and communication skills while exchanging ideas and interests with people of varied backgrounds and experiences, then Toastmasters may be for you.

The TAC AIR Club meets at 7:00 p.m. on the second and fourth Wednesday of each month. If you are interested in attending a meeting to find out what it’s like, or just want more information, then call Bob Lee (ext. 2486), Jim Moss (ext. 3770), or Andy Srokowski (ext. 3735).
Brain Teaser Solution

The "brain teaser" which appeared in the last issue of the Researcher was submitted by Dr. Fred C. Grant (retired).

The results are:

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<td>Sam 120</td>
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Submitting correct answers were: Wayne Darnell, MATD; Tom Norris, Acoustics Dept; Wyle Labs; Floyd G. Howard, HSAD; Davis H. Crawford, SSD; and C. N. Roberson, Jr., IRD.

Doug Price, FDCD, didn't have the correct answer, but he did have the best handwriting the Researcher staff has seen in a long time.

Speakers Bureau

On June 14, Jack Reeder spoke to the American Defense Preparedness Association about the TCV Project.

Waterfront on large 14 ac. stocked and managed pond, clear cut pond situation, quiet and secluded (growth pattern established at 3 homesites on 45 acres) includes: 1 ac. entranceway, underground power and telephone service and custom landscaping, Gloucester Co. 26 mi. from Lanley, $229,900. Call 693-3583 after 5:30 p.m.

2 choice spaces at Parkcwn Cemetery with vaults, current price $1,050; will sell for $765. Call 826-8625 after 6 p.m.

FOR RENT

Sandbridge: New cottage with living-kit-din-area, 4 BR, washer, dryer, dishwasher, fp, q block from ocean and Backyard (fresh water), air conditioned, electric heat, telephone, 4-car parking. Summer rate $350/wk; winter rate, $300/mo. Call G. O. Kent, 420-8391 after 5 p.m. Week-ends, 426-6764. LRC-ext. 3095.

For rent or will consider setting-4 BR, 21/2 BA, Den/plt., 10 Redman Ct., Holiday Park area, $325 per month. Call 838-2268.

Willow Oaks: 3 BR, 2 BA, BR rancher on quiet cul-de-sac, dishwasher, disposal, refrig, stove, gas heat, central air, community pool privileges, Avall, early August. Call Bartholomew, 851-4540.

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Hearth to Serve as United Way Chairman

Dr. Donald P. Hearth, Langley Director, will serve as chairman of the upcoming United Way of the Virginia Peninsula campaign. He was nominated to head the annual drive by F. Edward Harris, United Way president.

Arthur R. (Art) Friend, Head of Langley's Industry Relations Office, was chosen as chairman of the Industry Unit for the campaign. This unit contains a total of 175 firms with 10 to 99 employees.

The campaign will begin in September and end in mid-November.

AFGE Special Meeting

There will be a special meeting of AFGE Local 2755 on Monday, August 14, 6:30 p.m., in the Activities Center (Building 1222). The purpose of this meeting will be to go over the recently negotiated Agreement (Contract) between Local 2755 and Langley Management. If time permits, there will be a vote as to whether or not to accept the Agreement.

If time does not permit the voting to take place on the 14th, the meeting will be continued the following evening, 6:30 p.m., in the Activities Center.

All members are urged to attend, as this Agreement outlines specific conditions under which you will be working for three years following the signing of the Agreement by both parties.

This special meeting does not take the place of the next monthly meeting, which is scheduled for Tuesday, August 22, beginning at 7:30 p.m. in the Conference Room of Building 1212 (7x10 Tunnel).

Space Lab Crew Selected

Scientist-astronauts Owen K. Garriott and Robert A. Parker were recently selected as mission specialists for the shuttle program's first space laboratory flight.

The seven-day laboratory mission is scheduled for the early 1980's. The 15-by-60-foot laboratory will be carried in the Shuttle Orbiter cargo bay. It is being developed and financed by 10 European nations under agreement with the European Space Agency.

In addition to the commander, pilot and the two mission specialists, Space Lab 1 also will have two payload specialists aboard, one from Europe and one from the United States.
Employee Benefits

Do you take yours for granted?

Mention employee benefits and most people think of insurance, sick leave, vacations and holidays. However we receive other benefits on a day-to-day basis that are taken for granted. To illustrate, recently an old factory building outside Edinburgh, Scotland, was demolished. In the office area workmen found a list of work rules issued in 1852.

1. Godliness, cleanliness, and punctuality are the necessities of a good business.
2. This firm has reduced the hours of work and the clerical staff will now only have to be present between the hours of 7 a.m. and 6 p.m.
3. Daily prayers will be held each morning in the main office.
4. Clothing must be of a sober nature. The staff will not disport themselves in rainment of bright colors.
5. Overshoes and top coats may be worn in the office but neck scarves and headwear may be worn in inclement weather.
6. A stove is provided for the benefit of the staff. It is recommended that each member bring four pounds of coal on cold days.
7. No member may leave the room without permission from Mr. Rogers. The calls of nature are permitted. The staff may use the garden.
8. No talking is allowed during business hours.
9. The craving of tobacco, wines or spirits is a human weakness and is forbidden.
10. The partaking of food is allowed between 11:30 a.m. and noon, but work will not on any account cease.
11. Members of the staff will provide their own pens.
12. Mr. Rogers will nominate a senior clerk to be responsible for the cleanliness of the office. All boys and juniors will report to him forty minutes before prayers and will remain after closing hours for similar work.

The owners recognize the generosity of the new Labor Laws, but will expect a great rise in output of work to compensate for these near Utopian conditions. So bring your coal, pens and neck scarves, and we'll meet in the patio.

Brain Teaser

There is a city in each corner of a symmetrical octagonal shaped island. A traveller discovers that by sailing around the island in either direction each city is connected by a straight road to the third city away. That is, city No. 1's connected to only cities No. 4 and No. 6, and so forth, for the other cities. One night a guerilla band lands at one city. They then travel by a road to a connecting city and mine both roads into that city at its city limits. They then leave by boat for another city to repeat what they just did.

In the morning the governing person of the island learns that roads leading into all but one city were mined. But she is confused as to how the guerillas did this without travelling over any mined roads or without leaving a road once they were on it, for the guerilla leader lived to tell about it. Will the real guerilla leader please stand up and tell us how they did it?

Thought for Today

A leader is best
when people barely know he exists.
Not so good
when people obey and acclaim him.
Worse when they despise him.
But of a good leader
who talks little
when his work is done
his aim fulfilled
they will say:
"We did it ourselves."

-Lao-tse (c.565 B.C.)

compensate for these near Utopian conditions. So bring your coal, pens and neck scarves, and we'll meet in the patio.

-Reprinted with permission from Rxtra, the employee newsletter of the Riverside Hospital, Toledo, Ohio.

Thanks

Richard Newman thanks "those who supported my recent heart surgery with their blood donations, best wishes, and assistance. Thank you so very much."

Gerry Soffen thanks all of his friends at Langley for their warm expressions of sympathy at the recent death of his wife, Hoshi, and for their generous contributions to the scholarship fund established in Hoshi's name at Park College, Parkville, Mo.

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Happenings

STAR TREK MINI-CON. The First Peninsula Star Trek Mini-Con will be held at the Williamsburg Hilton Inn, 1600 Richmond Road, on Saturday, September 23, from 9:30 a.m. to 6:30 p.m. Star Trek episodes, the famous Star Trek Bloopers, a full-length science fiction film and a huckster room will be featured. Registration is $3 in advance or $5 at the door. For further information call Bob Wright, extension 3666.

BLOODMOBILE VISIT. The Red Cross Bloodmobile will be at Langley on Tuesday, August 15, from 9:30 a.m. to 3:15 p.m., in the Activities Center (Building 1222). Please come donate a pint of blood—you won’t miss it and someone else needs it. For information or an appointment, call the Health Unit, ext. 2243 or 2588.

VEGETABLES CARNIVAL BOOTH. The NASA Vegetable Gardens Club will sponsor a booth to sell vegetables and cut flowers at the NASA Carnival August 25–26. If you would be willing to donate fresh vegetables, cut flowers, boxes, bags, or selling time, or to lend vegetable baskets or scales, please call Charles Bryant, ext. 3446, Rob Calloway, ext. 2483, or Penny Feldheim, ext. 2987, 3065.

BOWLING LEAGUE. A meeting of representatives from all teams in the NASA League will be on Friday, August 18, at 1 p.m., in the Activities Center (Building 1222). League play starts September 12 at Century Lanes, Buckroe Shopping Center. This will be the last chance to enter your team in the league.

FOOTBALL TICKETS. Season tickets for the William and Mary home football games are available at the Activities Association. The cost is $14 for 4 games. All games start at 1:30 p.m., except Homecoming which starts at 2 p.m. Contact Sue Juanaarena, ext. 3139.

LAA PRE-CARNIVAL DANCE. Don’t forget the PRE-CARNIVAL DANCE to be held in the Activities Center on August 19. The cost will be $3 per person—set-ups included. Music will be by 12 O’CLOCK HIGH. Dancing starts at 9 p.m. Advance tickets are on sale at the Activities Office.

HAPPY HOUR will be held Friday, August 11, from 4 to 6:30 p.m. at the Activities Center.

Retirement Parties

A retirement party will be held August 30 for Dudley Hammond who retired July 28. The cost is $7.50 per person or $14 per couple (includes gift) for a prime rib buffet supper in the Activities Center (Building 1222). Contributions to the gift only, $1, are welcome. Send your reservations to Doris Vandeveer, Mail Stop 285, by August 24, 1978.

A retirement dinner for Earle N. Koch will be held in the Activities Center on August 29 at 6:30 p.m. Steamship round will be served for dinner. The cost is $6.50 per person (includes gift) or $12.00 per couple. Donations of $1.00 for gift only are also acceptable. A cash bar will be held from 5:30 to 6:30 p.m. Make your reservation by August 23 by contacting Tom Freeman, ext. 3581; Charlie Stump, ext. 3581; or Tex Byers, ext. 3541.

CARNIVAL QUEEN VOTING. The cutoff date for voting for the carnival queen of your choice is Thursday, August 24, so be sure to buy your carnival ticket before then.

ELECTRONICS STOCK UPDATE. The integrated circuit stock is in the process of being updated and expanded. Copies of the new devices data sheets can be reserved by requested from Pam Phillips, ext. 2094.

EMPLOYEE EXCHANGE GIFT SHOP. The formal opening of the gift shop will be held August 25 and 26, with hours of 11 a.m. to 8 p.m. The shop is located in the cafeteria (Building 1213), Room 142, Mail Stop 292. To celebrate the grand opening, a door prize will be given to all those who register.

HOPE OPENS. The Hampton General Outpatient Emergency (HOPE) center, an extension of some Hampton General Hospital services, recently opened on Marcella Drive in Hampton. The center provides emergency, x-ray, laboratory, and EKG services Monday–Saturday from 7 a.m. to 10 p.m. and on Sundays from 2 to 10 p.m. Physical therapy services will be provided Monday–Friday from 8 a.m. to 4:30 p.m. Same-day surgery is performed by physician appointment.

Carnival Prizes Announced

The Activities Association has selected the Grand Prizes for the 1978 Carnival to be held August 25 and 26 on the picnic grounds. The Grand Prize drawing at 9 p.m. Friday, the 25th, will be a microwave oven and the 10 p.m. drawing will be $1,000 in cash. On Saturday, the 26th, the 9 p.m. drawing will be a 19-inch portable color T.V. and the 10 p.m. drawing will be $1,000 in cash.

Prizes will also be given away every half-hour during the Carnival. These prizes include appliances, coolers, black & white T.V.’s, bicycles, yard tools, and many other items. Your raffle ticket must be presented to win the half-hour drawings; however, your presence is not required for the Grand Prizes.

An added attraction this year is the Carnival Queen contest. When you buy a $1 raffle ticket, you can also vote for your favorite candidate. Tickets are on sale now from your division LAA delegate.

Job Openings

The following Merit Promotion Announcement is currently open:
78-38 — Clerk-Stenographer; GS-312-4; Office of Director for Systems Engineering and Operations; Closes August 18, 1978.

Softball Association

Final Standings

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<th>Team</th>
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<tr>
<td>Misfits</td>
<td>15–4</td>
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<tr>
<td>Charlie Brown’s All Stars</td>
<td>14–5</td>
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<td>Decibals</td>
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<tr>
<td>Simulation</td>
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<td>HTC</td>
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<td>Ballers</td>
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<td>Charlie’s Angels</td>
<td>7–12</td>
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<td>Phantoms</td>
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<td>RCA</td>
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<td>CDC</td>
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Recent Retirees

Alexander D. Hammond, Subsonic-Transonic Aerodynamics Division, retired on July 28.

Peter C. Boisseau, Subsonic-Transonic Aerodynamics Division, retired on July 28.
swap and shop

FOR SALE

**Articles**

Auto Radio — 1978 Delco AM/FM, used two months, EC, $75. Call Sandra C. Chaney, ext. 2377 or 826-0202.

Old school teacher’s desk, oak, kneehole style, 6 drawers, has been antiqued grey, 5' long x 3’ deep, $100 or best offer. Call Sawyer, 2513 or 826-6273 after 5 p.m.

9x12 Oval area rug, yellow, $15. 12x15 square area rug, red-orange shag, $25. Call 874-2480.

**Vehicles**

1974 Pinto Runabout, 4-speed transmission, AM/FM radio, new tires, 49,000 miles, EC, $1550. Call Techman, 877-5815.

Boat and Trailer — Sears 15 Trihull “game fisher” — fiberglass boat and trailer, very good condition, $500 firm. Call Kent, Virginia Beach, 420-8391 after 5 p.m., weekends 426-6764. LRC ext. 3095.

AMC 1975 Gremlin X, 304-V8, super T-10 4-Speed, super shifter, 4 BBL carb, AM/FM cassette stereo, body and paint in like new condition, super clean. Call 596-8649 after 5 p.m.

1975 Datsun B-210, 4-dr sedan, brown, low mileage, year-end model (less than 3 yrs. old), new steel radial tires, EC, expertly maintained, $1900. Call 420-8391 after 5 p.m. Weekends 426-6764, ext. 3095.

Sailboat—Sailfish, fiberglass hull, Dacron sail, both in good condition and ready to sail, $225. Call 642-6425 after 5 p.m.


Boat-Cabin Cruiser—25’ Grady White w/195 Palmer I/B engine, Clinker built, $3000 or best offer. Call 725-2629 (Mathews Co.) or 868-7491 after 5.

Sunfish sailboat and small boat trailer, both EC, separately or together. Call Foudrati, 898-4485 or 2077.

Teac reel-to-reel 2-channel stereo tape recorder, good condition, $80. Call Parker at 3521 or 826-8334 after 5 p.m.

**Real Estate**

Lake Monticello lot, beautiful place for retirement, health reasons forced to sell, cash, or terms to suit, low interest rate, apply at: 13 Groome Road, Newport News.

**Animals**

Afghan Hound, female, 3 yr., excellent disposition and blood lines, AKC. Call Powell, 898-4130.

FOR RENT

Sandbridge: New cottage with living-kit-din-area, 4 br, washer, dryer, dishwasher, fp, 1/2 block from ocean and Black Bay (fresh water), AC, electric heat, telephone, 4-car parking, summer rate $350/wk; winter rate, $300/mo. Call Kent, 420-8391; after 5 p.m. Weekends 426-6764, LRC ext. 3095.

WANTED

Car Pool from Cunningham Dr. area to NASA, 7:30-4/00 or 8-4:30 shift. Call Art Grunwald, 3551.

Parents interested in innovative non-profit, non-sectarian, cooperative pre-school education for 3 and 4 year old children. We are now registering for September classes. Contact Betty Bowman 898-6864 or Pam Weade 898-6308.

To join driving combination to West area, 8 a.m. shift, from vicinity of Denbigh Blvd. and Lucas Creek. Call Manning, 2513.

The Al Hareem belly dancers will perform at the LAA Carnival on Friday, August 26, at 7 p.m.

**Found**

German shepherd puppy, black and tan, at NASA Activities grounds. Call Bob Flath, 838-4043.

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**catering menu**

**WEEK OF AUGUST 14**

**MONDAY:** Old Fashioned Bean Soup; Spaghetti Dinner; Crab Cutlets; Chicken Chop Meat; Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.

**TUESDAY:** Bull Island Clam Chowder; Fried Filet of Trout; Beef Balls Stroganoff; Pepper Steak; Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.

**WEDNESDAY:** Beef Noodle Soup; Fried Chicken Dinner; Franks, Bacon & Cheese; Barbecued Ham Steak, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

**THURSDAY:** Chicken & Rice Soup; Braised Chicken Livers w/Onions; Roast Beef Au Jus; Egg Plant Parmesan; Snack Bar: Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese.

**FRIDAY:** Vegetable Soup; Fried or Broiled Fish Dinner; Country Style Steak; Stuffed Peppers, Snack Bar: Deluxe Sub; Hot Reuben; Turkey & Bacon Club.

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**WEEK OF AUGUST 21**

**MONDAY:** Cream of Tomato Soup; Baked Lasagna; Clam Strip; Pineapple Chicken, Snack Bar: Ham & Cheese Club; Egg Salad, Steak, Onion & Cheese Sub; Hot Reuben.

**TUESDAY:** Manhattan Clam Chowder; Broiled Beef Liver; Braised Beef & Vegetables; Fried Filet of Trout; Eggplant Parmesan, Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

**WEDNESDAY:** Vegetable Beef Soup; Roast Turkey Dinner; Meatloaf w/Tomato Sauce; BBQ Pot Pie, Snack Bar: Tuna Salad; Ham & Cheese Club; BBQ Beef & American Cheese.

**THURSDAY:** Turkey Noodle Soup; Meatloaf w/Tomato Sauce; Beef; Turkey & Bacon Club; Snack Bar: Deluxe Sub; Hot Reuben; Turkey & Bacon Club.

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**FRIDAY:** Cream of Potato Soup; Fried or Broiled Fish Dinner; Savory Baked Chicken; BBQ Franks over Rice, Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.
Family Ends Tech House Experiment

Preliminary results from a year-long study at Langley indicate that a family can save considerable amounts of both money and energy through the use of new technical systems developed from the space program.

A volunteer family of four, living in a conventional house equipped with unconventional technical systems designed to save energy and water, achieved these results:

- Total energy used for all purposes, including heating and cooling, was a little less than half the amount that would have been used in a conventional all-electric home under the same conditions.
- Total dollar savings from reductions in the use of energy and water amounted to more than $1,200 for the year, an average of over $100 a month through the year.

Continued on page 3.

Orbiter 2 Silenced

The Viking Orbiter 2 has been shut down after orbiting the planet Mars 706 times over the past two years.

The spacecraft ran out of attitude control gas on Monday, July 24, and JPL engineers sent commands that shut it down at 2:02 EDT on Tuesday, July 25.

Several months ago, Orbiter 2 developed a leak in one of its attitude-control jets. Engineers managed to slow the leak but were unable to stem it completely. Early Monday, the spacecraft vented the few millipounds of gas remaining in its tanks into space.

Viking Orbiter 1 and both Viking Landers continue to function well almost three years after they were launched.

The remaining Viking craft are expected to continue operating through February 1979.

LDEF to be Moved

Langley employees are invited to see the Long Duration Exposure Facility (LDEF) when it is moved next week on the Center.

Director Donald Hearth will express thanks to the Langley workers who helped in the fabrication of the LDEF structure at a brief ceremony beside the Fabrication Shop, Building 1232A, at 10 a.m. Tuesday, August 29.

The LDEF, aboard a trailer, will then be moved down Ames Road and into the high-bay area of Building 1250. It will spend several months there being outfitted with some of the experiments that it will take into space. It will also undergo further checkouts and testing.

In mid-1979 the LDEF will be loaded aboard a barge for its Inland Waterway journey to the Kennedy Space Center.

The LDEF, 30 feet long and 14 feet in diameter, will carry approximately 50 passive scientific and technological experiments when it is placed into Earth orbit from the Shuttle.
Want to Volunteer?

Langley is looking for a few good docents.

Despite what you’re thinking, it’s perfectly legal. Docents abound in the Tidewater area, and they throng in greatest numbers around Colonial Williamsburg.

A docent is an unpaid lecturer or teacher, and Langley is seeking about 20 of them to work at the Tech House and at the Visitor Center.

Some of the docents will be trained to tell visitors about the Tech House and its energy-saving systems, and to guide groups through the house. Other docents will be trained at the Visitor Center to give short overviews of Langley and its major research programs to school groups. Still others will be assigned to student drive-through bus tours of the Center.

The volunteers will only be asked to work for short periods, and only about once or twice a month.

Retired Langley employees, or spouses of employees, who are interested in this volunteer work are asked to call Hal Mehrens, Langley Educational Programs Officer, at 827-3968, for information on how to apply.

Debbie Waddell, High-Speed Aerodynamics Division, shows a model in the test section of the Unitary Plan Wind Tunnel. Tests are being performed here to obtain surface pressure and flow field data from a basic research aero wing configuration. They are designed to provide direct comparisons with results from advanced theoretical methods.

Carnival Prize List

Friday, August 25, 1978

5:00 1 Book of Raffle Tickets
5:30 $25 Savings Bond
6:00 Weekend Bus Trip to Atlantic City for One
6:30 Sunbeam Fold-up Dryer/Styler
7:00 Black & White Portable TV
7:30 AM/FM Portable Radio
8:00 Sunbeam Food Processor
8:30 Guardian Smoke Detector
9:00 Litton Full Feature Microwave Oven
9:30 Sunbeam Popcorn Maker
10:00 $1,000.00

Saturday, August 26, 1978

1:00 Sunbeam Toaster Oven
1:30 $25 Savings Bond
2:00 Weekend Trip to Atlantic City for One
2:30 Sunbeam Digital Clock
3:00 Black & White Portable TV
3:30 Sunbeam Crockpot/Frypan
4:00 Ladies Bicycle
4:30 Sunbeam Electric Grill
5:00 Lloyd’s Stereo AM/FM Radio & 8-track Player
5:30 Sunbeam Pint-size Fryer
6:00 Sunbeam Food Processor
6:30 Black & Decker Power Drill
7:00 Panasonic Cassette Recorder
7:30 Sunbeam Electric Knife
8:00 Men’s Bicycle
8:30 Sunbeam Electric Mixer
9:00 RCA 19” Color Portable TV with Stand
9:30 Sunbeam Double-Burger Grill
10:00 $1,000.00

The following is a schedule of special activities at the carnival:

Friday, August 25 - 6 p.m., Open 2-Mile Race; 7 p.m. - Belly Dancers.
Saturday, August 26 - 2 p.m., Fun Time Cloggers; 3 p.m., Open 440 Race; 4 p.m., Inter-Directorate/Contractor 4 x 440 Relay; 7 p.m., Home Town Boys (Blue Grass Band).

The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23685, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 113A, telephone 2934.

Editor ......................... Karen Miller
Editorial Assistant ............. Jean Drummond
Staff Photographer ............. Bob Nye

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.
Tech House

Continued from page 1.

The research project was conducted at the Technology Utilization House (called the Tech House), a one-story, three-bedroom, contemporary-style house built at the Langley Research Center to test equipment that is now available—or will be in the next few years—to the average homeowner.

The family of Dr. Charles W. Swain, a professor at Florida State University in Tallahassee, volunteered to live in the house for a year to give the technical systems a realistic test under normal living conditions.

Dr. Swain, his wife Elaine, their daughter Carol, 18, and son Charles, 13, moved into the house in August 1977, prepared to live as normally as possible while many of their actions were monitored, sensed, measured, and turned into computer printouts of data numbers.

After a year of research, Tech House engineers are pleased with the preliminary results of the project. Besides definite savings in energy and money, other early results indicate:

• Most of the systems incorporated in the Tech House were put to use. Some systems worked better than predicted, some didn't work quite as well as expected, but the technical information collected will be extremely useful in redesigning or modifying some of the systems to make them more efficient.

• Once a detailed analysis is complete of all experimental data, the engineers will know a lot more about how to customize various systems to fit particular kinds of houses, or to suit areas of the country with different geographical and climatic conditions, or to meet special needs of individuals.

• The project was a catalyst for increased national interest in this type of research. People and organizations in this area, and throughout the country, have become more interested in the new technology—the systems and equipment—that were put to a realistic test in this experiment.

• One possible “sleeper” system incorporated in the Tech House, the water recycling equipment, may be of great value to homeowners in the future, especially if various areas of the country continue to experience periodic water shortages.

Preliminary performance figures on some of the major systems show these results:

• Thermal design features, such as improved insulation, double-door entries that acted as air locks, and special window shutters accounted for about 60 percent of the energy savings, compared with a conventional home. These reduced heating requirements added up to about $700 of the total annual savings.

• Solar collectors on the roof and a solar-supplemented heat pump system supplied more than 50 percent of the energy required to heat the house. This amounted to about $300 of the overall energy savings.

• Solar energy also provided approximately 35 percent of the hot water energy required by the Swain family, accounting for over $100 of the annual savings.

• Energy-efficient lighting, appliances and miscellaneous items of equipment accounted for the rest of the annual savings in energy use and cost.

• The water recycling system reduced overall use of water by approximately one-third. This amounted to about 20,000 gallons of water conserved during the year.

A complete report, detailing results of the live-in experiment and comprehensive conclusions of the engineers, should be completed by January 1979.

Based on the preliminary results, however, Tech House engineers have already discovered ways to save additional energy and water by making such minor systems changes as these:

• Improved insulation for the solar collector system's water storage tank should increase the Sun's contribution to the heating requirements by an estimated 20 percent.

• Doubling the size of the hot water system's pre-heat tank and making some simple modifications to the water piping system should increase solar energy contributions to the total hot water energy requirements by 10 to 20 percent.

• Slightly increasing the size of the water recycling system's collection tank should increase water savings by approximately 25 percent.

Hearth Selected for Space Club Post

Dr. Donald P. Heath, Langley Director, has accepted an invitation to serve as a member of the Board of Governors of the National Space Club.

The Club, founded in 1957, “seeks to stimulate the advancement and application of space flight and related aerospace technologies for the benefit of all mankind,” according to William S. Dempsey, National Space Club president. Each month the Club, a non-technical, non-profit organization, sponsors luncheons with speakers from the aerospace community. In addition, the Club grants scholarships to worthy students to pursue post-graduate and doctoral studies in the aerospace sciences.

The Board of Governors is occasionally called upon for advice and counsel and also nominates and elects the recipient of the Goddard Trophy, the premier award of the aerospace community.

Government, congressional and industrial leaders gather once a year at the Annual Goddard Memorial Dinner to pay tribute to those persons who have made outstanding contributions in the field of astronautics.

• Distributing heat from the special fireplace air-heating unit throughout the house via the air duct system would further reduce heat requirements, plus eliminate excess heat in the living room.

During their year in the house, the Swain family used all of the special equipment except the smoke alarm and the tornado detector, both of which are only for emergency use.

The family especially liked the window shutters, which not only saved heating and cooling energy, but eliminated most outside noise and provided a secure feeling when closed at night.

The Swains report that they used the low-voltage emergency lighting system three times during their stay, all during electrical power outages. The system provided very good lighting for the conditions.

Dr. Swain reports that the house's security alarm system is easy to use and was armed on several occasions.

And because of special thermistor devices installed in all lamp sockets, the family only replaced one light bulb all year.
NASA have spent the summer at Langley as a university professors and 2 legal interns team conducting a study entitled, August 11.

University, has directed the study and led the team in reporting the results on air transportation networks, and aircraft should be only an improved or changes in aircraft, air freight terminals, should handle 20-foot intermodal containers; the long range aircraft designed for cargo service; the long range system which were viewed as necessary to achieve a need in the period 1990-2000.

The team reviewed forecasts of the air cargo industry and recommended changes in aircraft, air freight terminals, air transportation networks, and government regulation. These changes were viewed as necessary to achieve a system which will best serve the national need in the period 1990-2000.

Major recommendations were: new aircraft for medium ranges should be designed for cargo service; the long range aircraft should be only an improved or derivative version of today's craft; all aircraft and major freight terminals should handle 20-foot intermodal containers; economic de-regulation of the air cargo industry should continue at least into the immediate future; and airlines should be able to own interstate trucking companies.

Copies of the team's written report will be available by mid-October from the Training and Educational Services Branch, extension 2611.

---photo by Bob Nye


Design Team Presents
Air Cargo Study Results

In a program sponsored jointly by NASA and the American Society of Engineering Education (ASEE), 19 university professors and 2 legal interns have spent the summer at Langley as a team conducting a study entitled, "An Integrated Air-Cargo Transport System."

Dr. Griffith J. McRee, Old Dominion University, has directed the study and led the team in reporting the results on August 11.

The team reviewed forecasts of the air cargo industry and recommended changes in aircraft, air freight terminals, air transportation networks, and government regulation. These changes were viewed as necessary to achieve a system which will best serve the national need in the period 1990-2000.

Major recommendations were: new aircraft for medium ranges should be designed for cargo service; the long range aircraft should be only an improved or derivative version of today's craft; all aircraft and major freight terminals should handle 20-foot intermodal containers; economic de-regulation of the air cargo industry should continue at least into the immediate future; and airlines should be able to own interstate trucking companies.

Copies of the team's written report will be available by mid-October from the Training and Educational Services Branch, extension 2611.

Key Positions

Sammie D. Joplin was recently selected Head, Mechanical Engineering Section, Mechanical Design Branch, Research Facilities Engineering Division.

Walter C. Hoggard was recently selected Acting Head, Reliability and Quality Assurance Management Unit; Systems Safety, Quality and Reliability Office; Office of the Director for Systems Engineering and Operations.

LAA Atlantic City Tour

A bus will depart from the Activities Center Friday morning, September 29, for Atlantic City returning Sunday night, October 1. Price per person is $99 and includes transportation, accommodations, taxes, gratuities, Casino pass (good any time), show ticket to the Resort International Super Star Theatre and transportation to and from the race track. A $25 deposit insures your reservation.

Other trips planned include: Hawaii--October 17-25 from Patrick Henry; Las Vegas--October 15 and November 9 from Norfolk; cruise to four Ports-of-Call from Norfolk--December 16-23, and the big one from Norfolk to Rio de Janeiro--January 28 through February 5.

Call the Activities Office, 3139; Ernie Greene, 2312 (Home 838-0567); or Herb Boulter, 3234 (Home 838-4773) for the brochure on the destination of your choice.

Mehrens Receives Education Award

Harold E. Mehrens, head of Langley's Educational Programs Office, has been selected to receive an Aviation Education Certificate of Merit for this year by the Aviation Distributors and Manufacturer's Association's Aviation Education Committee.

The Association, comprised of distributors and manufacturers of commercial aviation parts and supplies, received over twenty nominations for the annual award.

The award is judged on accomplishments in furthering aviation education in the past year.

Mehrens, one of five award winners, received his award for his contributions in establishing NASA's "Aeronautics Mobile." This program is to bring about public understanding of aeronautics research and development, which includes more efficient, economical, less noisy and safer aeronautics.

The mobile is not only a walk-through van, but also a lecture and discussion program which deals with background of aeronautics research and its current programs. Although the mobile was conceived in 1969, it was not accepted until 1977. In that year it was estimated to have reached over a half million people in the United States.

Mehrens has responsibility for NASA's educational programs and service to the education community throughout North Carolina, South Carolina, West Virginia, Kentucky and Virginia.

Mehrens joined NASA in May 1965, serving as head of the Educational Programs Branch at the John F. Kennedy Space Center.
Virginia Develops Natural Resources Information System

Langley is assisting the Commonwealth of Virginia in establishing the Virginia Natural Resources Information System, a data processing system with information on natural resources, such as wildlife, agriculture, forestry, and water. The system will be available to governmental agencies and private firms, according to Maurice Rowe, Virginia Secretary of Commerce and Resources.

Warren D. Hypes, Marine and Applications Technology Division, is representing Langley on the Virginia Resources Information System Task Force, which is to produce a design to see what should be included in the system, such as the scope, organization and content of material and how it should be stored.

William E. Breen, Assistant to the Secretary of Commerce and Resources, said that NASA is furnishing technology for the transfer of the information on natural resources to the centralized system.

He noted that NASA and Hypes have been very helpful in designing the system. Breen added, "Without him (Hypes) there would be a missing link."

Rowe said that the Commonwealth sought the help of NASA because it has done a great deal of pioneer work on natural resources. He added that NASA has the developed technology for the system.

Hypes said that NASA is also offering the information it has on natural resources. This information includes aerial photographs from airplanes and LANDSAT, which will contain information such as land use and land cover.

NASA's involvement in the task force came about by the work of Langley Director Dr. Donald P. Hearth, according to Hypes. Hearth was a real "catalyst" in NASA's involvement, he added.

Any Witnesses?

"I would greatly appreciate it if the jogger who witnessed the car accident on July 6 on Freeman Road in front of the Tech House would contact J. Siviter, ext. 2576."

Smithsonian Frisbee Festival Planned

Plastic flying discs of all sizes and colors will fill the sky this coming Labor Day weekend at the second annual Smithsonian Frisbee Festival.

The festival will be held Sunday, September 3 (rain date: September 4), from noon to 5 p.m. on the west side of the Washington Monument grounds. All events are free and open to the public and picnics are encouraged.

Sponsored by the National Air and Space Museum, the festival will feature demonstrations by disc stars and workshops for all ages and abilities. Three disc-catching dogs, Hyper Hank, Ashley Whippet and Martha Faye Pickerill, will perform. Frisbee stars such as Erwin and Jens Velasquez, who won the 1976 and 1977 freestyle title at the World Frisbee Championships, will display their skills.
Happenings

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The TAC Air Toastmasters Club is increasing its membership. TAC Air meets each month on the second and fourth Wednesdays at the Langley Officers Club. For more information, call Bob Lee, ext. 2486; Jim Moss, ext. 3770, or Andy Srokowski, ext. 3735.

THE FIRST MARS LANDING SOCIETY was recently formed to commemorate man's first successful landing on Mars and life-time memberships in the society are still available. For $2, members receive a specially designed membership card, a (suitable for framing) membership certificate, and a cachet with a cancelled stamp of the July 20 (first day) Viking commemorative stamp. The cachet will be autographed by Jim Martin, Gerry Soffen, Tom Young and Israel Tabak. To join the society, or for additional information, write to: First Mars Landing Society, P.O. Box 28, Hampton, Va. 23669.

SAILING CLASS. Williamsburg Flotilla 67 U.S. Coast Guard Auxiliary will offer a 13-lesson basic sailing and seamanship course at James Blair Junior High School Annex, room 302, starting on September 14. Text book and course material will be available for $7.00. For further information contact Carl Pearson at 220-0499.

DESIGN '78. An evening of fashion presentation, through music, dance, panoramic visuals and total lifestyle dressing, will be held at the Hampton Coliseum on September 14 at 8 p.m. Tickets are $3 and can be purchased at Leggett Stores, all Ticketron locations, Junior League of Hampton Roads members, or the Coliseum Box Office on the evening of the performance. Proceeds will support community projects sponsored by the Junior League.

Speakers Bureau

On July 25, Dave Throckmorton spoke to the Hampton Kiwanis Club about the Space Shuttle.

On August 9, Herb Greene spoke to the Williamsburg Kiwanis Club about Project Recoup.

Langley Employees Support Bloodmobile

Two hundred sixty-two Langley employees donated a pint of blood on August 15 when the Red Cross Bloodmobile visited the Center.

Achieving gallon status were:

- 9 gallons: Jack E. Ashe; L. E. McDaniel.
- 6 gallons: Walter L. Gregory.
- 5 gallons: Wilmer H. Reed; Marcela F. Hogge.
- 4 gallons: Virgil H. Justice; Wilbur C. Heier; Lewis A. Horsley; Edward L. Bradshaw; Delma C. Freeman.
- 3 gallons: Roy A. Heath.
- 2 gallons: Norman F. Knight; Robert L. Kenimer; Lamont R. Poole; Russell E. Criste; James L. Thomas; Andrew A. Graham II.
- 1 gallon: Mary L. Oldershaw; Brian M. Webber; Robert H. Daugherty; Elsworth L. Sharpe; Stephen Ruggles.

The Bloodmobile visit was coordinated by Scotty McArthur, Office of Occupational Health Services. Rose Gaskins, MATD, volunteered her time as the NASA typist.

Scott Elected NTA Vice President

Samuel J. Scott, Office of the Director for Structures, was recently elected Vice President of the National Technical Association (NTA), Inc., during the 50th Annual Convention in New York City, August 2-5. He will serve in that position until August 1979.

At the convention, Nettie Faulcon, Alphonsa Smith and David Woods, IRD; and Andrew Hargrove, Hampton Institute, presented technical papers. Sam Scott, James Harris, ACD, and Rosa Webster, Personnel, served as session chairmen. These individuals are members of the Hampton Roads Chapter, NTA.

NTA activities are directed toward encouraging and assisting public and private institutions in identifying potential minority technical talent.

The local chapter will hold a dinner meeting at the Horne's Coliseum Inn and restaurant on August 28. Call Robert Lee, extension 2486, for further information.

Shirley Evans (center) of the LAA Publicity Committee presented Wesley T. Berryman, Jr. (second from right) winner of the Carnival Poster Contest, a $25 Savings Bond. Honorable Mentions were presented to C. M. Cole (right), Scott Simkins (left) and Laura Pritchard (second from left).
Langley Activities Association Presents 78 Carnival

Aug. 25 & 26

Grand Prize: $1,000.00 Cash Each Night
- Prizes Awarded Every Half Hour -

Midway
A Family Affair
Casino
Childrens Games
BINGO
Special Events
Food & Drinks
Dancing
Fun & Games
swap and shop

FOR SALE

Articles
Early American winged back sofa with matching chair, and rocker, 1 maple finish coffee table, $75. Call 838-5492.
Exercise, 20 inch wheel, mfrd. by NADCO, has been used very little, in EC, $40. Call 596-3394.


Lawn Sale. New & used items, furniture, carpet, paintings, sailboat, carpet shampooer, macrame, plants and more. Friday, August 25, 9:00 a.m., 105 Marcella Road, Hampton.

1977 Volare Sta. wagon, low mileage economical automobile, 6 cylinder engine w/4 speed overdrive transmission, equipped w/bower steering, power brakes, radial tires, luggage rack, AM-FM radio, rear window defroster and other accessories, $3,825. Call Phillips 722-6160 for further information.

1978 Mark V, Continental, moon roof, AM, FM, Quad., 8 track tape, computer miles-to-empty, champagne color, designer model, etc., etc., beautiful!, $12,500. Call 826-2651 after 10:30.

Chris Craft, 28' cabin cruiser, VGC, sleeps 4, galley, stand-up head, engines and trans. in like-new cond. , kept under cover. Call 838-0173 after 5:30.

Truck Camper – Eldorado, 104 ft., 110-12V, stove, refrig., furnace, water tank, 3 jacks, portanotty – VGC, $1,000 New. Call 595-1716.


1974 Pinto Runabout, 3-door, low mileage; AM/FM, radial tires, runs on Mobil 1 oil, $40. Call 3418 or 693-4521 after 5:30.

WANTED

To join or form driving combination to West Area, 8 a.m. shift, from Windsor Great Park. Call Dan Hoad, 3611.

Ride from Deer Park to West Area at 8, from Todds Lane Macon Road vicinity. A. Schy, 2972.

LOST

corn cob pipe, curved stem, and collapsible umbrella with brown handle. A. Schy, 2972.

Brain Teaser Answer

The brain teaser in the last issue of the Researcher was submitted by Al Sabol and his answer is: "Cities are numbered consecutively in either direction around the island. From city 1, go to 4 and mine its roads. From 2 to 7; from 5 to 2; from 8 to 5; from 6 to 1; from 3 to 6; and from 3 to 8." Some people worked the problem differently, but were also correct. Submitting correct answers were: Tim Bryant, FD; Bill Johnson, STAD; Tim McGlothlin, SDD; C. N. Robeson, Jr., IRD; Ned D. Wagner, OSD; Floyd G. Howard, HSAD; Davis H. Crawford, SSD; Chuck Walker, PED; I. S. Raju, MD; Helen Reed, ASD; Doyle Swofford and Mike Dorsey, SED; Tom Norris, Wyle Labs; Marjorie Turner, Structures Lab, USARLT; Chris Naftel, MATD.

Retirement Party

Ann C. Johnson, Systems and Experiments Branch, Space Systems Division, will be honored with a retirement luncheon on Friday, September 8, at 12 noon, at the Langley Activities Center. The cost is $5.00 per person (includes gift). Donations of $1.00 for gift only are acceptable. For reservations, send cash or check to Bob Wright, M/S 364, extension 3666, by September 5.

Cafeteria Menu

WEEK OF AUGUST 28

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Chicken Chow Mein; Pepper Steak. Snack Bar: Hot Italian Sausage Sub; Steak and Onion Sub; Egg Salad Sandwich; Bacon, Lettuce & Tomato; Pizza.

TUESDAY: Bull Island Clam Chowder; Fried Filet of Trout; Roast Beef Au Jus; BBQ Spareribs. Snack Bar: Hot Ribbin; BBQ Pork. NASA Sub; Roast Beef & American Cheese; Pizza.

WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Franks, Cheese & Bacon; Eggplant Parmesan. Snack Bar: Hot Italian Sausage Sub; Ham & Turkey; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato; Pizza.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers w/Onions; Beef Balls Stroganoff w/Noodles; Barbecued Ham Steak. Snack Bar: Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese; Pizza.

FRIDAY: Vegetable Soup; Fish Dinner; Steak Smothered w/Onions; Stuffed Peppers; Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club; Pizza.

WEEK OF SEPTEMBER 4

MONDAY: HAVE A SAFE AND HAPPY LABOR DAY!!

TUESDAY: Manhattan Clam Chowder; Fried Filet of Trout; Savory Baked Chicken; Eggplant Parmesan. Snack Bar: Hot Italian Sausage Sub; BBQ Pork. Roast Beef & American Cheese; Pizza.

WEDNESDAY: Vegetable Beef Soup; Roast Turkey Dinner; Baked Tuna & Noodle Casserole; BBQ Franks over Rice. Snack Bar: Ham & Cheese; BBQ Beef & American Cheese; Pizza.

THURSDAY: Turkey Noodle Soup; Veal Parmesan; Broiled Beef Laver w/Onions; Beef Enchiladas. Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese; Pizza.

FRIDAY: Ham & Lima Bean Soup; Fish Dinner; Pineapple Chicken; Beef Pot Pie. Snack Bar: Hot Toast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork; Pizza.

Key Positions

Felix P. Crommie was recently selected Head, Systems Safety Engineering Unit, Systems Safety, Quality and Reliability Office.

James W. Ramsey, Jr. was recently selected Head, Mechanical Design Branch, Research Facilities Engineering Division.
Langley CFC
Goal Set at $175,600

Langley Director Donald P. Hearth is launching Langley’s 1978–79 Combined Federal Campaign (CFC) with a challenging goal of $175,600 and has appointed Duncan McIver, Assistant Chief, Aeronautics, Flight Electronics Division, as Chairman.

Jim Raper, Atmospheric Environmental Sciences Division, will serve as Co-Chairman, Jim Gardner, Structures and Dynamics Division, is the Financial Chairman, and Sandra Chaney, Nimbus G Project Office, will serve as Secretary.

A 1-day Center-wide solicitation will be held on Thursday, October 5, preceded by a kickoff meeting for Division chairmen and “key men” solicitors on Thursday, September 28, at 9 a.m. in the Langley Activities Center.

Dr. Hearth asks all employees to maintain the Center’s tradition of setting the highest standards of citizenship and community support by giving generously to the campaign. Remember that most of the CFC gift is used directly to make the Peninsula a better place to live and raise our families. (Also, see the President’s message on CFC, page 3.)

The Biology of Human Aging

Colloquium Lecture on September 18

Dr. Leonard Hayflick will be the guest speaker for the Langley Colloquium on Monday, September 18. The lecture, entitled “The Biology of Human Aging,” will be at 2:30 p.m. in the Activities Center (Building 1222). It will be preceded by a coffee at 2:00 p.m.

Hayflick is Senior Research Cell Biologist at Children’s Hospital Medical Center of Northern California, Bruce Lyon Memorial Research Laboratory, Oakland, California.

According to Hayflick, the ability of the human body to maintain itself is manifested from the large-scale immune and endocrine systems down to the cellular level. This self-maintenance ability is highly adaptive to man’s environment, as exemplified by the astronauts’ biological responses to sustained zero-g environments.

However, the remaining fundamental question is why this self-maintenance ability “wears out,” resulting in the aging process and eventually death. Can the biological clock be altered and would it be desirable to do so?

Hayflick will consider the aging process from both a demographic and biological point of view. Recent studies revealing the finite capacity of normal cells to divide will be reviewed. After an introduction to the principles of cell-culture technology and its implications, Hayflick will present some modern theories of the causes of the aging process.
Finn to Head Legislative Affairs

Terence T. Finn has been named NASA's Director of Legislative Affairs, effective September 11.

Finn has served as senior analyst for energy, science and space on the staff of the U.S. Senate Budget Committee since December 1974. In that capacity, he was responsible for the budgets of NASA, the National Science Foundation and the Department of Energy.

From 1973 to 1974, Finn was staff consultant to the U.S. House of Representatives' Select Committee on Committees. His responsibilities there were to assist the Committee in reorganizing the Committee structure of the House. Previously, Finn served as legislative assistant to Senator Joseph D. Tydings of Maryland.

Finn earned his doctorate degree in American government from Georgetown University in 1973. He received his master degree from the University of Sussex, England, in 1965, and his bachelor degree from Williams College, Williamstown, Mass., in 1964.

Speakers Bureau

On July 13, Jack Reeder spoke to the Smithfield Kiwanis Club on TCV.

On July 21, Howard Wright spoke to the Aerospace Education Leadership Development Course on Civil Air Transport R & D.

On August 3, Troy Brooks spoke to the Virginia Vocational Education Summer Conference at Roanoke, Virginia, on Metal Technology.

On August 4, Cary Spitzer spoke to the Shenandoah Valley Amateur Radio Club, Winchester, Virginia, on Viking.

On August 6, Howard Wright spoke to a public audience at the Nature Science Center, Winston-Salem, North Carolina, on the History of Flight.


On August 24, Lenwood Clark spoke to the York Lions Club on LDEF and Sheila Long spoke to the Smithfield Kiwanis Club on Medical Benefits from Space Research.

Thank You

Hal Mehrens would like to thank all those Center personnel who supported the Educational Programs Office in its several Career Exploration Programs this summer. "As a result of these programs, we received many letters from the students involved. I have selected one, from Ann Barbour, a Peninsula Catholic High School student, which I feel expresses the students' appreciation as well as my own." Ann's letter is as follows:

Dear Mr. Barrier,

I wish to thank you for the valuable experience your program extended to me. I was able to gain an insight into the many different directions I can go in the mathematical and scientific fields. I never realized all the possibilities which are open to me. I feel that this experience will help me greatly in my choice of a working field. I hope after entering college I will be able to join your co-op program. This would give me the chance for coordinating my studies at school with the "on-the-job" experience that I would receive.

I wish to thank you, Mr. Mehrens, and all the sponsors again for taking the time and interest in helping me get a better start on my life's goals. I hope you are able to continue this program. Young students like myself need guidance during these important times in our lives. Thank you for a most beneficial summer.

The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115A, telephone 2934.

Editor ................. Karen Miller
Editorial Assistant .......... Jean Drummond
Staff Photographer ............ Bob Nye

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.
President Carter Endorses CFC Drive

President Carter recently issued the following memorandum to all federal employees and military personnel:

"Ours is a society in which individuals traditionally share what they have with others less fortunate than themselves. The Combined Federal Campaign offers each of us the opportunity to show our individual concern for those in need of help. This one campaign combines the fund-raising efforts of the local United Way, the American Red Cross, the National Health Agencies, and the International Services Agencies.

Through one gift to the Combined Federal Campaign, we can help support a wide variety of voluntary agencies. These organizations support the sick, the aged, the handicapped, the poverty-stricken and the young--those who are needy among us. Your contributions also go towards research programs and our friends in need across the seas. If you choose, your gift can be made easier through the use of payroll deductions.

While the decision to give and the amount of one's gift are, of course, personal voluntary decisions, I hope that each of you will join with me and other federal workers, civilian and military, in supporting your local Combined Federal Campaign to the fullest extent possible."

Hubbard to Receive Acoustics Award

Dr. Harvey H. Hubbard, Assistant Chief, Acoustics and Noise Reduction Division, has been selected to receive the Acoustical Society of America's Silver Medal in Noise.

The Society, consisting of 5,000 professionals in all phases of acoustics, presents no more than three Silver Medals a year and each medal must be in a different field. Hubbard is receiving the award "for his contributions to the understanding of aircraft noise, its generation, propagation and control, and its effects on people and structures," according to Betty Goodfriend, Administrative Secretary of the Society. The award will be presented at a November ceremony in Honolulu.

Hubbard, the author or co-author of about 90 technical papers on research in acoustics, has been with Langley since October 1945. Presently serving as Vice President-Membership for the Institute of Noise Control Engineering, Hubbard was elected in March 1978 to serve as president of the same organization in 1979.

Howard T. Wright, Director for Projects (center), is congratulating SACO analysts for completing the Project Planning Analysis and Reporting System (PPARS) workshops. SACO analysts from left to right are: Ernest Phillips, William Gaster, William von Wald, David Duxbury, Ross Phillips, William Terrill, Darrell Wood, Beverly Overman, Ronald Amole, Melvin Morris, Joseph Guys, and Andrew Forbes. Missing from the picture is Raould Price.

**SACO Analysts Complete Workshops**

A dozen analysts from the Schedule Analysis and Control Office (SACO), of PMSD, recently completed a series of 10 workshops on the Project Planning Analysis and Reporting System (PPARS).

PPARS is a project control system designed and developed by SACO; software was produced by Computer Sciences Corp. It combines into one system three computer programs and a scheduling program.

With the new system, a project manager can adjust and reschedule work to increase the probability of meeting objectives.

Project managers can simulate problems concerned with schedules and resources, determine and examine the best possible solutions, and produce required reports and schedules in real time. Instant assessment of problems is possible, and problem-solving information is provided.


**Job Openings**

The following Merit Promotion Announcements are currently open:


People visit Langley from all over the world, and they come by many kinds of transportation. Two nearby visitors came last week on an unusual, although basic, form of transport. Joy Crewe (left) is from Hampton and Angie Miles is from Poquoson. The transport is named Sissy.
Carnival Prize Winners

The following people were winners at the LAA Carnival held August 25 and 26.

August 25 –
5:00 – One book of Raffle Tickets, Shirley Evans
5:30 – $25 Savings Bond, Diane Guy
6:00 – Trip to Atlantic City, Richard Shearer
6:30 – Sunbeam Hair Dryer, Don Ewton
7:00 – Black & White Portable 12” TV, Danny Sharpe
7:30 – AM/FM Portable Radio, J. L. Harris
8:00 – Sunbeam Food Processor, Randy Smith
8:30 – Guardian Smoke Detector, Mary Segal
9:00 – Litton Microwave Oven, Garland Prilliman
9:00 – Sunbeam Popcorn Maker, J. D. Smith
10:00 – $1000 Cash, Estelle B. Hunter

August 26 –
1:00 – Sunbeam Toaster Oven, J. H. Judd
1:30 – $25 Savings Bond, B. Alexander
2:00 – Trip to Atlantic City, Lisa Jones
2:30 – Sunbeam Digital Clock, Jack Smith
3:00 – Black & White Portable 12” TV, J. Ross Phillips
3:30 – Sunbeam Crockpot Cooker, Harry Orr
4:00 – Ladies Bicycle, Stuart Johnson
4:30 – Sunbeam Electric Grill, Charlotte Meyers
5:00 – AM/FM Stereo & 8 Track Player, Robert Berry
5:30 – Sunbeam Pint Size Fryer, Robert Berry
6:00 – Sunbeam Food Processor, Dan Crawford
6:30 – Black & Decker Power Drill, A. W. Frizzell
7:00 – Panasonic Recorder, Brian Webber
7:30 – Sunbeam Electric Slicing Knife, David Oberg
8:00 – Men’s Bicycle, P. D. Mitchell
8:30 – Sunbeam Mixer, Sam George
9:00 – RCA 19” Portable Color TV, Sandra Gaster
9:30 – Sunbeam Double Burger Grill, Roland Young
10:00 – $1000 Cash, Ophelia Williams

Thanks

Earle and Zelma Koch express “warmfelt gratitude for the honor shown us by our many friends at a retirement dinner. Thanks also to all of you for the gift which is greatly appreciated. SEE YOU DOWN THE ROAD.”

Key Position

Kenneth N. Cole has been selected as Acting Head, Electrical Systems Support Section, Electrical Support Branch, Operations Support Division.

Recent Retirees

Heywood H. Roberts, Jr., Fabrication Division, retired on August 25.

Earle N. Koch, Flight Electronics Division, retired on September 3.

Dixon R. Singiser, Fabrication Division, retired on August 31.

Work continues on the National Transonic Facility Wind Tunnel shell as this S-60 Stiff Leg Derrick lifts the top of one of the temporary buildings in which the tunnel sections are built. The Chicago Bridge and Iron Works, the prime contractor on the shell, is expected to complete the shell in March 1980. Construction of the shell is on schedule and the contractor should begin putting the sections together in late September.

Langley Researcher, September 8, 1978
STAR Computer Aids Langley Research

by Keith Koehler

The star of Langley's centralized Computer Complex is the Control Data Corporation's (CDC) STAR-100.

The STAR was brought to Langley in early 1976 after a study in 1971 noted that an increase in speed and storage would be needed for computational demands in research at the Center.

There are only four STAR computers in operation in the United States. According to Maurice K. Morin, Assistant Chief, Analysis and Computation Division, computers of the STAR's caliber cost about $10 million.

Langley's STAR is only one part of the Center's computer system. It is connected to 84 terminals at the center and 11 terminals across the nation at stations doing research relative to Langley's, such as Lockheed and Boeing.

The major advantage of the STAR is that it not only has conventional scalar processing capability, but it also has the capability to perform vector instructions. A vector is defined as a 'set of up to 65,000 data elements stored in consecutive storage locations in memory (i.e., the row or column of a matrix).'

In conventional scalar processing, the computer takes one arithmetic operation and completes it before it takes on the next operation. The next variable may not be processed until the first answer is completed and sent back to the memory.

The vector processing of the STAR may be described as pipeline computing or "assembly line computing." The processor in the computer receives two data flows at one time. The processor is divided into substations, each of which performs one stage of the arithmetic operation. In vector processing, several variables are already being worked on before the first answer is sent to the memory.

The STAR computer may compute 100 million answers per second compared to seven million answers per second in a conventional computer.

Only certain kinds or types of problems such as matrix and finite differentials are worked in the STAR. A CDC 6400 acts as an access station to the STAR. The 6400 is used for bookkeeping and data handling while the STAR is used as a "number crunching" computer, according to Dr. John N. Shoosmith, Head of the Computer Applications Branch.

The STAR computer at Langley is used in four main types of research: structural analysis, noise, computational aerodynamics and atmospheric models.

In structural analysis, a model of an airplane using finite elements is developed. The computer then runs tests to determine how much stress each element making up the aircraft will take under typical flight conditions.

Structural analysis seeks to come up with the lightest and most efficient airplane possible. This is done by going through a basic design cycle of analysis, synthesis, where parameters such as the thickness of the elements are modified in a methodical manner, and back to analysis.

This procedure is used in crashworthiness tests to see how the elements will react when the aircraft impacts the ground. The computer predicts and analyzes structural deformations, velocities and accelerations as the airplane crashes.

In noise research, the computer analyzes and predicts noise from jet aircraft and indicates how the noise is distributed.

One of the major uses of the STAR at the present time is in the area of computational aerodynamics, according to John Hogge, Assistant Head of the Computer Applications Branch. The computer is used to solve two and three dimensional mathematical models of aerodynamic flow fields to predict velocity and pressure over an aircraft in flight. He noted that Langley is currently calculating the predicted flow field within the National Transonic Facility wind tunnel.

The other primary area for which Langley's STAR computer is used, involves atmospheric models. In this area the computer attempts to develop models to predict and analyze physical and chemical properties of atmospheres. With these models Langley researchers can predict pollution areas and variations of climate. They can also predict severe thunderstorms by the use of mathematical models of weather formations.

Keith is a co-op journalism student from Kentucky's Murray State College. He will be working in Langley's Public Affairs Office for one year.

Huck Presented Gordon Award

Friedrich O. Huck, Flight Electronics Division, received the Alan Gordon Memorial Award of the Society of Photo-Optical Instrumentation Engineers this week for his work with the camera systems on the Viking Landers.

The award was presented to Huck during the society's awards banquet, held during a technical symposium in San Diego August 29.

Huck, according to the society, "contributed substantially to the status of the discipline through his application of photo-optical instrumentation."

Huck did early research on facsimile cameras, which helped lead to the design of the twin cameras aboard the Viking Landers.

The Space Shuttle Orbiter Enterprise is lowered down the north wall of a dynamics test stand at the Marshall Space Flight Center. The Orbiter and its huge external fuel tank both had to be removed from the 400-foot tall building through a hatch near the top. They recently completed the first phase of a year-long series of preflight tests in the tall building. After modifications are made to the test stand, the Enterprise will be reinstalled inside together with its companion External Tank and Solid Rocket Boosters. This will be the first time an entire Space Shuttle is ever assembled.
Happenings

THANKS. The Langley Activities Association would like to say a big THANK YOU to all the volunteers who worked at the Carnival this year. This was our most successful Carnival ever, and you helped to make it so.

HAPPY HOUR. The Activities Association invites you to join them for Happy Hour to be held at the Activities Center on September 8 from 4 to 6:30 p.m.

FLUTE RECITAL. Mary Elizabeth Ohlhorst will give a flute recital at the Christopher Newport College Campus Center Theatre on Friday, September 15 at 8:15 p.m. Everyone is welcome to attend.

TOUCH FOOTBALL. Anyone interested in starting a touch football league this fall please contact Stewart Harris at ext. 2086 or Ernie Burt at ext. 3095.

SAILING CLASS. Williamsburg Flotilla 67 U.S. Coast Guard Auxiliary will offer a 13-lesson basic sailing and seamanship course at James Blair Junior High School Annex, Room 302, starting on September 14. Textbook and course material will be available for $7. For further information contact Carl Pearson at 220-0499.

STAR TREK MINI-CON. The First Peninsula Star Trek Mini-Con will be held at the Williamsburg Hilton Inn, 1800 Richmond Road, on Saturday, September 23, from 9:30 a.m. to 6:30 p.m. Registration is $3 in advance or $5 at the door. For further information call Bob Wright, extension 3666.

YF-17 DISPLAY. The Northrop Corp. will sponsor a static display and flight demonstration of the YF-17 at the Langley Air Force Base Transient Ramp (near the tower) on Tuesday, September 12. The display will be from 7-11:15 a.m. and the flight demonstration will be at noon. Northrop Technical Representatives and pilots will be available for discussions before and after the flight. For further information, call the Project Officer, Capt. McBride, on 764-7391 or 764-5686.

Bob Lee Wins Speech Contest

Bob Lee, MATD, won the speech contest at the TAC Air Toastmasters Club Annual Speech and Evaluation Contest. Addressing the topic “Be Prepared,” Lee gave examples such as, “Always wear clean underwear in case you have to go to the hospital.” Bob will now compete in the Area 5 (Peninsula and Williamsburg) contest. Jim Shipp, OSD, placed second.

Also participating in the evening’s activities were: Rama Bhat, serving as M.C.; Andy Srokowski and Gayle Wilson, serving as judges; and Jim Moss, Bob Lee and Jim Shipp participating in the evaluation contest, with Jim Moss taking second place.

If you would like to join in the fun of Toastmasters, and at the same time improve your public speaking and leadership skills, come to the meetings on the second and fourth Wednesdays of each month at the Langley Officers Club. For more information call Bob Lee, ext. 2488; Jim Moss, ext. 3770; or Andy Srokowski, ext. 3735.

An Open Letter to My Colleagues at Langley

Only once in your life can you reach the absolute psychological bottom. Having touched that point, and now being on the way back, I wish to share something with you.

Some of you know me-others do not--no matter--my message is a simple one. We at LRC, as a part of NASA, think of ourselves as a family. Not as dear as our own families but nonetheless as a group, who on some level are loyal to one another. In my most profound grief my Langley Family was one of my most solid foundations. Among the faces, by the letters and calls, I found an affection and appreciation that was beyond anything I had imagined possible. This is not a thank you note (although I do thank all of you). Rather it is a note to help guide you.

We spend almost as much of our lives among our co-workers and colleagues as we do among our families. Besides the professional and financial rewards, there is an intangible reward called appreciation. By our actions and our attitudes we build up an account, like a bank account, but hard to measure. It happens behind our backs, without our being able to access its true value. But in a dire time of need that is the account that we draw on. If your account is low you cannot borrow. There is no such thing as collateral. If your account is high then you will desperately need it.

While all of the well intentioned words of comfort will help to numb the pain and distract you from your agony--the true test is what you feel and who stands by you.

In this account I am a rich man.

Gerald Soffen

(Note: Mrs. Gerald Soffen, Hoshi, accidentally drowned in the couple’s swimming pool in August 1978.)

Brain Teaser

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Each letter equals only one number from 0–9. What are the numbers?

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swap and shop

FOR SALE

Articles
25-inch color TV, solid wood maple console, some minor adjustment on TV, Cat 1975 AVCC, $100. Call 595-6465 after 5 p.m.
Lady Kenmore dishwasher, GC, $100. Call 898-4100 after 5.
Whirlpool trash compactor, EC, $100. Call Macronochie, 3911, or 898-5557.
Bassett walnut veneer bedroom suite—2 twin bookcase beds with box springs and mattresses, 8 mos. old, $75. Call Bob Turner, 898-7674.

Vehicles
1977 Customized Dodge Van, beautiful black metallic paint with blue accent stripe, super-wide wheels and tires, and dual exhausts, interior tastefully finished with all the extras including a captains chairs, couch, bar, sunroof, CB radio, and AM/FM tape stereo, low mileage, like new, $8900. Call 595-7733.
1974 Vega, automatic transmission, AM/FM radio, AC, 38,600 miles, $1200. Call Tracy 868-7116 (9 a.m. to 5 p.m.), 868-9672, after 5 p.m.
1971 Oldsmobile station wagon, vista cruiser, green, 4 door, 3 seat, 8 automatic trans., radio, AC, PS, front disc brakes, luggage rack, No. 3 inspection sticker, $1325. Call Wilson 838-6023.

Real Estate
80'x125' lot, Port St. Lucie, Florida, owner's equity and assume 8% loan. Call 595-6465 after 5 p.m.

FOR RENT
"Buzzards Roost" on Hatteras Island at Frisco: Oceanside, 50' house trailer, furnished including dishes, etc., 2 BR, full bath, sun-porch, outdoor shower, A/C, AM/FM stereo, walking distance to beach and fishing center, 5 min. drive to Sport Fishing Center and charter boats, $160/wk., after Labor Day $160/weekend, $20/weekday, $135/wk. Call Fogle, 2217.

Question and Answer

Q. The expense of operating the new LFCU office in Riverdale and the inconvenience to members who can no longer transact loan business at Langley makes one question why such a move was even considered. Why was the move made?

A. The Researcher has received numerous questions about the Langley Federal Credit Union move to the Riverdale Shopping Center. According to Mike Pickens, Manager of LFCU, a proper answer is too long to be printed in the Researcher. So, in response to the many questions, Al Braslow, President, Board of Directors, has prepared an open letter to all members to explain the move. Copies of this letter will be available in the Langley cafeteria and the NASA Branch office. Each member will also receive a copy of the letter in the October quarterly statement.

Allen Rejoins Astronaut Corps

Dr. Joseph P. Allen, scientist-astronaut, has returned to active flight status in the Astronaut Office at the Johnson Space Center.

From August 1, 1975, until his return to JSC, Allen has served as Director, Office of Legislative Affairs at NASA Headquarters in Washington, D.C. He will continue the duties of that post in addition to his astronaut duties until a replacement is named.

Allen returns to JSC as a senior scientist-astronaut and will be eligible for selection as a Space Shuttle crewman.

WEEK OF SEPTEMBER 11-15
MONDAY: Old Fashioned Beef Soup; Spanish Omelette; Chicken Chow Mein; Spaghetti Dinner. Snack Bar: Hot Italian Sausage Sub; Beef and Onion Sub; Egg Salad; Bacon, Lettuce and Tomato; Pizza.
TUESDAY: Bull Island Clam Chowder; Beef Balls Stroganoff; Fried Filet of Trout; Pepper Steak. Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef and American Cheese, Pizza.
WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Franks, Cheese and Bacon; Barbequed Ham Steak. Snack Bar: Hot Italian Sausage Sub; Ham and Turkey Special; Steak, Onion and Cheese Sub; Bacon, Lettuce and Tomato, Pizza.
THURSDAY: Chicken Rice Soup; Braised Chicken Livers w/Onions; Roast Beef; Eggplant Parmesan. Snack Bar: Grilled Cheese; Ham and Cheese Club; BBQ Beef; Roast Beef and American Cheese, Pizza.
FRIDAY: Vegetable Soup; Fish Dinner; Country-style Steak; Stuffed Peppers. Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad, Turkey and Bacon Club, Pizza.

WEEK OF SEPTEMBER 18-22
MONDAY: Cream of Tomato Soup; Baked Lasagna; Roasted Chicken; Roasted Beef Liver w/Onions. Snack Bar: Ham and Cheese Club; Eggplant Steak; Onion and Cheese Sub; Hot Reuben, Pizza.
TUESDAY: Manhattan Clam Chowder, Eggplant Parmesan; Fried Filet of Trout; Braised Beef and Vegetables. Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef and American Cheese, Pizza.
WEDNESDAY: Vegetable Soup; Roast Turkey Dinner; Meatloaf; Beef Pot Pie. Snack Bar: Tuna Salad; Ham and Cheese Club; Steak and Onion Sub; Bacon, Lettuce and Tomato, Pizza.
THURSDAY: Turkey Noodle Soup; Veal Parmesan; Baked Tuna and Noodle Casserole; Salisbury Steak. Snack Bar: Hot Italian Sausage Sub; Ham and Turkey Club; Roast Beef and American Cheese; Hot Ham and Cheese; Pizza.
FRIDAY: Ham and Lima Bean Soup; Fish Dinner; Beef Enchiladas; BBQ Franks over Rice. Snack Bar: Hot Roast Beef; Turkey and Bacon Club; Deluxe Sub; BBQ Pork; Pizza.

Thought for Today
The best way to forget your own problems is to help someone else solve theirs.

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Ceremony Honors 30-Year Service Employees

A service awards ceremony honoring 30-year service employees will be held at Langley on October 23, at 1:30 p.m. in the Activities Center, Building 1222. Dr. Donald P. Hearth, Langley Director, will present service awards and certificates to the following employees:

Systems Engineering Division: Hubert K. Clark; Walter M. Cook, Jr.;

Operations Support Division: Meredith W. Ballard; Calvin C. Berry; John S. Carmines; Dale W. Dalin; Cecil A. Field; Dale A. Gwaltney; Albert B. Indley; Charles S. Kaiser; Jesse L. Kent; Maurice L. Laughlin, Jr.; Charles L. White; Charles W. Wiggs, Jr.; Howard R. Williams, Jr.;

Fabrication Division: Raymond G. Cerny; Osborne F. Davis; Leroy Jones; Hale H. Marshall; B. T. McAlexander, Jr.; Kenneth L. Quinn; Howard L. Thomas; John W. Whitmore; Preston L. Zember;

Research Facilities Engineering Division: John L. Hudson, Jr.; Vinton T. Land; James R. Wallis, Jr.; Carroll A. Williams, Jr.;

Plant Engineering Division: James R. Martin; Cleveland Slade;

Flight Dynamics and Control Division: James J. Adams;

Flight Electronics Division: Harry W. Compton; Seldon B. Gilliland, Jr.; Floyd E. Rankin; Henry J. E. Reid, Jr.; Kazmere C. Romanczyk;

Instrument Research Division: Bruce Flagg; Edward F. Germain; James M. Harris; Herbert R. Henderson; Mallory S. James; John B. Tyndall; Paul H. Wooddell;

Analysis and Computation Division: Charles I. Hahn;

CFC Gives You a Chance to Help

For many years, Langley has been a leader in the annual Combined Federal Campaign—something of which we can all be proud. During the next few weeks you will again be asked to contribute to those who need our help.

Since I have been at Langley, I have been impressed with the many contributions made by Langley people to the community. Participation in the CFC is your opportunity to donate, through one contribution, to worthwhile causes such as the Salvation Army, the Boys Club, the Literary Council, the Red Cross, Project Hope, Sickle Cell Anemia, and the Association for Retarded Children.

Based upon our experience last year and the upcoming cost of living pay raise, I chose a goal of $175,600 for this year's campaign. This is a very challenging goal. The generous support of all Langley employees will be necessary if the Center is to meet this commitment; I am confident we will do it. Duncan McIver of the Flight Electronics Division is the chairman of this year's campaign and he will be assisted by an excellent team. They have my full support and I urge each of you to support the campaign through your individual contributions.

Terminal Configured Vehicle Program Office: James R. Hall;

Subsonic-Transonic Aerodynamics Division: Percy J. Bobbitt; James S. Bowman, Jr.; Lysle P. Parlett;

High-Speed Aerodynamics Division: James M. Cubbage, Jr.; Sue W. Sauders;

Aeronautical Systems Division: Cornelius Driver; David E. Fetterman, Jr.; Harry H. Heyson;

Flight Research Division: Robert J. Tapscott;

Projects Technical Operations Division: Edmund A. Brummer;

Projects Management Systems Division: Beulah B. Elliott; William L. Gaster; Melvin Morris, Jr.;

Scout Project Office: Ralph P. Parks; Ballard E. Quass;

Financial Management Division: Louise S. Anderson;

Scientific and Technical Information Programs Division: Wesley T. Berryman, Jr.; Helen B. Mulcahy;

Management Support Division: Neva B. Brooks; Grace C. Sain;

Procurement Division: James F. Eareckson;

Personnel Division: James J. Fay;

Structures and Dynamics Division: Perry W. Hanson; Robert W. Herr; Sumner A. Leadbetter; Irving Weinstein;

Space Systems Division: Jim J. Jones;

Office of the Director: John E. Duberg; Barbara W. Hogge;

Slayton to Speak

Dr. Donald K. "Deko" Slayton will be the guest speaker on October 5 for the Langley colloquium lecture and the "Our Future in the Cosmos" public lecture. His talks will commemorate the 20th anniversary of NASA.

Slayton is Orbital Flight Test Manager for the Space Shuttle Project Office at NASA's Johnson Space Center and a veteran astronaut.

The colloquium lecture, entitled "The Space Shuttle," will be held in the Langley Activities Center (Building 1222) from 2 to 3 p.m. An informal discussion period will follow.

The public lecture, entitled "Manned Space Flight: Past Triumphs, Future Challenges," will be at 8 p.m. at the Hampton Coliseum. This is the first lecture in the 1978-79 "Our Future in the Cosmos" series, sponsored by Langley and the College of William and Mary. Free tickets for this lecture may be obtained by calling the William and Mary Office of Special Programs at 877-9231, ext. 200, prior to October 1. After that date, tickets will be available at the Coliseum box office.

Slayton was one of the original seven astronauts selected for Project Mercury in 1959, and is the only one still active in the space program. He served as chief astronaut and as Director of Flight Crew Operations prior to going into space in July 1975 as a member of the historic Apollo-Soyuz Test Project. This 217-hour mission included 44 hours of joint docked activities and four crew transfers.

Prior to his NASA career, Slayton was an officer and pilot in the U.S. Air Force from 1943 to 1963. He flew 63 combat missions as a B-25 pilot in World War II and later became a test pilot at Edwards Air Force Base in California.

The many honors Slayton has received include three NASA Distinguished Service Medals, a NASA Exceptional Service Medal, the Collier Trophy, the AIAA Haley Astronautics Award and two honorary doctorates.

The second crash test using the velocity augmentation system was held on Wednesday, August 30, at the Impact Dynamics Facility. This was the first test which used four rocket motors. The Piper PA-31P had an impact velocity of about 90 mph and pitch and flight path of minus 15 degrees each. The four anthropomorphic dummies were seated in conventional aircraft seats.

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Telephone Directory Call Notice

This call notice is to remind all offices that any changes in the Organizational Listing or the Service Directory Listing for inclusion in the November 1978 issue are due at M/S 196 by October 2, 1978.

The furnishing of accurate information for the Alphabetical Personnel Section of the Directory is the responsibility of each individual employee. Langley Form 133 entitled, "NIPPS-Telephone Directory Transcript," (Change Notice) is provided in the back of the Langley Telephone Directory for reporting change in mail stop, building number, room number, and telephone number. These changes must be submitted no later than October 2, 1978, for inclusion in the November issue.

Christmas Tree Orders Taken Now

The Langley Activities Association is now taking orders for Scotch pine Christmas trees through October 21, 1978. Prices are as follows:

<table>
<thead>
<tr>
<th>Height</th>
<th>Price</th>
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<tr>
<td>4 1/2 ft</td>
<td>$6.50</td>
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<tr>
<td>5 ft</td>
<td>8.00</td>
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<td>9.50</td>
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<td>7 ft</td>
<td>11.00</td>
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A $2 deposit will be required when the order is placed. The trees will be distributed from the Activities grounds on Sunday afternoon, December 10 and Monday afternoon, December 11, 1978. Call Sue Juanarena at the Activities Office, ext. 3198.

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The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23685, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115A, telephone 2934.

Editor • • • • • • • • • • • • Karen Miller
Editorial Assistant • • • • • • Jean Drummond
Staff Photographer • • • • • • Bob Nye

The privilege of advertising in this publication is restricted to employees of Langley Research Center. Articles, advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.
A Message From Your CFC Chairman

Last year was a banner year for the Peninsula Combined Federal Campaign (CFC) and for the Langley Research Center. The Peninsula CFC goal of $583,000 was exceeded by 17 percent. Langley not only met its goal of $167,800, but exceeded it by 4 percent, thanks to generous contributions by non-NASA employees. This year we and the Peninsula CFC both have larger goals which will require each of us to dig a little deeper in order to say, “We did our part.”

You have good reason to ask, “Why?” In order to answer this “why,” we will have a special Researcher issue on the Peninsula CFC next week. This will provide you with information about the agencies who benefit from the campaign, information about federal organizations who are participating, and interesting facts about Langley’s past giving. We urge you to read the issue; and, if you have any questions, please give us a call.

The combined campaign means that we are only soliciting once a year for funds that are needed by the 67 agencies supported by the four participating groups of the Peninsula CFC: the Peninsula United Way, the Greater Williamsburg United Fund, the International Service Agencies, and the National Health Agencies. It is important that we consider our giving carefully, since so many depend on this one-time solicitation.

Dr. Hearth has carefully examined the needs of the 67 benefitting agencies, especially considering the inflationary pressures of our time, and has committed the Langley Research Center to a goal of $175,600 in 1978. This is slightly higher than what we collected in 1978. This goal is a real challenge. However, we believe that you are aware of the increased needs of those around us, and in the Langley tradition, will find the means to give a little more.

We need to increase last year’s contributions by at least 6 percent. Please review your gift of last year and ask, “Why not increase it by this small amount?” For those who use the convenience of payroll withholding, you will get your regular statement of earnings on September 29 and can see the amount of your current withholding.

A kickoff meeting for the Division/Project Office Chairmen and “key men” solicitors will be held in the Activities Center on September 28, 1978, at 9 a.m. You are welcome to attend as space allows. On October 5, you will be contacted by one of our “key men” to ask for your contribution for the Peninsula CFC. We request that you give serious consideration to the needs of the agencies supported by this campaign and give generously.

We are dedicated to making this campaign a success and we urgently need your support. Remember, the goal itself is not the measure but the need that it represents. Thank you.

Duncan McIver
CFC Chairman

Recent Retirees

Doris R. Topping, Scientific and Technical Information Programs Division, retired on August 31.

Acquilla D. Saunders, Scientific and Technical Information Programs Division, retired on September 8.

Ann C. Johnson, Space Systems Division, retired on September 8.

John Golden Kenney, Fabrication Division, retired September 8.

Fred F. Eichenbrenner, Operations Support Division, retired September 8.

Job Openings

The following Merit Promotion Announcements are currently open:

78-52 - Mechanical Engineer; GS-830-5; Plant Engineering Division; Construction Engineering Branch; Electrical and Mechanical Systems Section; Closes September 26, 1978.

78-53 - Contract Specialist; GS-1102-9; Procurement Division; Projects Services Contracting Branch; Closes September 29, 1978.

78-54 - Supervisory Technical Publications Editor; GS-1083-11 or 12; Office of Director for Management Operations; Scientific and Technical Information Programs Division; Technical Editing Branch; Closes September 29, 1978.

78-55 - Secretary (Stenography); GS-318-5; Project Directorate; Earth Radiation Budget Experiments Project Office; Closes September 29, 1978.

78-56 - AST, Technical Engineering Operations Management; GS-801-14 or 15; Aeronautics Directorate; Aeronautical Systems Division; Advanced Supersonic Technology Office; Closes October 6, 1978; NASA-Wide.

78-57 - Supervisory Procurement Analyst; GS-1102-12 or 13; Procurement Division; Acquisition Research and Management Office; Closes October 6, 1978; NASA-Wide.
Two Langley sensors, the Stratospheric Aerosol Measurement-II (SAM-II) and the Limb Infrared Measurement of the Stratosphere (LIMS), are part of the first satellite designed to monitor the Earth's atmosphere for manmade and natural pollutants.

Nimbus-G, the last in a series of seven Nimbus environmental research spacecraft launched since August 1964, will provide for the first time continuous environmental data to help scientists throughout the world record information vital to man's understanding of climate, oceanography, atmospheric pollution and regional and global weather patterns.

Nimbus-G is tentatively scheduled for launching October 2 from the Western Test Range at Vandenberg Air Force Base, Calif. Goddard Space Flight Center, Greenbelt, Md., is responsible for management of the spacecraft, the Delta launch vehicle and the global network for tracking and two-way communications with the spacecraft.

The Langley developed sensors are two of four on Nimbus-G designed to measure various atmospheric gases and particulates and their relationships in the Earth's stratosphere and mesosphere, the area above the clouds.

The data from SAM-II will be used to determine the reason for and the characteristics of a global dust or aerosol layer at about 20 kilometers (13 miles) altitude and its effect on the Earth's environment and climate. The layer, largely composed of sulfuric acid droplets, is distributed between 15 and 30 kilometers (10–20 miles) above the Earth and is thought to be primarily of volcanic origin.

SAM-II, the first unmanned long-term measurement system for aerosols, will provide a global data base of polar region stratospheric aerosols, according to Dr. M. Patrick McCormick, Instrument Research Division and science team leader and sensor scientist for SAM-II.

McCormick said the SAM-II will delineate the long-term effects of aerosols on the climate and environmental quality. The aerosol layer affects the atmospheric radiation budget as it filters and reflects radiation from the Sun and infrared rays of the Earth's atmosphere. This radiation perturbation also affects atmospheric photochemical and transport processes.

The SAM-II will determine the aerosol concentration at the polar caps by measuring the radiation intensity of the Sun at spacecraft Sunrise and Sunset. The time-dependent radiance measured at each Sunrise and Sunset will allow scientists to calculate a one-kilometer resolved vertical profile of the aerosol extinction. McCormick said they expect to have approximately 10,000 profiles in a year spread over the northern and southern polar regions.

Data from SAM-II will help researchers in climate and atmospheric physics modeling, such as the formation and behavior of aerosols and the effects on the Earth's temperature.

The Limb Infrared Monitor of the Stratosphere (LIMS) will operate for seven months measuring temperature and vertical concentration profiles of ozone, nitrogen dioxide, nitric acid and water vapor on a global scale.

The purpose of LIMS is to gain a better understanding of the chemistry and physics of the upper atmosphere as it affects the ozone layer, according to Dr. James M. Russell, III, Atmospheric and Environmental Sciences Division and co-science team leader and co-sensor scientist for LIMS.

The altitude range of the measurements will be from six miles to 40 miles from the Earth's surface. This area includes the ozone layer, which filters extreme ultraviolet rays of the Sun reaching the Earth.

The LIMS will perform the measurements by means of an infrared limb scanning radiometer. The radiometer measures profiles of thermal energy emitted by the horizon of the Earth by each of the gases listed as well as carbon dioxide used for the measurement of temperature.

The data obtained from LIMS will give scientists a much better understanding of the effects of nitrogen compounds on ozone in the stratosphere as well as dynamics of transfer of these gases around the globe due to natural atmospheric processes.

This experiment is a second generation application of limb scanning to study the atmosphere which was begun with the successful flight of the Limb Radiance Inversion Radiometer (LRIR) on Nimbus-6. The LRIR measured temperature and ozone profiles globally.
Heyman Wins Third IR-100 Award

A Langley physicist has been selected for a third IR-100 award by Industrial Research magazine for helping develop one of the 100 most significant new technical products of 1978.

Dr. Joseph S. Heyman was presented his award at a banquet in Chicago on September 21.

This is the first time that a single individual has been selected three times by the magazine for research work. Heyman's previous awards were in 1974 and 1976.

The 1978 device, jointly developed at Langley and at Washington University in St. Louis, is called an acoustoelectric transducer. It greatly improves the accuracy of measuring the exact properties of various materials with very high-pitched sound waves.

The advantage of the acoustoelectric transducer over conventional transducers is its insensitivity to the shape of sound waves. New information provided by the device will allow researchers to more accurately identify and evaluate material flaws and to characterize biomedical specimens and tissues.

Research on the acoustoelectric transducer was conducted by Dr. Heyman, Instrument Research Division, and by Dr. James G. Miller, professor of physics, and Lawrence J. Busse, research physicist, both of Washington University's Laboratory for Ultrasonics.

Heyman's research concentrated on the measurement of materials, while Miller and Busse studied the medical applications of the new device.

Heyman's first IR-100 award, presented in 1974, was for the development of a medical monitoring device. Called a continuous wave ultrasonic microembolic monitor, it is an ultrasonic instrument that monitors impurities in a patient's blood during open-heart surgery.

This instrument, compact in size, easy to operate and relatively inexpensive, was also jointly developed by Dr. Heyman and researchers at Washington University.

In 1976 Heyman won his second IR-100 award for the development of an ultrasonic bolt stress monitor. It measures the strain in bolts with an ultrasonic instrument that can indicate changes in bolt strain to better than one part in 10,000. The bolt monitor is portable, easy to use, inexpensive, and extremely accurate.

The 100 winning 1978 new products are being displayed for several weeks in Chicago's Museum of Science and Industry for engineers, scientists, educators, and the general public.
NEBA Insurance
Premiums Reduced

NEBA members received their premium due notices for the October 1 quarter this past Monday. Many members now pay a smaller quarterly premium, due to the reduction from 88 cents per thousand per quarter to 80 cents per thousand per quarter for NEBA Life and Accidental Death and Dismemberment coverage.

Some members received an increase in their total quarterly premium due, because of additional insurance coverage as set forth in the schedule published in the Personnel Newsletter of August 1978. Insurance coverage has been increased to a maximum of $55,000. The new schedule is set up to provide approximately one and one-half times the member's annual earnings, except for Class 1 and the new Class 12. Members will receive a new insurance certificate showing the new schedule of insurance.

Another benefit added is an increase in child coverage benefits under the Dependent Life Program, to allow eligible children reaching age 19 to convert $10,000 of insurance without medical approval. Until now, they could only convert their $2,000 to $5,000. There is no increase in premium for this additional benefit.

Over 66 percent of NEBA members make use of the payroll allotment plan with the Langley Federal Credit Union, who automatically pay the premiums for the members when due after crediting their account with the interest earned. This insures that all premiums will be paid promptly and avoids loss of the very valuable inexpensive life coverage.

We urge the one-third who still make their cash payments in person to convert to this unique worry free procedure.

Should you fail to pay your premium by the end of the grace period of any quarter (current date Oct. 20, 1978) you are dropped from the plan and must re-submit an application and medical statement for approval of the Home Life Insurance Company, underwriters. You must make advance payment with the application and will have no coverage protection for that quarter. There are no reinstatements. Each quarter, several members fail to pay for some very good reasons and are greatly disappointed to learn there are no exceptions. Invariably, if they are accepted back into the plan they then arrange for payroll allotment. That's learning the hard way.

For those employees who are not already members of NEBA, it is easy to join the plan. All it takes is an enrollment application, completion of a simple health statement and payment of a quarterly premium. The health statement is submitted to the Home Life Insurance Company for their approval, and if accepted, coverage commences on January 1, 1979, under the new schedule of insurance with the reduced rates. Contact James W. Norris, extension 2212, for enrollment cards and health statement forms.

Historian to Speak at VAHS Meeting

Charles Gibbs-Smith, who holds the Charles A. Lindbergh Chair of Aerospace History of the Smithsonian Institution, will speak on "The Wright Brothers--Early Flight" at the September 30 meeting of the Virginia Aeronautical Historical Society. The meeting will be held at the Shannon Airport Museum, Fredricksburg, Va., beginning with a social hour and inspection of museum at 5:30 p.m. Persons interested in the history of Virginia aviation are invited to attend. A charge of $3 will cover refreshments.

Charles Gibbs-Smith has an impressive background and his presentation on the Wright Brothers should be exciting and authoritative. He is internationally recognized as one of the most outstanding aeronautical historians and the author of several books on early aviation. He is Keeper Emeritus of the Victoria and Albert Museum of London, among other titles, and is the first occupant of the newly established Lindbergh Chair at the Smithsonian.

There are no plans for business at this meeting, but new members will be signed. It is hoped that the selections for the Virginia Aviation Hall of Fame will have been completed and if so, the announcement will be made at this meeting.

Interested persons may contact Gloria or Bob Champine at 595-6997 for reservations.
Happenings

DOG TRAINING CLASSES. New classes in kindergarten puppy training (KPT), basic and advanced dog obedience are scheduled to start on Thursday, September 28. Registration will be held from 7:00—7:30 with the first KPT and basic class immediately following from 7:30—8:30. Registration for the 12-week classes will take place at the regular training area on Gregg Road (behind Activities grounds and adjacent to the water tower). Training will be started outside, but will move inside at the Hampton Armory later in the fall. All puppies and dogs are required to have all shots recommended by vet for their age and to be free of worms. Please bring your dog’s shot record. Each dog will be fitted with a special training collar; six-foot leads are required and will be available at the registration.

DISCO DANCE LESSONS. If you are interested in taking group disco dance lessons at a local studio, Tuesday evenings, 8:30 p.m.—9:30 p.m., 8 lessons for $30, send name, phone number, and mail stop to Dunkley, M/S 115.

HAPPY HOUR. The LAA biweekly Happy Hour will be held Friday, September 22, from 4 to 6:30 p.m. in the Activities Center.

FALL SKEET LEAGUE. The Langley AFB Gun Club announces the Fall Skeet League, which begins the week of 2 October and runs through the week of 11 December. Everyone is eligible to participate. Fifty targets will be shot per week and may be shot anytime the club is open. Any gauge shotgun can be used and club shotguns are available at no cost. A special handicap system will be used to make the league competitive for the novice shooter as well as the more experienced. The league entry fee is $8.50 and will cover the cost of awards and a party in December. Club member reloading equipment and instruction will be available on request. For registration and additional information, call Pat Knutson at 851-5921.

KIDDIE DOG SHOW. The James-York Dog Training Association, in cooperation with the Hampton Recreation Department, will sponsor a Kiddie Dog Show at Hampton Fair Day, Gosnold Hope Park, on Saturday, Sept. 23 (rain date Sept. 30), starting at 8 a.m. Youngsters aged four to fourteen may enter their dogs more than 6 months old in the contests. Judging classifications are: best trick dog, smallest dog, largest dog, best looking, best costumed, funniest and best behaved. First, second and third prize ribbons will be awarded in each category; a Best of Show will be selected from the first place winners. Entry blanks have been published in the local papers or dogs may be entered up to 30 minutes before showtime. For further information, call Doris Bryan, ext. 2127 or 898-6273.

MODEL AIRPLANE MEET PLANNED. The Brainbusters Model Club of Hampton is sponsoring a free-flight model airplane meet at Curles Neck Farm on October 1, 1978. Flying will be from 9 a.m. to 5 p.m. Included in the twelve events will be gas power, electric power, and glider. Two events will be specifically for juniors (14 years and under). The club is furnishing 36 trophies and other valuable prizes.

Join the LAA Trip to Rio de Janeiro

This winter, why not escape all the ice, the cold and the doldrums by joining the L.A.A. group on a vacation to Rio de Janeiro? The group departs from Norfolk January 28th and returns February 5, 1979 (9 days).

The trip includes:
- Round trip transportation via Trans International Airlines (DC-10); Meals and beverages served aloft; Deluxe accommodations in either the Hotel Intercontinental, Sheraton or Nacional; Welcome Caipirinba Party; Brazilian breakfast daily; Dinner four evenings—Dine Around; Round trip transfer and luggage handling; United States departure tax; All gratuities for bellboys and doormen; Tour to a world famous gem factory; Hospitality desk in your hotel lobby; the price per person is $643 ($75 deposit insures your reservation).
- Call the Activities Office Association office (3139) or Ernie Greene (2312, home—838-0657) or Herb Boulter (3234, home—838-4773) for brochures and particulars.

Thanks

Edwin W. Watson, retired, wrote to the Researcher to say, “I would like to express my gratitude and appreciation to the members of the NASA who donated blood during my recent illness in the Medical College of Virginia.”

Brain Teaser Solution

The brain teaser in the last issue of the Researcher was:

“Given:

HIFJ
AB/CD/DEFG

Each letter equals only one number from 0—9. What are the numbers?”

The answer is: 1 = I; 2 = C; 3 = D;
4 = H; 5 = A; 6 = B; 7 = F; 8 = J; 9 = E; 0 = G.

Submitting correct answers were: Brantley Hanks, Paul Cooper, Jim Gardner, Denise C. Hill, Randall C. Davis, Jim Rogers, SDD; John Bush, Procurement; Peggy Harmon, Michael Mahler, Tim Bryant, Wayne Goff, D. Gene Bowen, Alan W. Frizzle, Dennis L. Mowrey, FD; Kearney Barton, Sherman Cleevenson, Conrad Willis, Charlotte Yielding, ANRD; Helen Reed, Allen Whitehead, Vicki Johnson, ASD; R. J. Ward; Ronnie Henk, PED; Aaron J. Ostroff, Sam Sokol, FDE; Clyde J. May, Doyle Swofford, Warren Fitzgerald, SED; Joe Drozdowski, Michael A. Washington, ACD; Lloyd Nelson, Ricky Smith, George Askew, Charles Poupard, OUSD; C. N. Robeson, Jr., David R. Schryer, Michael Mitchell, Tom Finley, Dick Adams, William G. Chapin, R. Booth, IRD; I. S. Raju, MD; K. Hopping, RFED; Sudhir C. Mehrotra, Jenn L. Pao (University of Kansas), STAD; Nettie M. Orie, Mary Jackson, STAD; Jim Ward, LSSTPO; Davis H. Crawford, Pamela Bradley, SSD; John Duberg, Office of the Director; Floyd G. Howard, HSAD; Maurice Parker, PAO; Betty Porter, Klate Holt; Donald D. Stephens, LTD; Frenchy Letourneau, Bionetics Corp.; Bill Capron, Hampton Technical Center; Rick Jones, Tabb High School algebra teacher; Dare Andrews, housewife; Ray Goodman, Langley Visitor Center; Bobby Rash (son of Bill Rash, SED); Marjorie Turner, Structures Lab, USARTL; Lois Pilgrim (Mrs. Harry D. Pilgrim, retiree); Gideon Hagoon, retiree; Paul Brooks, Tom Norris, Harold Jones, Wyle Labs; David Weinstein (son of Irving Weinstein, SDD).

Everyone is invited to attend. For further information, call Joe Boyle, 723-3400, or Ed Sullivan, 596-6104.

AFGE MEETING. The regular monthly meeting of AFGE Local 2755 will be held on Tuesday, September 26, at 7:30 p.m., in the Activities Center, Building 1222.
swap and shop

Articles

Auto Radio—1978 Delco AM/FM, used two months, $75. Call Sandra C. Chaney, ext. 2377 or 826-0202.

Bronze and stainless marine hardware, nylon line, rigging wire and fittings. Call 851-2901 anytime.

Solid mahogany dining room set, drop-leaf table, six cushioned chairs, traditional style, EC rarely used, $300. Call 874-8125 after 5:30 p.m.

Lawn spreader, 20", EC, $12; twin bed w/mattress and springs, maple, VGC, $60. Call 898-3710 after 5 p.m.

Car condition thur-out, extension beds when opened, good tires, storage cabinets, gas bottle storage, 8 like new, must see, pops up, hard top, canvas sides and ends, EC, miles, $110; 3-9, PW, SW staff, D-2, reg. shaft, $130. Call 836-0003.

Golf clubs: 1, 3, 4, 5 1977 powerbilt, $125. Call 874-8125 after 5:30 p.m.

Singer slant-a-matic zig zag sewing machine w/cabinet (French Provincial styling, maple hardwood), disc attachments for decorative stitching, EC, $125. Call 898-4727 after 5 p.m. on weekdays.

1965 Chevrolet with new paint, AM/FM str., cruise cont., 6'10"x8' cottage, back porch, shed and fenced-in backyard, sleeps 8 adults. Call 723·6142 for reservations.

1973 Buick estate wagon, new radials, AM/FM, low mileage, run on low perslmm, $30; twin bed w/cabinet (French Provincial styling, maple, VGC, $60. Call 898-4727 after 5 p.m. on weekdays.

1965 Chevrolet Impala-396 engine, 65,000 miles, straight stick, four door Sedan, excellent running condition, no body damage but needs interior work, $150. Call Bendoru 838·0311.

1973 Buick estate wagon, 40,000 miles, all power, AM/FM str., cruise cont., new paint, like new, must see, $2,500. Call 828-4835 after 5 p.m.

Camper (homemade) 6'10"x8' closed two-45" extension beds when opened, 15" wheel base, good tires, storage cabinets, gas bottle storage, pops up, hard top, canvas sides and ends, EC, trails good, $375. Can see at 28 Nelson Maine, Carlsbrooke (across James River on No. 17). Call 238-2984 or call Lynn Barrier ext. 3966.

Real Estate

2 Bdrm Townhouse condominium (low utility bills) in Denbigh area, 1 1/2 baths, living room, paneled dining room, eat-in kitchen w/pantry, refrigerator and diswasher, utility room w/hookup for washer and dryer, screened-in back porch, shed and fenced-in backyard, storm windows and doors, electric heat and CA, walk-to-wall carpeting throughout, $28,900. Call 898-4727 after 5 p.m., on weekdays.

Beach lot on Hatteras Island (the outer banks), North Carolina, ideal location for vacation cottage, $7,000. Call A. Fripp, 3661.

Animals

Cocker Spaniel pups, buff, AKC registered, shots, $135. Call 595-4231 after 5 or weekends.

Herb Boulter, President of the Langley Activities Association, seems to be enjoying his job at the 1978 Carnivale, holding his granddaughter, Sara Joy Causey from Largo, Maryland. Sara is 4 months old and it looks like she's the apple of Herb's eye.

—photo by Bob Nye

cafe menu

WEEK OF SEPTEMBER 25-29

MONDAY: Old Fashioned Beer Soup; Spaghetti Dinner; Clam Strips; Chicken Chow Mein, Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub: Egg Salad; Bacon, Lettuce and Tomato.

TUESDAY: Bull Island Clam Chowder; Roast Beef Au Jus; Fried Filet of Trout; Cheese Omelette, Snack Bar: Hot Reuben; BBQ Pork; near A Sub: Roast Beef & American Cheese.

WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Eggplant Parmesan; Franks, Bourbon & Cheese, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Special; Steak, Onion & Cheese Sub: Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Baked Chicken Livers; Beef Balls Stroganoff; Barbecued Ham Steak, Snack Bar: Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese.

FRIDAY: Vegetable Soup; Fish Dinner; Steak Smothered w/Onions; Stuffed Peppers, Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF OCTOBER 2-6

MONDAY: Cream of Tomato Soup; Baked Lasagna; Clam Strips; Savory Baked Chicken, Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Manhattan Clam Chowder; Braised Beef & Vegetables; Fried Filet of Trout; Eggplant Parmesan, Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork w/Slaw; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Soup Soup; Roast Turkey Dinner; Meatloaf; BBQ Franks, Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey Noodle Soup; Veal Parmesan, Baked Tuna & Noodle Casserole; Broiled Beef Liver w/Onions, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

FRIDAY: Ham & Lima Bean Soup; Fish Dinner; Teriyaki Baked Chicken; Beef Enchiladas, Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

FOR RENT

Vacation cottage, outer banks, N.C., Avon, near Cape Hatteras; 3 BR, bath, kitchen includes dishwasher, sun roof, electric heat, block and a quarter to beach, short walk to fishing pier, ocean, beautiful beach in non-commercial area, superb fall vacation spot, sleeps 8 adults, Off season rates, Call Culotta, 3535 or 723·6142 for information, 919-995-5252 for reservations.
ONE CAMPAIGN HELPS PEOPLE ALL YEAR LONG

Thanks to you it works . . . for ALL OF US

Sixty-seven agencies
A Note to Langley Employees

This special issue of the Langley Researcher will show you what Langley’s Combined Federal Campaign is all about. In these pages is information about the agencies (local, national and international) which will benefit from our contributions, about the other local federal installations participating in the Peninsula CFC, and some interesting facts about Langley’s CFC over the years.

The Peninsula CFC provides an opportunity once a year for civilian and military employees of the government to contribute to a host of worthy health, welfare and community service organizations.

This year the Peninsula CFC goal is about $622,000. This money will be distributed among the Peninsula United Way (73.4%), Williamsburg United Way (2.4%), National Health Agencies (19%) and International Service Agencies (5.2%). Each of these four activities has established a goal and distributes its funds directly to benefitting agencies. The Peninsula United Way, for example, supports thirty-two different agencies. What better way could there be to provide a helping hand to so many?

If you have one or a few agencies that are special to you, you may designate your gift to that one or several selected agencies.

Langley has a long history of outstanding participation in community activities and especially in times of community need. The CFC is the one time each year when that community need is made known to us. Please help again this year, through the CFC, to meet that need.

Please call us if you need more information or have questions about the CFC.

Duncan E. McIver
Chairman

James L. Raper
Co-Chairman

You Might Be Surprised Just How Many People at Langley Were Helped by United Way Last Year

Chances are many employees and their children often benefit from services for which the United Way lends support. Boy’s Clubs, Girl Scouts, American Red Cross, YMCA, YWCA, family counseling services—they’re so commonplace it’s easy to take them for granted.

Peninsula United Fund

Number Agencies: 32

1979 Budget Goal – $2,005,000

CFC provides 73.4% or $456,000 of its goal to the above goal.

The following local agencies’ budgets are funded wholly or in part by the Peninsula United Way. The Agency total budgets presented are for 1977–1978 while the United Way contribution is a portion of the 1978-1979 goal of $2,005,000.

AMERICAN RED CROSS provides assistance in solving personal problems and meeting emergency needs of servicemen, veterans and their families and survivors. Meets emergency needs of victims of disaster. Meets all blood product needs of residents. Conducts health and safety education classes; i.e., First Aid, Water Safety, Home Nursing and Mother and Baby Care. Recruits, trains volunteers to work in Red Cross programs and in support of other organizations.

No local contribution to national Red Cross organization.

HAMPTON ROADS CHAPTER.
6,421 volunteers served 27,800 individuals
Total Budget: $255,040 Received from United Way: $237,222

YORK COUNTY CHAPTER.
6,024 people served
Total Budget: $183,883 Received from United Way: $115,700

BOY SCOUTS, PENINSULA COUNCIL. Educational program which promotes character development and citizenship training with major emphasis on physical fitness and self-reliance. Program made available upon request to qualified institutions and organizations to use with youth educational program. 6,945 registered youth members—2,500 adult volunteers.

Total Budget: $183,883 Received from United Way: $115,700

BOYS’ CLUBS. Youth guidance to promote high ideals through a building-centered program of recreation and education,
including athletics, vocational and social activities. Offers full camping experience to members through Day Camp operations.

CITIZENS BOYS' CLUB.
600 members
Total Budget: $69,945 Received from United Way: $65,711

HAMPTON ROADS BOYS' CLUB.
1,090 members
Total Budget: $92,594 Received from United Way: $93,893

PENINSULA BOYS' CLUB.
1,300 members
Total Budget: $109,194 Received from United Way: $107,090

CATHOLIC HOME BUREAU. State licensed child placing agency offering comprehensive services to natural parents, and adoptive couples. Services include professional counseling around the needs of the clients and may include foster care and adoption.
774 people served
Total Budget: $88,208 Received from United Way $26,639

FAMILY SERVICE/TRAVELERS AID. Diagnostic and referral services through individual and group counseling to people with family relationship and marital problems. Counseling is available for family members in need of help during periods of crisis. Travelers Aid is an inter-city social service to help people with problems and plans related to travel or migration, whether in advance, enroute or at destination.
1,898 people served
Total Budget: $130,818 Received from United Way: $104,113

GIRL SCOUTS, HERITAGE COUNCIL. An informal educational program designed to inspire and give guidance to girls 6-17 that they may become happy, resourceful citizens; realizing their potential for meaningful contributions to society, and accept responsibility for fulfillment of their individual roles in the world of tomorrow.
4,500 registered Girl Scouts—2,948 adult volunteers.
Total Budget: $208,574 Received from United Way: $73,892

GIRLS’ CLUBS. A daily after school program designed for all girls from all backgrounds to develop into intelligent wives, wise parents and responsible citizens. Character building through a program of arts, crafts, career counseling, creative cooking

Continued on page 6.
National Health Agencies

There are 12 agencies in this category. The CFC provides 19%, or $118,100, of the 1979 budget goal.

The following are some national agencies that are funded in part by the National Health Agencies:

National Hemophilia Foundation, dedicated to advancing and supporting programs of care and research that will help hemophiliacs live productive lives.

The Cystic Fibrosis Foundation supports research, care and education programs in Virginia benefiting individuals with lung-damaging diseases, especially cystic fibrosis, an inherited, incurable disease.

Muscular Dystrophy—researches causes and cures of 35 neuromuscular diseases; provides the best available medical care and related services free to patients and their families.

Arthritis Foundation leads the attack on this devastating crippling disease that afflicts over 20 million Americans.

United Cerebral Palsy. Local affiliates provide rehabilitative services to the disabled and guidance to families, work to prevent cerebral palsy, support research and professional training.

March of Dimes has a goal to prevent birth defects and offer every less-than-perfect newborn the best chance in the world for survival.

Other agencies receiving support are: National Kidney Foundation, American Heart Association, American Cancer Society, American Diabetes Association, National Society for the Prevention of Blindness and the National Multiple Sclerosis Society.

International Service Agencies

Six agencies receive $32,600, or 5.2% of the International Service Agencies' 1979 budget goal, from the CFC.

Receiving partial funding are:

International Rescue Committee. America's leading non-sectarian agency helping refugees who escape from dictatorships because of religious, racial or political persecution. Also aids homeless war victims.

Save The Children. Fights the most crippling of all childhood diseases—poverty—through community-based self-help programs in health, nutrition, agriculture and education.

International Human Assistance Programs. (Formerly American Kor-Asian Foundation.) Helps people in developing nations help themselves in nutrition, health, food production, community and human resource development.

Planned Parenthood—World Population. Helps control population growth through world-wide programs. Family planning contributes to improved living standards, helps many families lead more fulfilling lives.

CARE. Helps millions of desperately poor families in 38 countries survive and work toward self-support through feeding, agricultural, school, water, medical programs and disaster aid.

Project HOPE. In developing areas at home and abroad Project HOPE professionals train counterparts who in turn teach others to meet health needs of their own people.
A Letter From Your 1977 CFC Chairman

Last year, I accepted the volunteer position of Chairman of the Langley Research Center CFC Campaign. Prior to this undertaking, I had no idea what my job description entailed. I was soon to find out that everyone I had contact with was enthusiastic about helping others. This included the campaign leaders from all of the government agencies, the volunteers at the United Fund, health agencies, etc., and the Center volunteers who made the campaign a success.

I always found that I did the best job in a research project when I had a definite goal to reach, and when the results were finite. The position I was in met this criteria, and having worked with the Boy Scouts for X plus years, I knew what it was like to be helping our society. The Boy Scout who achieved the Eagle Scout rank instead of becoming a reformatory inmate was helped by many, many volunteers and a great number of monetary donations.

This is what CFC is all about—a group of employees helping the community and the country, by helping people. Your contributions were very much appreciated by the Center volunteers, but much more appreciated by the recipients. There are over 50 agencies sharing in this needy cause, and 95% of our employees give very generously. To the remaining 5%, I am asking that you help this year’s CFC Chairman achieve his goal and if a 50 cents biweekly payroll deduction is more than you have been giving, please pledge this amount, which in many cases is less than your cigarette money, equal to only one Coke a week, less than the amount you tip in a two week period, less than the cost of the extra calories you don’t need, and an amount that could save a life. Please don’t be the one that kept the Langley Research Chairman from achieving 100%.

Abe Leiss
1977 Chairman

Directorate Challenges

Which Directorate will have the honor of having the highest percentage of employee participation this year? Can any Directorate reach 100%? Which Directorates will equal or exceed their participation of last year? Final tallies for 1978 were:

<table>
<thead>
<tr>
<th>Directorate</th>
<th>% Employee Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structures</td>
<td>97.0</td>
</tr>
<tr>
<td>Director</td>
<td>96.9</td>
</tr>
<tr>
<td>Management Operations</td>
<td>96.7</td>
</tr>
<tr>
<td>Space</td>
<td>96.7</td>
</tr>
<tr>
<td>Projects</td>
<td>96.6</td>
</tr>
<tr>
<td>Aeronautics</td>
<td>93.3</td>
</tr>
<tr>
<td>Electronics</td>
<td>92.7</td>
</tr>
<tr>
<td>Systems Engineering</td>
<td>91.6</td>
</tr>
<tr>
<td>Overall</td>
<td>93.9</td>
</tr>
</tbody>
</table>

An overall participation of 94% is good but we can do better. KSC turned in a big 97% last year. Can we achieve 95%? Maybe Langley can lead all other centers someday with a 100%.

Local Federal Agencies Participate in CFC

Over thirty-one local federal agencies and activities, composed of over thirty-five thousand employees, have banded together this year to raise over $620,000 for 67 local, national, and international agencies. This amount, when combined with local business and private contributions, will provide over $2,175,000. The participating local federal agencies and activities are:

<table>
<thead>
<tr>
<th>Number</th>
<th>1979 Employees Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camp Perry</td>
<td>NA $ 2 500</td>
</tr>
<tr>
<td>Cheatham Annex</td>
<td>293 3 300</td>
</tr>
<tr>
<td>Def. Cont. Audit Agcy</td>
<td>23 1 025</td>
</tr>
<tr>
<td>Fed. Avia. Agcy</td>
<td>40 2 075</td>
</tr>
<tr>
<td>Ft. Eustis</td>
<td>13 000 136 000</td>
</tr>
<tr>
<td>Ft. Monroe</td>
<td>2 790 60 100</td>
</tr>
<tr>
<td>Internal Revenue Serv.</td>
<td>30 940</td>
</tr>
<tr>
<td>James River Res. Flt.</td>
<td>75 1 550</td>
</tr>
<tr>
<td>Langley AFB</td>
<td>9 255 147 500</td>
</tr>
<tr>
<td>NASA-Langley</td>
<td>3 188 175 600</td>
</tr>
<tr>
<td>Nat'l Mar. Fish. Serv.</td>
<td>9 50</td>
</tr>
<tr>
<td>Nat'l Park Serv.</td>
<td>108 2 400</td>
</tr>
<tr>
<td>Naval Cargo Hdlg Fac.</td>
<td>150 1 800</td>
</tr>
<tr>
<td>Naval Mine Engr Fac.</td>
<td>194 3 500</td>
</tr>
<tr>
<td>Naval Opth. Spt.&amp;Trng.</td>
<td>118 1 520</td>
</tr>
</tbody>
</table>

The Langley CFC Staff prepares material for the Kickoff Meeting on September 28. From left are: Barbara Clarke, MSD; Robert Keynton, SPO; Bud Mulac, STAD; Jim Ricks, SSD; Lorraine Walls, EOPo; Mary Quin, ANRD; Judy Ferris, IRD; Earl Arrowood, OD; Marty Weiner, PED; Mary Koriscinski, HSAD; Carter Turnbull, PED; and Ernie Greene, ACD. Unable to attend were Carroll Little and Jim Ogiba, Audit; Ernestine Martin, FMD; and Alberta Saunders, MD.

<table>
<thead>
<tr>
<th>Number</th>
<th>1979 Employees Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naval S'bldg, SUPSHIPS</td>
<td>462 11 750</td>
</tr>
<tr>
<td>Naval Weapons Sta.</td>
<td>2 500 26 000</td>
</tr>
<tr>
<td>Social Sec.,NN&amp;Hpt.</td>
<td>55 1 500</td>
</tr>
<tr>
<td>US Army Res. Sec.</td>
<td>8 300</td>
</tr>
<tr>
<td>US Coast Guard, RTC</td>
<td>1 319 11 300</td>
</tr>
<tr>
<td>US Collector of Cus.</td>
<td>10 325</td>
</tr>
<tr>
<td>Naval &amp; Marine Corps,RTC</td>
<td>8 NA</td>
</tr>
<tr>
<td>Penin. Postal Fac.</td>
<td>230 770</td>
</tr>
<tr>
<td>USPO, Hampton</td>
<td>197 5 000</td>
</tr>
<tr>
<td>USPO, Newport News</td>
<td>215 6 000</td>
</tr>
<tr>
<td>USPO, Williamsburg</td>
<td>60 450</td>
</tr>
<tr>
<td>USPO, Yorktown</td>
<td>22 530</td>
</tr>
<tr>
<td>Veterans Ad.</td>
<td>1 277 16 100</td>
</tr>
<tr>
<td>W&amp;M and HI ROTC</td>
<td>Fed. Hwy Ad.</td>
</tr>
<tr>
<td>35 637+</td>
<td>$626 815+</td>
</tr>
</tbody>
</table>

That’s a lot of people and a lot of money. Imagine the benefit to those 67 agencies if each person contributed the same percentage of his income. NASA stands out among the whole group with the largest goal and the largest average-per-employee goal. With your help NASA-Langley will maintain the example set in previous years.
Langley - A History of Generosity

Do you remember those "good old times" of the past—like the Space Task Group, five-stage rocket launches, four thousand employees at Langley, supersonic flight, and a few more? Well, even then, Langley was a leader in the Community Fund drive. Our history of giving has been one of strong participation by Langley employees and higher average giving each year. You should find the following record interesting and likely to bring back memories of "those times."

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Pledge</th>
<th>No. Employees Participating</th>
<th>Percent Participation</th>
<th>Average Gift</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954-55</td>
<td>$33,028.00</td>
<td>2883</td>
<td>98.6</td>
<td>$11.46</td>
<td>Mel Gough</td>
</tr>
<tr>
<td>1955-56</td>
<td>35,832.60</td>
<td>3085</td>
<td>95.7</td>
<td>14.60</td>
<td>Anshel Neihouse</td>
</tr>
<tr>
<td>1956-57</td>
<td>40,349.89</td>
<td>879</td>
<td>95.8</td>
<td>15.21</td>
<td>Robert Girouard</td>
</tr>
<tr>
<td>1957-58</td>
<td>45,051.56</td>
<td>3474</td>
<td>95.5</td>
<td>14.65</td>
<td>Joe Shortal</td>
</tr>
<tr>
<td>1958-59</td>
<td>48,852.49</td>
<td>3828</td>
<td>94.4</td>
<td>16.40</td>
<td>Marvin Forrest</td>
</tr>
<tr>
<td>1959-60</td>
<td>52,844.95</td>
<td>3786</td>
<td>92.6</td>
<td>15.51</td>
<td>John Parkinson</td>
</tr>
<tr>
<td>1960-61</td>
<td>53,647.43</td>
<td>4026</td>
<td>92.8</td>
<td>15.40</td>
<td>Ed Maher</td>
</tr>
<tr>
<td>1961-62</td>
<td>57,125.07</td>
<td>4041</td>
<td>95.7</td>
<td>14.97</td>
<td>Eldridge Derring</td>
</tr>
<tr>
<td>1962-63</td>
<td>56,693.20</td>
<td>3900</td>
<td>93.0</td>
<td>14.97</td>
<td>Upshur Joyner</td>
</tr>
<tr>
<td>1963-64</td>
<td>60,694.00</td>
<td>4028</td>
<td>93.0</td>
<td>16.31</td>
<td>Rufus House</td>
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<tr>
<td>1964-65</td>
<td>64,367.38</td>
<td>4028</td>
<td>93.0</td>
<td>17.20</td>
<td>Ed Kilgore</td>
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<tr>
<td>1965-66</td>
<td>65,697.71</td>
<td>3906</td>
<td>94.5</td>
<td>18.36</td>
<td>Aubrey Harris</td>
</tr>
<tr>
<td>1966-67</td>
<td>69,535.46</td>
<td>3906</td>
<td>94.5</td>
<td>18.36</td>
<td>Robert W. Boswinkle, Jr.</td>
</tr>
<tr>
<td>1967-68</td>
<td>73,367.39</td>
<td>3906</td>
<td>94.5</td>
<td>18.36</td>
<td>Dennis J. Martin</td>
</tr>
</tbody>
</table>

COMBINED FEDERAL CAMPAIGN

<table>
<thead>
<tr>
<th>Year</th>
<th>Participating</th>
<th>Percent</th>
<th>Average</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968-69</td>
<td>3821</td>
<td>94.0</td>
<td>28.68</td>
<td>Anshel Neihouse</td>
</tr>
<tr>
<td>1969-70</td>
<td>3705</td>
<td>93.9</td>
<td>33.37</td>
<td>Vera Huckel</td>
</tr>
<tr>
<td>1970-71</td>
<td>3676</td>
<td>95.7</td>
<td>36.89</td>
<td>Jess Ross</td>
</tr>
<tr>
<td>1971-72</td>
<td>3499</td>
<td>95.85</td>
<td>40.03</td>
<td>Earl F. Stahl</td>
</tr>
<tr>
<td>1972-73</td>
<td>3410</td>
<td>96.06</td>
<td>42.47</td>
<td>D. William Conner</td>
</tr>
<tr>
<td>1973-74</td>
<td>3389</td>
<td>95.3</td>
<td>44.36</td>
<td>Frank V. Moore</td>
</tr>
<tr>
<td>1974-75</td>
<td>3445</td>
<td>94.7</td>
<td>48.30</td>
<td>Janet Campbell</td>
</tr>
<tr>
<td>1975-76</td>
<td>3401</td>
<td>94.7</td>
<td>49.64</td>
<td>Edmund W. Randolph, Ill</td>
</tr>
<tr>
<td>1976-77</td>
<td>3269</td>
<td>93.45</td>
<td>51.65</td>
<td>Burnett W. Peters, Jr.</td>
</tr>
<tr>
<td>1977-78</td>
<td>3158</td>
<td>93.8</td>
<td>54.95</td>
<td>Abe Leiss</td>
</tr>
</tbody>
</table>

and entertaining, dancing, gymnastics, games, sports, library, tutoring, music, dramatics, sewing, stitchery, parties, trips and day camping.

HAMPTON GIRLS’ CLUB.
170 members
Total Budget: $32,664 Received from United Way: $33,606

PENINSULA GIRLS’ CLUB.
696 members
Total Budget: $46,320 Received from United Way: $42,506

KING STREET COMMUNITY CENTER. Offers a diversified daily program including recreational athletics, crafts, cultural, social and educational programs after school until 9 p.m. June through August offers an a.m. Day Camp covering all phases of a well-rounded program while including the above p.m. programs.
262 members
Total Budget: $37,191 Received from United Way: $28,942

LITERACY COUNCIL, PENINSULA. American-born functional illiterates and foreign-born who need help speaking, reading or writing the English language receive aid from P.L.C. volunteers.
Volunteers are trained in the use of Laubach Literacy materials (a picture phonics method of learning to read). They then work on a one-to-one basis with those seeking aid in reading and writing. Conversational English is taught in groups. Special workshops are held to train school reading volunteers who work primarily with elementary school children.
879 people received assistance in 1977
Total Budget: $16,809 Received from United Way: $16,809

MENTAL HEALTH, PENINSULA ASSOCIATION. Information and referral service; education programs promoting mental health through speakers bureau, audio-visual aids, seminars and pertinent literature. Volunteers provide services for mental hospital returnees and those in mental instiutions.
Total Budget: $20,289 Received from United Way: $16,809

PENINSULA ASSOCIATION FOR RETARDED CITIZENS. Educational and Developmental School and Vocational Training provides for training of the retarded of all ages. School program prepares children to enter special education classes in public school system. Vocational Training instructs job training and rehabilitation, including Sheltered Workshop and Adult program for severely mentally and physically handicapped individuals.
Adjustive Services provides all Professional Evaluation, Assessment and Therapeutic programs, and Residential Services for 20 occupants.

Continued on page 7.
Division, Project Office

Challenges

You just can’t do better than 100% participation, so the challenge is to maintain that lofty achievement. Last year the division’s and project offices completed the CFC with the following record:

<table>
<thead>
<tr>
<th>Organization</th>
<th>% Employee Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director-Aero</td>
<td>100</td>
</tr>
<tr>
<td>Director Electronics</td>
<td>100</td>
</tr>
<tr>
<td>Director-MO</td>
<td>100</td>
</tr>
<tr>
<td>Director-Space</td>
<td>100</td>
</tr>
<tr>
<td>Director-Structures</td>
<td>100</td>
</tr>
<tr>
<td>BDS</td>
<td>100</td>
</tr>
<tr>
<td>DCAA</td>
<td>100</td>
</tr>
<tr>
<td>LDEF</td>
<td>100</td>
</tr>
<tr>
<td>Mgt. Audit Office</td>
<td>100</td>
</tr>
<tr>
<td>MPAD</td>
<td>100</td>
</tr>
<tr>
<td>PERS</td>
<td>100</td>
</tr>
<tr>
<td>PRD</td>
<td>100</td>
</tr>
<tr>
<td>Director-Projects</td>
<td>100</td>
</tr>
<tr>
<td>STIPD</td>
<td>100</td>
</tr>
<tr>
<td>VPO</td>
<td>100</td>
</tr>
<tr>
<td>MSD</td>
<td>100</td>
</tr>
<tr>
<td>SED</td>
<td>99.36</td>
</tr>
<tr>
<td>SDD</td>
<td>99.20</td>
</tr>
<tr>
<td>AESD</td>
<td>98.55</td>
</tr>
<tr>
<td>Director-SEO</td>
<td>98.08</td>
</tr>
<tr>
<td>MD</td>
<td>97.26</td>
</tr>
<tr>
<td>Scout</td>
<td>97.14</td>
</tr>
<tr>
<td>SSD</td>
<td>96.94</td>
</tr>
<tr>
<td>OD</td>
<td>96.88</td>
</tr>
<tr>
<td>STAD</td>
<td>96.43</td>
</tr>
<tr>
<td>PED</td>
<td>95.61</td>
</tr>
<tr>
<td>FRD</td>
<td>94.05</td>
</tr>
<tr>
<td>MATD</td>
<td>94.03</td>
</tr>
<tr>
<td>FDCD</td>
<td>93.42</td>
</tr>
<tr>
<td>PROC</td>
<td>93.42</td>
</tr>
<tr>
<td>TCV</td>
<td>92.86</td>
</tr>
<tr>
<td>ACD</td>
<td>92.74</td>
</tr>
<tr>
<td>ANRD</td>
<td>92.54</td>
</tr>
<tr>
<td>FED</td>
<td>92.45</td>
</tr>
<tr>
<td>IRD</td>
<td>92.36</td>
</tr>
<tr>
<td>PTOD</td>
<td>92.31</td>
</tr>
<tr>
<td>OSD</td>
<td>91.84</td>
</tr>
<tr>
<td>HSAD</td>
<td>90.98</td>
</tr>
<tr>
<td>ASD</td>
<td>89.47</td>
</tr>
<tr>
<td>RFED</td>
<td>88.89</td>
</tr>
<tr>
<td>AAMRDL</td>
<td>87.50</td>
</tr>
<tr>
<td>ACEE</td>
<td>87.50</td>
</tr>
<tr>
<td>FD</td>
<td>86.17</td>
</tr>
<tr>
<td>FMD</td>
<td>85.96</td>
</tr>
<tr>
<td>RSRA</td>
<td>80.00</td>
</tr>
</tbody>
</table>

That’s sixteen total participation organizations. This year let’s see who can maintain their prior record and how many more than sixteen can achieve 100%.

Jim Gardner, left, Finance Chairman, shows Jim Raper, Co-Chairman for the 1979 Combined Federal Campaign at Langley, some statistics about last year’s contributions and this year’s goal. He seems to be saying what we all know, “It’s going to take WORK to make 1979 pledges the largest number on the board.”

Peninsula United Fund

Educational & Developmental School—10 months a year
Vocational & Adult Training—12 months a year
Residential Services—12 months a year
Summer Day Camp—6 weeks a year
265 clients served in 1977
Total Budget: $1,086,661 Received from United Way $90,000

PLANNED PARENTHOOD, PENINSULA CHAPTER. The emphasis of Planned Parenthood is on the prevention of social, physical, or emotional difficulties encountered as a result of unplanned or unwanted pregnancies. The agency offers education, counseling, and health maintenance medical services to the community on a continuing basis. Goals:
To promote better understanding of Human Sexuality by complete knowledge, to equip people with the sense of responsible sexual behavior and to encourage family spacing, thereby more secure family life.
9,160 clients served
Total Budget: $23,990 Received from United Way: $21,362

POQUOSON RECREATION ASSOCIATION. The Poquoson Recreation Association provides an organized recreational and sports activity program for the youth of Poquoson, under supervision of trained personnel, for the purpose of developing good sportsmanship and character.
375 children served
Total Budget: $2,710 Received from United Way: $2,810

SALVATION ARMY, PENINSULA. A social organization with a religious aim to meet the needs of anyone in the community. Transient and emergency services provided on a 24-hour basis.
Character building programs for the whole family are provided. Summer Camps for underprivileged children.
Family counseling. Food, clothing, and furniture items to needy families provided.

HAMPTON CORPS.

NEWPORT NEWS CORPS.

Combined services to 41,612
Total Budget: $165,101 Received from United Way: $67,121

SICKLE CELL ANEMIA. Provides disease testing, counseling, education and volunteer training.
7,146 persons served
Total Budget: $21,928 Received from United Way: $20,829

VOLUNTARY ACTION CENTER. As an Information and Referral Center, VAC matches “people with problems” to the agencies most likely to provide solutions.
As a community resource center, VAC coordinates an inter-agency alliance, sponsoring educational and recognition activities to stimulate volunteerism.
Program also includes Christmas clearinghouse, speakers and tours.
4,100 service contacts in 1977
Total Budget: $30,117 Received from United Way: $25,200

Y.M.C.A., ARMED SERVICES. A building centered program operating through athletic, social and club facilities to serve the spiritual, recreational and social needs of military personnel in the Armed Forces of the United States, also serves retired military and government workers.
Total Budget: $139,639 Received from United Way: $18,450

Continued on page 8.
Y.M.C.A., PENINSULA. The Peninsula YMCA seeks to involve youth and adults of all races and all segments of community life in its program, membership and leadership. Facilities open to members include gymnasium, olympic indoor pool, two handball courts, exercising room, dressing rooms for both male and female participants, and meeting rooms. Decentralized activities include HI-Y clubs, Indian Guides, basketball leagues, T-ball, and boys and girls day camping, and youth clubs.

Total members, 5,421
Total Budget: $242,399 Received from United Way: $51,110

YOUTH ACTIVITIES, MILITARY

FORT EUSTIS
The Army Dependent Youth Activities program is designed to provide meaningful organized leisure time activities in the military community to meet the inherent recreational interests and needs of dependent youths and to assist in preparing them for responsible citizenship. Eligibility: military dependents 6-19 years of age. Both directed and self-directed diversified programs are offered and organized, administered, supervised by a professional staff and trained volunteer leadership. Programs covered are Teen Clubs, Boy Scouts, and Performing Air Groups.

10,387 enrollment
Total Budget: $114,662 Received from United Way: $30,000

FORT MONROE

A diversified recreational and social program under professional leadership includes Teen Club, Girl Scouts, Boy Scouts, Cub and Webelo Scouts, baseball, football, basketball, tours, soccer, bowling, tennis, sailing, swimming, art and photo classes, ballet, annual carnivals and Christmas parties, and day camps and special events for civilian children.

Total Budget: $40,120 Received from United Way: $8,000

LANGLEY FIELD

Extensive recreation activities under professional leadership. Youth center programs located in three centers: the Barn in Shellbank area, Bethel Manor Youth Center, and the LTA Youth Center. Broad social and educational programs are available for active duty and retired military dependents (ages 6-18).

Total Budget: $171,736 Received from United Way: $24,675

NAVAL WEAPONS STATION

Initiation of a comprehensive youth program including recreational activities, educational enrichment programs and social opportunities. Under professional guidance, the youth program strives to promote personal growth and development both physical and emotional.

Total Budget: $20,475 Received from United Way: $8,000

Y.W.C.A. PENINSULA. The Peninsula YWCA program promotes personal growth, social action, rehabilitation and leadership development through information, education and training. Also serves neighborhood groups as well as youth and senior citizens. Classes, clubs, special events, day camps, workshops, trips—all contribute to the changing needs of families—especially women and girls of all ages.

PHYLIS WHEATLEY BRANCH.
1,680 members—13,492 participants
Total Budget: $120,487 Received from United Way: $66,372

NATIONAL COUNCIL—CRIME & DELINQUENCY. An organization of citizens and professionals working to develop sound and effective methods for the prevention and control of crime and delinquency so that the community is better protected and the offender restored to useful citizenship.

Received from United Way: $11,100

USO. Today—as always—gives servicemen around the world the feeling of belonging. Few have personal roots in civilian communities off post, and USO supplies that warm, personal community so urgently needed.

Received from United Way: $5,500

UNITED WAY. The purpose and function of United Way is to encourage and assist in providing the broad range of social services for the community which should necessarily and properly be furnished by private, volunteer agencies. It is responsible for social planning for the community, budgeting and allocations of funds to its member agencies, and through the Peninsula United Way campaign conducts an annual campaign for funds to finance its member agencies.

UNITED WAY OF AMERICA is the National headquarters for Nationwide local United Way activities and provides such services as publicity material for National and local use, communication, budgeting and planning.

Received from United Way: $17,531

LOCAL UNITED WAY CENTRAL SERVICES are, for example, assistance to local agencies in the yearly campaign, professional staff, funds administration, office facilities, etc.

Received from United Way: $152,311

LOCAL UNITED WAY BUILDING OPERATIONS provides office space for a number of local benefitting organizations at the Aberdeen Road United Way Building.

Received from United Way: $134,782

RESERVE FOR UNCOLLECTABLES provides a reserve for pledges not collected throughout the year so that benefitting agency budgets will not be impacted.

Allocated from United Way Goal: $220,183
Happy Anniversary

This week NASA celebrates its 20th anniversary.

Historically, that's a very short period of time. In the life of an individual or an organization, however, it can be a significant milestone. It's a convenient time to look back through two decades and hope to find worthwhile accomplishments, not too many mistakes, and some hope for the future.

For NASA, such a backward glance is full of good memories. The agency's accomplishments have been spectacular and awesome, its mistakes have been few, and its future looks good; not as spectacular as its past, perhaps, but solid and steady.

A quick look at some of the highpoints of NASA's first 20 years should stir some memories of many of the accomplishments—and a few of the mistakes.

During its first five years, from 1958 to 1963, NASA was busy getting organized; establishing new operational centers; sending probes to other planets; and putting satellites, animals and men into Earth orbit.

Alan Shepard was the first American in space, in May 1961, when he took a 15-minute suborbital ride, jammed inside his form-fitting Mercury capsule. Gus Grissom followed Shepard in July of that year, and John Glenn became the first American to orbit the Earth when he made three passes in February 1962. Walter Schirra, Scott Carpenter and Gordon Cooper closed out Mercury's six successful manned flights.

Langley researchers planned the world-wide tracking network for Mercury, and the Jet Propulsion Laboratory sent the first of several Mariner spacecraft to explore Venus.

Meanwhile, NASA test pilots like Joe Walker and Neil Armstrong were making records with the X-15, and the first of many lifting body flights took place, all at the Flight Research Center.

The Scout launch vehicle made its first test flight in July 1960. Little more than a month later, on August 12, Echo I, the first passive communications satellite, reflected a message from President Eisenhower across the nation.

By the beginning of NASA's sixth year, 23 more astronauts joined the original seven, and all began training for the two-man Gemini Program.

Langley researchers were making large contributions to the new space effort, while continuing to conduct aeronautical research. Some workers switched back and forth between space tasks and aeronautical problems almost from week to week, and they hardly missed a beat.

During the second five years of NASA, Langley scientists established the value of lunar orbit rendezvous as the most feasible way of reaching the Moon. Projects Fire and RAM studied the re-entry problems of space vehicles returning to Earth, and NASA launched scores of weather and communications satellites.

Five Lunar Orbiters, following Ranger and Surveyor spacecraft to the Moon, mapped the surface to pinpoint safe and interesting landing sites for Apollo astronauts.

In aeronautics, Langley researchers were busy studying supersonic transport concepts, helping develop the variable-sweep wing, working on the supercritical wing, and ironing out problems of vertical/short take-off aircraft, both fixed and rotary wing.

The Gemini Program completed 10 successful two-man flights that proved the rendezvous and docking concept, which had been tested in strange contraptions at Langley.

Despite a tragic setback caused by the deaths of astronauts Gus Grissom, Ed White and Roger Chaffee in January 1967, in an Apollo capsule fire at the Kennedy Space Center, the first manned Apollo mission was successfully flown in October 1968, just after NASA's 10th birthday.

That first Apollo flight was followed in December by the Apollo 8 mission, which took astronaut Frank Borman and crew circling around the Moon on Christmas Eve.

The following year saw four more Apollo missions, including the wonder of seeing Neil Armstrong and Ed Aldrin first step onto the Moon in July 1969.

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Continued from page 1.

Apollo 17 closed out 1972 and a program that put 12 astronauts on the surface of the Moon, gathering scientific data that are still being analyzed.

Even before Apollo ended, however, NASA was already working on Skylab. During three long-duration missions, nine astronauts lived in a gravity-free environment for more than 171 days.

NASA also began planning for the Space Shuttle, now one of the agency's most important projects.

Mariner 6 sent to Earth the first pictures of Mars in mid-1969, and Explorer 1, the first U.S. satellite, re-entered Earth's atmosphere in March 1970, just over 12 years old.

ERTS 1 (now Landsat 1) was launched in July 1972 to monitor Earth's agriculture, forests, minerals, and other resources. NASA was also launching payloads for other countries, and officials were talking with the Soviets about a joint space mission.

Development of the supercritical wing was completed in 1969, and flight tests began. In 1971 the U.S. decided to get out of the SST business, at least for the foreseeable future, but Langley researchers continued studies in SST technology.

During the past five years, the U.S.-Soviet joint mission became the Apollo-Soyuz Test Project in 1975, and two Viking spacecraft were launched on their year-long journeys to Mars.

Part of the U.S. Bicentennial Year became the Viking Summer as two unmanned craft circled and landed on Mars to begin extensive photography and scientific investigations. Pioneer 10 had earlier crossed the rings of Saturn and continued its trip toward Pluto.

In 1977 were the first free flights and landings of the Shuttle Orbiter, and the launches of two Voyager spacecraft to Jupiter and Saturn. The year 1978 began with NASA selecting 35 Shuttle astronaut candidates, including six women and four minority members.

And here we are today at Langley, crashing and spinning light airplanes to make them safer, building one of the first Shuttle payloads, improving aircraft efficiency and air terminal operations, designing instruments for satellites, planning gigantic structures for Earth orbit, building a new kind of wind tunnel, and studying ways to improve our air and water environment.

There is a lot of work to do, and it continues to be important to the people of the world. As Director Don Hearth recently told employees, "We have a good product for the public."

"The Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind ..."

President Dwight D. Eisenhower
July 29, 1958

Early NASA Milestones

1957

Oct. 4: The Soviet Union launches the first man-made satellite, Sputnik I, which seriously challenges the United States' reputation for technical superiority.

Nov. 21: NASA's predecessor agency, the National Advisory Committee for Aeronautics (NACA), appoints a special committee on space technology to supervise and help form a space research program.

1958


Jan. 31: Explorer I, America's first satellite, is launched into Earth orbit. It was developed by the von Braun group for the U.S. Army.

July 29: President Dwight Eisenhower signs the National Aeronautics and Space Act of 1958, stating "the present (NACA), with its large and competent staff and well-equipped laboratories, will provide the nucleus for NASA. The NACA has an established record of research performance and of cooperation with the armed services. The coordination of space exploration responsibilities with NACA's traditional aeronautical research functions is a natural evolution...which should have an even greater impact on our future."

July 30: President Eisenhower requests $125 million to initiate NASA.

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A Past To Be Proud Of, A Future To Look Forward To

Director’s Comments

As we observe NASA’s 20th anniversary this week, we recall the Agency’s founding and take note of its outstanding record of achievements. Many of those contributions were made by the people of Langley and we can all be proud of them.

As NASA begins its third decade, it seems appropriate to outline my thoughts on Langley’s future. (These remarks are from my talk to the Center of a few weeks ago.)

In terms of the Center’s program, I expect the following:

- An emphasis on innovative research, moving toward somewhat more fundamental and long term work.
- A continued mix of aeronautics and space research.
- Within aeronautics, emphasis on the disciplines of acoustics and noise reduction, aerodynamics, aeroelasticity, avionics, flight dynamics and control, materials and structures and to the applications of general aviation, long haul commercial, and military aircraft.

Thus, I anticipate a continuation of the Center’s broad based aeronautics program. It is also my intent to maintain a strong in-house character of the program.

- Within space, emphasis on environmental quality and the disciplines of aerothermodynamics, electronics, materials and structures.

This work is equal in importance to aeronautics. The disciplines are those which have a close relationship to our aeronautics work and/or are based upon a unique Langley capability.

- Space flight experiments in the above areas conducted by Langley.

Our role will include the development of R&D hardware and the management of flight experiments from concept through data analysis. As is true in aeronautics, some aspects of space research require flight.

- A phase out of Scout launch vehicle project management.

If Scout is phased out of the nation’s vehicle stable as Shuttle becomes fully operational, Langley will manage it until completion. If Scout is not phased out, I believe management responsibility should be transferred from Langley after 1981.

- Langley management of selected aeronautics and space projects that are closely related to our research disciplines.

While research is our basic role, it is important that we manage those projects, such as ACEE and Large Space Systems Technology, that encompass Langley’s research disciplines.

- The pursuit, at a low level, of attractive ideas which are outside the Center’s official Roles & Missions.

A research laboratory, such as Langley, should not be overly constrained.

- A continued effort toward the application of aerospace technology and Langley capability to nonaerospace uses.

This means an active Technology Utilization program and the type of assistance Langley is currently providing to development of the Virginia Resources Information System and our planning toward expanded cooperative programs with Hampton Institute.

In terms of people related matters, I expect the following:

- A ceiling of 3065 (our current on-board complement), at least for the next year.

There will be continued pressure on the size of all NASA Centers. Thus, while we are planning on stability in the size of the Center for the next several years, we must recognize the uncertainty in this forecast.

- Hiring at a level to fully replace our attrition while maintaining today’s skill mix.

Our future plans assume today’s skill mix. In FY ’79 we will hire, for example, about 45 S&E’s and 70 technicians. Emphasis will be placed on recent college graduates and apprentice technicians although some high grade hiring will be necessary. If the Center’s ceiling stays at 3065 after FY ’79, we will continue this pattern for the foreseeable future.

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Continued from page 3.

- The use of a portion of the Center's Administrative Professional hiring capability for Upward Mobility.
- A continuation of a promotion rate of 12% until the Center's average grade is reduced to 10.46.
- An increase in growth opportunities for Langley people over what there has been in the past few years.

Stability in the size of the workforce is important in this regard. In addition, our projections indicate an increase in retirements in a few years. We will also continue to emphasize the "dual ladder" to provide nonsupervisory opportunities.

- Continued emphasis on Equal Opportunity with increased attention to the representation of minorities and women in high grade and/or supervisory positions.

- Continued improvement in the work environment at Langley for innovative research.

As noted in my talk to the Center of a few weeks ago, I think that the future for Langley looks very good. I do not expect the major program changes that have occurred in the past 20 years at Langley. I do expect many new, exciting and important research programs. In addition, there will be many opportunities for technical contributions and many opportunities for people to develop and grow.

Original seven NASA astronauts (front, from left) Walter Schirra, Donald Slayton, John Glenn, Scott Carpenter (top, from left), Alan Shepard, Virgil Grissom, and Gordon Cooper.

Viking panorama of Mars.

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Astronauts Presented Congressional Medals

Six NASA astronauts were presented with the Congressional Space Medal of Honor by President Carter on Sunday, October 1, in special ceremonies to mark the 20th anniversary of NASA.

They are the first of the medals ever awarded. Authorized by Congress in 1969, the Congressional Space Medal of Honor is conferred to any “astronaut who, in the performance of his duties, has distinguished himself by exceptionally meritorious efforts and contributions to the welfare of the nation and of mankind.”

The six astronauts were honored for performing or leading unprecedented U.S. space missions. Honored are:

Alan B. Shepard, Jr., first American to go into space, aboard a Mercury spacecraft in May 1961. He “demonstrated that this country lacked neither the courage nor the technology to compete in the new arena of space,” according to his citation. He was also cited as commander of Apollo 14, third lunar landing mission, in February 1971.

John H. Glenn, Jr., first American to orbit the Earth, on the third manned Mercury mission in February 1962. He “demonstrated the value of the human pilot in space ...

Virgil I. Grissom (posthumous), commander of the first Gemini flight, in March 1965, which led to “procedures necessary for the support of subsequent long-duration and rendezvous missions.” Grissom was also the second American in space, in July 1961. He lost his life in January 1967 during preparations for the first Apollo flight.

Frank Borman, commander of Apollo 8, the first manned spacecraft to escape Earth’s gravity and circle the Moon, in December 1968. Borman’s Apollo flight and the two-week Gemini 7 mission, in December 1965, “significantly hastened

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Patton Receives Test Pilot Award

James M. Patton, Jr., Head, Operations Branch, Flight Research Division, was presented the Iven C. Kincheloe Award at the Annual Symposium of the Society of Experimental Test Pilots in Los Angeles on September 30. This award is in recognition of his professional accomplishment in the initiation, formulation, and conduct of the NASA comprehensive general aviation stall/spin flight research program.

Patton was nominated for the award by John P. Reeder, Chief of Langley’s TCV Program Office, and a Society Fellow. In his nomination, Reeder noted, “During the (stall/spin) program formulation, Mr. Patton provided invaluable leadership and technical guidance to establish flight safety procedures and ensure a rational and productive flight research program. As a result of his efforts, Langley Research Center has established a stall/spin flight test facility, procedures, and equipment which provides the most sophisticated system to date for general aviation stall/spin research.”

He continued with, “Patton’s outstanding attributes as an engineer test pilot are exhibited by the precision with which he conducts the flights (his control inputs are specific, precise and repeatable); by his ability to analyze spin motions during flight tests and relate to experiences of other flights; and his consistent ability to obtain, with a limited performance airplane and established safety procedures, the maximum amount of spin test data from each flight. To date, about 398 individual programmed spin tests for a total of about 2,679 turns have been successfully completed.”

Patton has been in his present position since 1968; he began his NASA career in April 1966 as a Research Pilot. Prior to joining NASA, he was an Engineering Test Pilot with the Federal Aviation Administration from 1958 to 1966. From 1956 to 1958, he was a Flight Test Engineer with Chance Vought in Dallas, Texas. He served in the U.S. Navy from 1946 to 1953 where he held the rank of Lieutenant Commander.
Milgrim to Speak

October 16 Colloquium Lecture

Dr. Jerome H. Milgrim will be the guest speaker for the Langley colloquium on Monday, October 16, in the Activities Center (Building 1222). He will speak on "Hydrodynamics and Performance of Sailing Vessels."

The new time format which has been established for the Langley colloquium series will be used for this and future lectures. The talk will begin at 2 p.m., followed by a brief question and answer session with the audience. At 3 p.m., the speaker will move to the adjoining Langley Room to discuss topics in more detail over coffee with interested individuals.

Milgrim's talk will center on our present-day ability to predict hydrodynamic forces on hulls and aerodynamic forces on sails. The subject is controversial among sailors and the presentation will include theoretical fluid mechanics, model testing and full-scale testing. Computer modeling will be considered and areas requiring improved predictive capability will be examined.

Milgrim is a full professor in the Department of Ocean Engineering at the Massachusetts Institute of Technology, Cambridge, Mass. He holds a Ph.D. from M.I.T. in hydrodynamics, as well as degrees in Naval Architecture and Marine Engineering and Electrical Engineering. In addition to his teaching duties, Milgrim has extensively supervised research in ocean oil slick mechanics and control.

Outside of his academic duties, he is a consultant to boat rigging and sail manufacturers, navigation instrument manufacturers, the oil slick barrier device industry, and the Attorney General offices of several states.

ASTRONAUT MEDALS (continued)

and facilitated achievement of the manned lunar landing objective."

Neil A. Armstrong, first man to walk on the Moon, during the Apollo II mission of July 1969, when he acted with "steady, cool professionalism, repeatedly overcoming hazards." Armstrong also overcame problems and landed his spacecraft safely during the Gemini 8 mission in March 1966.

Charles Conrad, Jr., commander of the first Skylab mission, in May and June 1973. He and his crew performed "lengthy, dangerous and strenuous activities that were necessary to repair damage inflicted on the orbital workshop during launch," thereby saving the Skylab program. Conrad also participated in two Gemini missions and one Apollo lunar landing mission.

Pinson Selected for Presidential Exchange

Dr. Larry D. Pinson, Structural Mechanics Branch, Structures and Dynamics Division, is among a select group of mid-career executives chosen to participate in the President's Executive Interchange Program.

The program is designed to foster improved relations between the private and public sectors. Fifty to seventy-five high-calibre middle management executives from both sectors are selected each year. Each executive spends a year in the opposite sector gaining in-depth, on-the-job experience.

Pinson began his year-term with the Aerospace Corporation in Los Angeles, Calif., in August.

"The Program provides the Nation with a cadre of promising individuals in both sectors who can be called upon in later years for government advisory posts and important appointive posts," according to Lee Cassidy, Executive Director of the President's Commission on Personnel Interchange, which administers the Program.

The 67 men and women selected for this year's program bring the total to over 450 highly qualified executives who have participated in the Interchange Program since it was established by President Lyndon B. Johnson.

Pinson holds bachelor and master degrees in civil engineering from the University of Kentucky, Lexington. He earned his Ph.D. in engineering mechanics from the Virginia Polytechnic Institute and State University. He began his NASA career at Langley in 1963. Pinson has received several awards for work on vibrations of space vehicles and during the Apollo program, he was a consultant on various flight anomaly studies.

Pinson and his wife, Sarah, and their three children are residents of Poquoson.
Bullock Appointed to State Post

Gordon F. Bullock, Flight Electronics Division, has been appointed by Governor John M. Dalton to serve on the Virginia Division for Children, an agency established July 1, 1978, to promote and enhance the family as the primary and fundamental influence on child development.

The Division is responsible for developing an information program to child-serving agencies and organizations and monitors and evaluates state programs which deliver services to children and youth, making recommendations to the appropriate government officials.

The Division is also responsible for recommending legislative changes to the Governor and General Assembly, and to serve in the Department of Planning and Budget, the proposed budgets of State agencies providing service to children and youth.

Bullock served from 1974-78 as a Board Member of the Virginia Commission for Children and Youth. On the commission, Bullock served as Chairman of the Youth Involvement Committee, a standing committee of the commission.

Besides serving on the division and commission, Bullock has been involved in boys' clubs. He presently serves as Cub Scout leader of Pack 44.

Bullock came to Langley in 1962 after receiving his bachelor's degree in electrical engineering for North Carolina A and T State University.

Bullock is married, has three children, and lives in Hampton.

Correction

In the article about the 30-Year Service Awards Ceremony, Herbert R. Henderson was erroneously listed as an employee in the Instrument Research Division. Herb is actually in the Acoustics and Noise Reduction Division.

Job Openings

The following Merit Promotion Announcements are currently open:

78-56 - AST, Technical Engineering Operations Management; GS-801-14 or 15; Aeronautics Directorate; Aeronautical Systems Division; Advanced Supersonic Technology Office; Closes October 6, 1978; NASA-Wide.

(AMENDED) 78-57 - Head, Acquisition Research and Management Office; Assistant Procurement Officer; GS-1102-13; Procurement Division; Acquisition Research and Management Office; Closes October 18, 1978; NASA-Wide.

78-58 - Supervisory Engineering Technician; GS-802-12 or 13; Operations Support Division; Laboratories Operations Branch; Technical Support Section B; Closes October 6, 1978.

78-59 - Administrative Operations Specialist; GS-301-7; Management Support Division; Administrative Services Branch; Closes October 11, 1978.

78-60 - Procurement Analyst; GS-1102-12; Procurement Division; Office of Chief; Acquisition Research and Management Office; Closes October 11, 1978.

78-61 - Contract Specialist; GS-1102-7; Procurement Division; Research and Development Contracting Branch; Contract Negotiation Section; Closes October 11, 1978.

78-62 - Contract Specialist; GS-1102-5; Procurement Division; Research and Development Contracting Branch; Contract Administration Section; Closes October 11, 1978.

78-63 - Contract Specialist; GS-1102-5 or 7; Procurement Division; Projects and Services Contracting Branch; Closes October 11, 1978.

78-64 - Secretary (Stenography); GS-318-5 or 6; Projects Technical Operations Division; Office of the Chief; Closes October 16, 1978.

78-65 - AST, Experimental Facilities and Equipment; GS-801-11; Systems Engineering Division; Aeronautical Systems Engineering Branch; Model Engineering Section; Closes October 16, 1978.

78-66 - AST, Fluid Mechanics; Aerospace Engineer; GS-861-13; Subsonic-Transonic Aerodynamics Division; Theoretical Aerodynamics Branch; Closes October 16, 1978.


At a ceremony held on September 8, Robert W. Dickerson (left), Area Manager of the U.S. Savings Bond Division, U.S. Department of the Treasury, presented the Treasury "E" Flag with one Gold Star and one White Star to Don Hearth, Langley Director. This is the sixth consecutive year that Langley has received this award for having 86.1 percent participation in the Savings Bond allotment payroll deduction plan. The Gold Star represents five years and the White Star one year. During the ceremony, Heath also presented awards to all organizational units that had 100 percent participation.

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Reeder Reflections

"A good flight is as exhilarating as a basketball game."

Jack Reeder, Chief, Terminal Configured Vehicle Program Office, is a man who enjoys his work. Here for 40 years, he noted that switching to research flying was "the best thing I ever did."

Reeder came to Langley in 1938 to work for the National Advisory Committee for Aeronautics (NACA) as Junior Aeronautical Engineer, working in wind tunnel research.

In 1942 Reeder was transferred to the Flight Research Division and in early 1944 completed helicopter flight training at the U.S. Coast Guard School, Floyd Bennett Naval Air Station, New York. In 1952 he became Head of Langley's Flight Operations Branch. He stayed active as a research pilot until about 1965.

A native of the Upper Peninsula of Michigan, Reeder became interested in aviation while watching the planes fly overhead and the pilots wave to him while living near Sudbury, Ontario. His father was a mining engineer, and he lived in Sudbury for about two years before moving back to Michigan at age eight.

He became interested in aeronautical engineering and attended the University of Michigan. He noted that he received his offer to work at Langley before he finished his senior year. Because his instructors were so enthused of the offer, he was allowed to skip his final exams and started work at Langley June 1. He noted that he returned to the University of Michigan for the commencement exercises.

Reeder said that there are "unlimited possibilities as a NASA test pilot" and that a "research pilot here has a wide variety of planes to fly." Reeder's record can testify to that.

Since becoming a test pilot for Langley, Reeder has flown and tested some 226 different single and multi-engine, civil and military, land and sea aircraft types. Forty of these have been fighters, 37 have been jets, eight have been VTOL airplanes (including British and Canadian) and 59 have been rotary wing types (including British and French).

As an airplane research pilot, Reeder has worked on the handling quality standards for fighters, loads, performance and the effects of sweepback on the low-speed characteristics of aircraft. He was also involved in the early exploration of transonic phenomena and their effects on aircraft characteristics.

Reeder was a pioneer on rotary wing and V/STOL aircraft aerodynamics, performance and handling characteristics. He noted that helicopters still have many problems that need to be worked out. Helicopters have not been vastly improved in handling characteristics since the time when he tested them and "they do not have as good handling characteristics, generally, of airplanes," Reeder said. He added that there has been too little effort by the companies to improve the helicopters' all-weather capabilities, mainly because they haven't recognized the problems to be solved.

Reeder said that in all years of flying he has never had a severe emergency, but there have been several small ones.

One of these came when he was testing a Vought F4U-1. Reeder said that as he was flying, a blanket of oil from a broken high pressure line on the engine face rolled over the cockpit canopy so he couldn't see. He had to open the canopy and then the oil covered his goggles. He then raised the goggles and tried looking around the oil blanked windshield, but the oil kept getting in his eyes. Also the goggles blew off in the airstream. Everyone thought he was on fire.

Reeder said it was very difficult to land on the field because he couldn't see in front of him. His last view of the runway was on base leg. Reeder said there were some planes parked next to the runway ready for take-off, so he guided himself down by looking at these planes.

He said that as the tails of these airplanes rose to his level he began an easy flair and touched down on the runway, fortunately. A serious problem then arose in trying to climb down from the oil slick airplane.

Reeder noted that one of the biggest thrills was flying the first Mustang, the North American XP-51. Reeder said the XP-51 was a "very fine flying machine" and was one of the best fighters he has flown. He said that when the XP-51 came out it could fly 30 mph faster than any fighter plane of its time. He noted that he had done more flying in it than anyone up to the time it was placed into the hands of the Experimental Aircraft Association (EAA), which is now keeping it in flying condition.

In his years with Langley, Reeder has served as Head of Flight Operations, Assistant Chief, Flight Mechanics and Technology Division and Chief, Research Aircraft Flight Division.

In his present position as Chief, Terminal Configured Vehicle (TCV) Program Office, he is in charge of the research and integration of airborne systems to take maximum advantage of new concepts of navigation, guidance, and air traffic control developed by the FAA. These new concepts are intended to improve capacity, safety and schedule reliability, as well as reduce noise, in high density terminal airspace.

Reeder said that we need to come up with a system to solve airport closings during bad weather because...
Bailey Receives Thompson Fellowship

Dr. Marion C. Bailey, Flight Electronics Division, is one of two recipients of the 1978-79 Floyd L. Thompson Fellowship. John B. Anders, HSAD, the other recipient, was featured in the last issue of the Researcher.

The Thompson Fellowship Program was established in 1977 to encourage the development of research potential among the Langley staff.

Bailey is spending one academic year at the University of Mississippi studying analytical and numerical methods in electromagnetics.

Bailey has been at Langley since 1964. He received his bachelor of science degree in electrical engineering from Mississippi State University, his Master's from the University of Virginia and his Ph.D. from Virginia Polytechnic Institute.

Bailey is a member of the Institute of Electrical and Electronic Engineers (IEEE), Tau Beta Pi and Eta Kappa Nu. Bailey and his wife, the former Wanita Armstrong, have two children and live in Hampton.

when a major airport closes, the whole system is disrupted, sometimes for days at a time. He added that the TCV program has a tremendous potential for the future.

Reeder has authored or coauthored over 60 NASA technical reports and papers and is a member of several organizations. He is a Fellow of the Society of Experimental Test Pilots, a Fellow of the American Institute for Aeronautics and Astronautics (AIAA), an Honorary Fellow of the American Helicopter Society (AHS) and founder member of the Twirly Birds who soloed helicopters before V-J Day, 1945.

With his work as a research pilot, Reeder has received numerous awards, the NASA Exceptional Service Medal, the Octave Chanute Award of the AIAA, the Burroughs Test Pilot Award presented by the Flight Safety Foundation, and the Wright Brothers Medal of the Society of Automotive Engineers.

Reeder is married to Francis L. Winder, Hampton, and lives in Newport News. The Reeders have two daughters, Shirley P. Randall, Raleigh, N.C., and Carol A. Throckmorton, Hawaii. They also have two grandchildren.

Simokaitis Appointed DOD Affairs Head

Frank J. Simokaitis (Maj. Gen., USAF, Ret.) has been appointed Director of the DOD Affairs Division, Office of External Relations, NASA Headquarters. His appointment was effective Monday, September 11.

Born in St. Louis, Missouri, on December 12, 1922, he attended Washington University in St. Louis from 1943 to 1947. He received his LLB. and J.D. degrees from St. Louis University in 1950 and 1970, respectively. He is a member of the bar of the State of Missouri and has been admitted to the practice of law before the U.S. Supreme Court and the U.S. Court of Claims.

During World War II, General Simokaitis served as an instructor pilot and a bomber pilot in the European theatre. From 1973 until his retirement this year, he has been Commandant of the Air Force Institute of Technology at Wright Patterson Air Force Base, Ohio, and concurrently from 1976, Commandant of the Defense Institute of Security Assistance Management.

His decorations include the Air Force Distinguished Service Medal; Legion of Merit and Air Medal; the Order of

NTA Science Program

The Hampton Roads Chapter of the National Technical Association (NTA) recently completed a summer science enrichment program for elementary students in Hampton. The program was designed to expose students to varied scientific and technical areas. It was initiated in June by Mary Jackson, STAD, with the assistance of Christine Darden, HSAD, Katherine Johnson, FDCD, and chapter president, Marvin Waller, FDCD.

During the program, students were exposed to lectures, demonstrations, and field trips related to meteorology, astronomy, marine science, mechanical engineering, and aerospace engineering as well as an exhibition on gliders in Windsor, Virginia. It culminated with a tour of the Smithsonian Institute in Washington, D.C.

This program represents one of the many NTA activities designed to encourage and assist minorities in pursuing careers in the natural and physical sciences.

Daedalians; General Muir S. Fairchild Education Achievement Award; and the St. Louis University Alumni Merit Award.

5 Langley Researcher, October 6, 1978
Fire Prevention Week

In observance of National Fire Prevention Week, October 8 to 14, the Newport News Fire Prevention Bureau is urging all Tidewater area residents to install one or more smoke detectors in their home. Statistics show that detectors would have prevented 64% of fatal fires in residential buildings, where over 90% of fire deaths occur.

Jack Walls, Newport News Fire Marshall, points out that smoke detectors are now inexpensive and that they really do save lives. When buying one, make sure it is UL approved and that it uses a standard 9-volt battery. He said that your local Fire Department will assist you in placing detectors in your home.

Walls also has other suggestions for fire safety:

- Have your address visible and clearly displayed on your house.
- Post the Fire Department number beside each telephone in your house.
- When calling to report a fire, be sure to give the correct address and, if possible, have someone meet the Fire Department at the street to direct them to the building or area involved.
- Keep portable fire extinguishers in strategic locations throughout the house. The kitchen and garage are two important areas. Keeping one in your car is also helpful. Your local Fire Department is glad to advise you on size, type, location and operation of portable extinguishers.
- Have a home escape plan, practice it and prepare an alternate route. If a fire occurs, make sure everyone gets out, call the Fire Department at once and have a preplanned location to meet.

If you have any questions about fire prevention, or would like to have someone meet the Fire Department at the street to direct them to your home, call your local Fire Department. Their job is to keep you alive.

Engineering Graduate Program Information

Dr. Fred R. DeJarnette, of the North Carolina State University, will be available on Friday, October 13, 1978, from 1:00 to 2:00 p.m., to discuss Engineering Graduate Programs. He will be in Building 1194A, Room 106.

All interested personnel are invited to attend.

Hearth Selected for Alumni Post

Langley Director Donald P. Hearth was recently selected a Director-at-Large of The National Council, an alumni organization of Northeastern University in Boston, Massachusetts.

Hearth earned his bachelor of science degree in mechanical engineering from Northeastern in 1951.

The National Council was established in 1964 to provide advice, counsel and leadership in activities which stimulate support for the University by alumni and friends of Northeastern.

The Directors help promote an effective relationship among the University, its alumni and the community. They also organize and conduct activities to strengthen the University and enhance its services and they assist Northeastern in adding to its resources.

Hearth will serve as Director-at-Large for a term ending June 30, 1983.

Thanks

Dudley Hammond thanks everyone who had a part in his retirement party on August 30. “Not only the serious, but the ‘fun’ part as well, will always be remembered with pleasure. My gratitude and deep appreciation goes to you all.”

Newport News Holds Folk Life Festival

The City of Newport News will hold the fifth annual Festival of Folk Life at Newport News Park on October 7 and 8. Over 50 Tidewater craftsmen will demonstrate their traditional skills from 10 a.m. to 6 p.m. during the two-day festival.

The festival centers around a presentation of inherited hand methods of doing the crafts of everyday living. Crafts to be demonstrated will be forging iron, basket weaving, rug making, butter churning, canning and food preparation, chair caning, musical instrument making, wooden toy making, spinning and weaving, quilting, leather working, vegetable kilining, shingle making, and soap making.

Old time fiddling, banjo picking, high-spirited jigging, blues guitar and native American dancing will accompany the work of the craftsmen, providing a slate of continuous entertainment throughout the two-day event.

The festival will be free and open to the public. There will be a parking fee to cover the festival expenses. For further information, call the Newport News Division of Recreation and Parks at 247-8451 or the Newport News Park Headquarters at 877-5211.
Happenings

COIN CLUB. Got some loose change in your pockets? Why not become a coin collector? It's a fun and fascinating hobby for young and old. The Langley Research Center Coin Club meets Thursday, October 19 at 7:00 p.m. in the Activities Building. Bring your kids. Guests and visitors are always welcome.

GIFT SHOP NEW STOCK. New inventory items at the Exchange Gift Shop are: film of all sizes, Skylab book, cassette deck, Halloween costumes, snapfit model of Space Shuttle, literature on electronic pinball machine, zip code directory, deluxe backgammon sets, CB antenna, Xacto miniature doll furniture kits, third 8x10 color print free offer.

TOASTMASTERS. If you would like to improve your public speaking and leadership skills, join the TAC AIR Toastmasters Club. Toastmasters meet on the second and fourth Wednesdays of each month at the Langley AFB Officers Club. For more information, call Bob Lee, 2486; Jim Moss, 3770; Andy Srokowski, 3735; or Jim Shipp, 2592.

NATIONAL TECHNICAL ASSOCIATION. Jim Harris, ACD, was recently elected President of the Hampton Roads Chapter, NTA, for FY '79. Christine Darden, HSAD, Katherine Johnson, FDCC, and Williana Smith, ACD, were elected Vice President, Treasurer, and Secretary, respectively. Marvin Waller, FDCC, is the past President.

CONCESSION BUILDING HOURS. Due to the cool weather in the afternoons, the Concession Building on the Activities picnic grounds will be closed after 4:30 p.m. Food and drinks can be purchased inside the Activities Center (Building 1222).

ARTS AND CRAFTS SHOW. The LAA Arts and Crafts Show will be held Sunday, November 19, from 1 to 5 p.m. in the Activities Center. Space is available for those desiring to display their handiwork. For information contact Betty Farmer, ext. 2062.

TURKEY SHOOT. The LAA will hold its annual Turkey Shoot on Saturday, November 4, on the Activities grounds from 9 a.m. until sunset. Turkey raffle tickets (25 cents each) may be purchased from your Activities Association representative. Persons desiring to help with this shoot please contact Ernie Greene, 2312.

BINGO. The LAA Bingo is held every Thursday in the Activities Center, Building 1222. The first game begins at 7:30 p.m. Bring your family and friends and get in on the great prizes. Food and beverages are available throughout the evening.

HAPPY HOUR. The LAA will sponsor a Happy Hour on October 6, beginning at 4 p.m. at the Activities Center.

CHRISTMAS TREES. The LAA will continue taking orders for Scotch pine Christmas trees through October 21. Prices are: 4 and one-half feet—$6.50; 5 feet—$8.00; 6 feet—$9.50; 7 feet—$11.00. A $2.00 deposit will be required when the order is placed. The trees will be distributed at the Activities Center on Sunday, December 10, and Monday, December 11. Call Sue Juanarena, ext. 3139, for further information.

Retirement Party

Acquilla D. Saunders, who retired from the Scientific and Technical Information Programs Division on September 8, will be honored with a retirement dinner on Wednesday, November 1, at Steve's Steak House, 11847 Jefferson Avenue. Cocktails (cash bar) will be at 6:30 and dinner will be served at 7:00. Cost is $5.50 per person (includes gift for the steak dinner). Donations of $1.00 for gift only are welcome. For reservations, send cash or check to Betty Hughes, M/S 180A (ext. 2691) by October 23.
swap and shop
For Sale Articles
25-inch color TV, solid wood console, some minor adjustment on color. Call 596-6295 for appointment.
Two tickets (season) to the VPI vs. VMI football game, November 18, 1978, in Blacksburg, Va., $8 ea. Call Tom Moore, 898-7313.
Antique Victrolas, EC, 3-Beechwood Drive, Grafton, Va. Call 898-9244.
Air hockey, used very little, EC. Call 866-6276 or 869-9716.
Vehicles
1973 Dodge B-100 Van—very clean, stick shift, 225 slant six, steel belted radials. Carpeted and paneled, with stereo tape system and radio, $2,380. Call 851-8135.
1975 Dodge 1/2 ton pickup; 8-foot bed; 36,000 miles. $2600 firm. Appointment required. Call 723-8992 between 7 and 9 p.m. only.
Cox pop-up camper, sleeps 6, Coleman stove included, $275. Call 827-7242 after 5 p.m., weekdays.
Real Estate
House for sale by owner at Greenwood Farms, great starter home in immaculate condition, 3 BR rancher, fenced-in B/Y, gar., refrip., stove, a/c, and w/w & doors, $28,900—no agents. Call 838-7353.
Restricted 3.47 acre homesite on Sarah's Creek and paved snle road in Gloucester Co., wooded, near bridge, $27,560. Call Jim Martin, 693-4241.
Animals
2 Beagle (tri-color) puppies (2 yrs. old), female—spayed and all shots, must sell together to a good home, $35. Call 898-4727 after 5 p.m., weekdays.
For Rent
Vacation cottage, outer banks, NC, Avon, near Cape Hatteras. 3 BR, bath, kitchen; includes dishwash, sun roof, electric heat, block and a quarter to beach, short walk to fishing pier; quiet, beautiful beach in noncommercial area; superb fall vacation spot, sleeps 8 adults, off-season rates. Call Culotta, 3935 or 723-6127 for information; 919-995-5252 for reservations.
Wanted
Riding combination wanted from Rollingwoods (Jefferson between Richey and Fort Eustis) on 7:30 or 8:00 shift. Call Newcomb, 2851. To join or form carpool from Kings Point to west area on 8-4:30 shift. Call Bob Nowak, 3732 or 220-3421.

Crouch to Speak
AAIA Meeting
Dr. Tom Crouch, Associate Curator of the Smithsonian National Air and Space Museum, will be the guest speaker for the October 18 meeting of the Hampton Roads Section, AAIA. His talk is entitled, "Orville and Wilbur Wright: A Technical Commemorative.”
Crouch begins his talk with a review of late 19th century state-of-the-art in aeronautics. He then discusses the Wrights’ careers, giving enough technical data to satisfy engineers, but not so much as to dissatisfy their spouses. The story is carried past the flights of 1908 and 1909 and into the years of patent suits and controversies.
The meeting will be held at the Fort Monroe Officers Club, with a social at 6 p.m. and dinner at 7 p.m. The program will begin at 8 p.m. For reservations, call Al Taylor, ext. 3877 (home 595-5408), or Rob Calloway, ext. 2483 (home 595-7733).

Key Positions
Kenneth P. Pierpont has been selected Chief Engineer, Subsonic-Transonic Aerodynamics Division.
James L. Raper was selected Assistant Head, Experiment Analysis Branch, Atmospheric Environmental Sciences Division.
Richard E. Snyder was selected Head, Structural Engineering Section, Mechanical Design Branch, Research Facilities Engineering Division.
Robert C. Wells was selected Acting Head, Systems Development Support Section, Systems Development Branch, Systems Engineering Division.

Cafeteria Menu
Week of October 9–13
Monday:
Holiday
Tuesday: Bull Island Clam Chowder; Spaghetti Dinner; Crab Cakes w/Tartar Sauce; Chicken Chow Mein Over Rice w/Noodles; Snack Bar: Hot Reuben; BBQ Pork; NBA Sub; Roast Beef & American Cheese.
Wednesday: Old Fashioned Bean Soup; Fried Chicken Dinner; Spanish Omelette; Barbecued Ham Steak; Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Special; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.
Thursday: Chicken & Rice Soup; Roast Beef Au Jus; Broiled Chicken Livers Over Rice; Beef Bells Stroganoff Over Noodles; Snack Bar: Grilled Cheese; Ham & Cheese Club; BBQ Beef; Roast Beef & American Cheese.
Friday: Vegetable Soup; Fish Dinner; Country Style Steaks; Franks, Bacon & Cheese; Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.
Week of October 16–20
Monday: Cream of Tomato Soup; Veal Parmesan w/Italian Sausage; French Onion Soup; Teriyaki Baked Chicken w/Matcha Vegetables; Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.
Tuesday: Manhattan Clam Chowder; Beef Enchiladas; Fried Filet of Trout; Broiled Beef & Vegetables; Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.
Wednesday: Vegetable Beef Soup; Roast Turkey Dinner; Beef Pot Pie; Meatloaf w/Brown Gravy; Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.
Thursday: Turkey Noodle Soup; Baked Lasagna w/Garlic Bread; Baked Tuna & Noodle Casserole; Broiled Beef Liver w/Onions; Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.
Friday: Ham & Lima Bean Soup; Fish Dinner; Savory Baked Chicken; Salisbury Steak; Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.
Recent Retirees
Norman D. Akey, Langley Nimbus G. Experiment Project Office, retired on September 22.
Samuel J. Plott, Analysis and Computation Division, retired on October 6.
President Announces
U.S. Space Policy

President Carter last week announced a space policy to direct U.S. space efforts in the next decade. The policy is the result of a four-month interagency review requested by the President in June.

Here are excerpts from the new policy that most directly concern research work being done at Langley.

U.S. civil space policy will be centered around three tenets. First, it will reflect a balanced strategy of applications, science and technology development containing key elements that will:

- Emphasize space applications that will benefit our understanding of Earth resources, climate, weather, pollution, and agriculture, and provide for the private sector to take increased responsibility in remote sensing and other applications.
- Emphasize space science and exploration to retain the challenge, excitement and vitality of the nation’s space technology base, yet provide short-term flexibility to impose fiscal constraints when necessary.
- Take advantage of the flexibility of the Space Shuttle to reduce the cost of space operations in the next two decades.
- Increase the benefits of resources through better integration and technology transfer among the national space programs and through more joint projects.
- Assure U.S. scientific and technological leadership in space for the security and welfare of the nation, and continue necessary research and development to provide the basis for later program decisions.
- Demonstrate advanced technological abilities in open and imaginative ways to benefit both developing and developed countries.
- Foster space cooperation with other nations through joint programs.
- Confirm U.S. support of continued development of a legal regime for space to assure its safe and peaceful use for the benefit of mankind.

Second, space is becoming more and more a place to work—an extension of our environment. Activities will be done in space when they appear to efficiently meet national objectives.

Third, a high-challenge space engineering program comparable to Apollo is neither feasible nor necessary at this time. As resources and manpower requirements for Shuttle development decrease, we will have the flexibility to give greater attention to new space applications and exploration, continue programs at present levels or contract them. An adequate Federal budget commitment will be made to meet these objectives.

SPACE APPLICATIONS

As part of his review, and in accordance with his desire to increase emphasis on the uses of space for many practical and economic benefits, the President made these decisions:

- Remote Sensing Systems. The U.S. has, since 1972, conducted experimental

Continued on page 6.
Langley First With Checkless Pay Deposit

In April 1978, the U. S. Treasury Department selected the Langley Research Center as the pilot agency to implement Electronic Funds Transfer (EFT) for all civilian salary payments being directly deposited to banks or other financial organizations.

The purpose of EFT is to eliminate the issuance and processing of checks and to speed up the payment process. The early beginnings were Fed/Wire, first inaugurated in 1918. The first use of EFT for recurring payments was for military paychecks for the Air Force in November 1974. This was followed by Social Security in October 1976; Railroad Retirement, December 1976; Civil Service annuities, January 1977; Air Force Retirement, April 1977; VA Payments, October 1977, and NASA-LaRC Paychecks, September 1978.

The system assures that the financial institution’s account with the Federal Reserve Bank will be credited on payday and the local banks or other financial organizations accounts can show the credit to their customer’s account at the beginning of business on payday.

The system became operational for LaRC on the payday of September 18, 1978, and was a success in all aspects. Based on this success, the Treasury Department is now in the process of expanding the system for other government agencies and will eventually use it for all agencies.

Prior to this time, we were on a composite check system which meant that the banks or financial institutions received only one check for all the customers depositing their pay to that organization. The organization received a paper listing of employees account numbers and amount of net pay to be credited and then they in turn initiated a credit to each account. The larger banks and institutions all have computers and would input to the computer from these listings. Under the EFT procedure they receive computer input from the Federal Reserve Bank which eliminates the necessity to capture this input data by key punch or other means.

The way the EFT procedure works for banks here in the Fifth Federal Reserve District (which covers 99+ percent of our employees) is that the data is received into the banks or other financial institutions’ computer on the Friday before the Monday payday. It is credited to the employee's personal account Friday night so that it is available for use of the customer when the bank or other institution opens on Monday morning. Under this procedure the employee can just about be guaranteed that his account will be available to draw upon his paycheck deposit on payday.

This procedure is so attractive to our employees that over 67 percent deposit their paycheck in this manner. They never have to worry about getting their check in the bank, credit union, or other institution, whether they are on travel, sick or on vacation. There is no chance of their check being lost in the mail or stolen from their mailbox. All employees are urged to arrange for the direct deposit of their pay to a bank under this system. A Treasury Department Form 1199A, must be completed and accepted by the bank and returned to the Payroll Office to accomplish this. The forms are available at the bank or in the Payroll office.

Although less than a third of our employees have elected to have their checks mailed we still average about one lost check per pay period. When a paycheck is not delivered it takes a minimum of two weeks to obtain a replacement and it may take longer. That's a very good reason to Direct Deposit Your Pay To The Bank, Credit Deposit Your Pay To The Bank, Credit Organization.

Words In People's Mouths

If he sings "Moon River" again, I think I'll be sick!!

Thank You

Ann C. Johnson wrote to the Researcher to say, "I am grateful for the friendships made while I was employed at the Center, and sincerely thank those who participated in my retirement luncheon. It was a delightful and memorable occasion. May God bless Langley Research Center and all who endeavor to make it great."

Notice

When using the internal distribution system at Langley, employees are reminded to please use full name and mail stop when requesting or sending material to avoid delays and wrong deliveries.

The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115A, telephone 2934.

Editor .................. Karen Miller
Editorial Assistant ............ Jean Drummond
Staff Photographer ............. Bob Nye

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.
Three Chosen For Development Program

Three Langley employees have been selected for the 1978-79 Career Development Program at NASA Headquarters, Washington, D.C.

Dr. Earl K. Huckins, III, Thomas E. Pinelli, and Fred B. Beck will take part in the program designed to assist National Aeronautics and Space Administration field centers by developing potential supervisors and managers at all levels.

Huckins, assigned to the Materials and Structures Division, Office of Aeronautics and Space Technology, is working on the planning and implementation of the Space Structures Technology Program for next year.

A native of Newport News, Va., Huckins was a student trainee at Langley from 1962 to 1966. He came to work at Langley in 1969 concentrating on the spacecraft dynamics and atmospheric circulation modeling until 1974. In 1974 he was assigned to Langley's Space Systems Division where he worked on the Long Duration Exposure Facility (LDEF) project.

Huckins is a graduate of Warwick High School, Newport News. He received his Bachelor of Science degree in aerospace engineering from Virginia Polytechnic Institute and State University (VPI & SU), his Master's degree in mechanical engineering from North Carolina State University and his Ph. D. in aerospace engineering from VPI & SU.

Pinelli, assigned to the International Affairs Division, Office of External Relations, is serving as a Project Officer to help plan and operate cooperative space and scientific programs between NASA and foreign countries.

He is Assistant to the Chief, Scientific and Technical Information Programs Division at Langley. He was appointed to the position in 1975.

Pinelli began his NASA career in 1974 as an Administrative Operations Specialist at Langley. From 1972 to 1974 he was on loan to NASA through the Intergovernmental Personnel Act from the Virginia Beach Public School System, as Assistant to the Center Educational Programs Officer.

Pinelli received his Bachelor of Science degree in secondary education from Old Dominion University in 1970. He holds three Master's degrees in education and public administration from Clemson, Old Dominion and Golden Gate Universities.

Job Openings

The following Merit Promotion Announcements are currently open:

- 78-68 - Information Control Assistant; GS-301-5; Scientific and Technical Information Programs Division; Office of the Chief; Closes October 23, 1978.
- 78-69 - Editorial Assistant; GS-1087-5; Scientific and Technical Information Programs Division; Technical Editing Branch; Closes October 23, 1978.

CFC Goal Reached

Once again, the Langley community has excelled in achieving its Combined Federal Campaign goal of $175,600. As of Friday, October 13, $176,173 had been given and contributions are still coming in.

Typical of the outstanding Langley response is that of our retirees. Last year 54 retirees contributed $2,940. This year, 98 have given $4,657 to date.

Directorate contributions as of October 13 are as follows:

- Director $3,110.30
- Electronics $37,296.81
- Structures $23,402.90
- Aeronautics $24,656.70
- Mgmt. Operations $16,401.35
- Sys. Engineering $17,467.00
- Projects $6,779.32

The average gift from Civil Service employees this year is $56.12, approximately $2.50 per person more than last year.

Beck, assigned to the Environmental Observation Division, Office of Space Terrestrial Applications, is assisting the Manager, Environmental Quality Program in the development and implementation of a comprehensive NASA Water Quality Program.

At Langley, Beck is an Electrical Engineer in the Flight Electronics Division. Since beginning his NASA career at Langley in 1962, he has served as a microwave research engineer, a staff assistant to the Director of Electronics and as a member of the Seasat-A scatterometer team.

Beck is a graduate of Spartanburg High School, Spartanburg, S. C. He received his Bachelor of Science degree in electrical engineering from the University of South Carolina and his Master's degree in electrical engineering from George Washington University.

Festival of Harmony

Langley employees, contractor personnel, and their families are invited to attend the Twelfth Festival of Barbershop Harmony at 8:00 p.m., Saturday, October 28, at Hampton High School, presented by the Hampton Roads Chapter of the Society for the Preservation and Encouragement of Barbershop Quartet Singing in America, Inc.

This popular annual concert features the 1978 international medalists Mova Chords from Alexandria; local favorites, the Virginia Gentlemen, from Norfolk; and the Patchwork Squares, ladies barbershop quartet from Sweet Adelines, Inc., of Williamsburg. The Chapter's Merrimac Chorus and Virginia Blend quartet will also perform.

Reserved, general admission, and student tickets are available from Langley Barbershoppers Leroy Albang (3737), Jim Youngblood (3666), Leo Staton (3631), and Bill Tennis (2502).
A Personnel Profile

What are the chances of a man not going to high school, but going on to receive a doctorate degree? Probably very slim, but a man of this accomplishment worked at Langley.

Dr. Frank Hohl, Space Systems Division, never went to high school but received the first earned Doctorate of Physics from the College of William and Mary in 1967. He did receive the G.E.D. born in Muelheim, Germany, Hohl was one of six children. His father, a department head in a German factory, volunteered for the German army in World War II and died in Russia. His brother joined the army at age 16.

During the Allied bombing raids of Germany, his town was scattered with bombs and the town of Koblenz, five miles from Muelheim, was leveled. As a kid he said he thought the war was fun, but he continued, when you’re a kid you think everything is fun. He added that he became annoyed with the bombing raids at night.

He attended elementary school in Muelheim and went to an industrial apprenticeship at age 14. After the apprenticeship he worked for two years in Germany before coming to the United States in 1953.

He lived in Florida with his brother for several months before joining the Air Force in 1954. He said he didn’t have any adjustment problems, except he couldn’t speak any English.

The first two years in the Air Force he served in a military air transport service. The other two years he was stationed in Germany, near his home town, where he flew special air missions. While there, he met his wife, Margarette M. Schwellenbach.

After returning from the service, he entered the University of Florida in 1958. He graduated in three years of a five-year program with a Bachelor of Science degree in electrical engineering and was first in his class.

He came to Langley in 1961 where he worked until August 1962. He then joined Bell Telephone Laboratories in New York where he worked until October 1963. While at Bell Labs he attended New York University where he received a Master of Science degree in electrical engineering in 1963.

In 1963 he returned to NASA. Hohl said that he came back to NASA because it was more challenging and he felt William and Mary’s doctorate programs were finally getting underway. In 1967 Hohl received a Master of Science and a Doctorate in Physics from William and Mary.

Hohl noted that NASA offers many opportunities for a person. He added that the work environment is changing at Langley. He said he finds it hard to concentrate on his work because he feels he must also sell it.

Hohl, the author or co-author of over 30 published articles, is a member of the American Astronomical Society, Sigma Tau, Tau Beta Pi, Sigma Pi Sigma and Phi Kappa Phi fraternities and the International Astronomical Union.

He received the NASA Special Service Award for Exceptional Achievement in 1969. In 1976 he received the NASA Exceptional Scientific Achievement Medal for his work on galactical evolution and structures. Hohl noted that he considers this work a hobby.

Hohl and his wife have three children and live in Newport News.

Recent Retirees

Mary L. Edwards, Scientific and Technical Information Programs Division, retired September 8.

Clifford L. Fricke, Atmospheric and Environmental Sciences Division, retired October 10, 1978.
Six Receive Advanced Degrees

During Fiscal Year 1978, twenty-one Langley employees received advanced degrees through the Center's Graduate Study Program.

The six most recent recipients of master's degrees are:

Frank Allario, Atmospheric Environmental Sciences Division, received the Master of Management Science from Stanford University (Stanford-Sloan Fellowship Program).

Janice D. Felton, Personnel Division, and Jimmy H. Wilson, Financial Management Division, received the Master of Business Administration from Golden Gate University.

Randy A. Manning, Personnel Division, received the Master of Arts in Education in Human Resource Development from George Washington University.

Mark J. Shuart, Materials Division, received the Master of Science in Engineering Mechanics from Virginia Polytechnic Institute and State University.

Karen E. Washburn, Subsonic-Transonic Aerodynamics Division, received the Master of Aeronautical and Astronautical Engineering from Purdue University.

The Training and Educational Services Branch congratulates these individuals for the long hours and hard work necessary for this academic accomplishment. Such work not only brings additional expertise to the Langley Research Center, but also enhances the individual's professional growth and career development.

L.A.A. Travel Update

Over forty persons have made reservations on the L.A.A. trip to Rio de Janeiro which departs from Norfolk Jan. 28 and returns Feb. 5, 1979. (Limited to 80 seats.) Round trip transportation by Trans International Airlines (DC-10). Accommodations are at the Deluxe Nacional Hotel.

There are a few seats remaining on the Las Vegas charter departing from Norfolk Dec. 7-10, 1978 or you may still board a cruise from Norfolk to four ports-of-call in the Caribbean Dec. 16-23, 1978.

Information and color brochures are available on any of these destinations and may be obtained by calling the Association Office-3139, Ernie Greene, 2312, (Home 838-0567); or Herb Boulter, 3234, (Home 838-4773).
In the NASA Softball Association's Post-Season Tournament, the Decibals rose through the loser's bracket to beat the previously-undefeated Shams on two successive days, winning the tournament. Pictured are, (front row): Jay Hardin, Frank Thames, George Richerson, Tom Brooks, Bill Willshire, Terry St. Claire, Mike Mitchell; (back row): Ray Parker, Craig Street, Ed Waggoner, Jim Luckring, Willie Watson, Dave Fratello, Jack Seiner and Tom Norum. Not pictured: Max Gunzburger and Rich Brice.

SPACE POLICY  Continued from page 1.

Civil remote sensing through Landsat satellites. There are many successful applications and users . . . The U. S. will continue to provide data from Landsats for all classes of users, and operational uses of data will continue to be made by public, private and international groups . . .

Integrated Remote Sensing System. A comprehensive plan of expected technical, programmatic, private sector, and institutional arrangements for remote sensing will be explored. NASA will head an inter-agency task force to examine ways to integrate present and future systems into a national system, with emphasis on defining and meeting user requirements. The task force will complete its review before the FY 1981 budget cycle . . .

Private Sector. NASA and the Commerce Department, with other agencies, will prepare a plan to encourage private investment and direct participation in civil remote sensing systems. The two agencies will receive and analyze proposals before they are submitted to the Policy Review Committee (Space) for consideration and action. (The Policy Review Committee (Space) was established in May 1978; it is headed by Dr. Frank Press, Director of the Office of Science and Technology Policy.) . . .

Future Applications & Economic Activity. Although too early to make a commitment to the development of a satellite solar power station or a space manufacturing facility, there are intermediate steps toward developing and testing key technologies and gaining experience in space industrial operations. The U. S. will follow an evolutionary program to assess new possibilities, which will be periodically reviewed by the Policy Review Committee (Space). The evolutionary program will stress science and basic technology—integrated with a complementary R&D program—and will continue to evaluate the relative costs and benefits of proposed activities . . .

ECVP Holds Awards Banquet

The annual awards recognition banquet for the Engineer's Club of the Virginia Peninsula (ECVP) is scheduled for Tuesday, October 24. It will be held at the Langley Officer's Club with cocktails at 6 p.m. and dinner at 7 p.m. The ham steak or fried flounder dinner will be $7 per person.

Awards will be presented to all ECVP members who have been recognized by their employers for superior achievement. The after-dinner speaker will be Addison M. Duval, M.D., addressing the topic "Human Behavior." Duval has held several positions, including Director of the Georgia Department of Public Health, Director of Training and Research at Eastern State Hospital and Director of the Missouri Division of Mental Diseases. He holds many honors including the Superior Service and Distinguished Service Awards of the U. S. Department of Health, Education and Welfare.
Happenings

TOASTMASTERS. If you would like to improve your public speaking and leadership skills, join the TAC AIR Toastmasters Club. Toastmasters meet on the second and fourth Wednesdays of each month at the Langley AFB Officers Club. For more information, call Bob Lee, 2486; Jim Moss, 3770; Andy Srokowski, 3736; or Jim Sharp, 2692.

DISCO DANCE. The Langley Activities Association will sponsor a DISCO DANCE on Saturday, October 21, from 9 p.m. to 1 a.m. with music by Randy Bray. Tickets are $1.50 in advance, and $2 per person at the door. For information and/or reservations, contact Sue Juanarena at the Activities Office, ext. 3139.

HAPPY HOUR. The LAA will hold its biweekly Happy Hour on October 20, beginning at 4 p.m.

ARTS AND CRAFTS SHOW. The LAA Arts and Crafts Show will be held Sunday, November 19, from 1 to 5 p.m. in the Activities Center. Space is still available for those desiring to display their handiwork. For information contact Betty Farmer, ext. 2062.

TURKEY SHOOT. The annual Turkey Shoot, sponsored by the LAA, will be held on Saturday, November 4, on the Activities grounds from 9 a.m. until sunset. Turkey raffle tickets (25 cents each) are available from your Activities Association representative. For further information, call Ernie Greene at ext. 2312.

JUNIOR RIFLE CLUB. Boys and girls aged 10 to 18 interested in learning to shoot smallbore (22 cal.) rifles are invited to join the Lafayette Junior Rifle Club. The 1978 Class B (first year shooters under 14) state champion team were all sons of Langley employees, and two of those boys finished first and second in individual standings. Last year’s Virginia state champion was a girl. For more information, call Paul Yeager at 898-3941.

LAA ELECTION. Representatives to the Langley Activities Association General Assembly will be elected on Tuesday, October 31.

IT'S A GIRL. Bob Lee (MATD) announces the addition of Jocelyn Ann to his family. She was born on October 8, 1978, weighing 7 lbs. 10 ounces.

Enterprise Elementary School in Woodbridge, Virginia, was formally dedicated on September 8 during a ceremony with former astronaut and U. S. Senator Jack Schmitt (R-N.M.). The idea to name the school after the Space Shuttle Enterprise came from Debra and Mark Pioli, third and fourth graders respectively. Mr. Charles Ricks, principal, asked NASA if it would be in order to name each of the school’s nine hallways after NASA astronauts. NASA gave the school a photo of nine astronauts as well as a large photo of the Enterprise landing in California after a successful test. A Space Shuttle exhibit is on loan to the school for the rest of the year. Pictured above are, from left: Lisa King, Kim Havis, Fred Sort, Mark Eiven, and Mark Pioli.

BOOK SALE. The Activities Association has approximately 50 unclaimed books to be sold by sealed bid. A book list can be seen at the Activities Office. If you are interested in purchasing any of these books, send your sealed bid (starting at $.50) to Sue Juanarena, Mail stop 496, by November 3.

MOVIE TICKETS $2 discount tickets are now being sold by the LAA for all ABC Southeastern Movie Theatres. (This includes the Newmarket South Theatre and some Norfolk theatres.) A $.10 service charge will be added for handling. No more than $.25 will be charged when purchasing a large number of tickets. The tickets will be good any time.

AFGE MEETING. The regular monthly meeting of AFGE Local 2755 will be held on Tuesday, October 24, at 7:30 p.m. in the Activities Center (Building 1222).

CHRISTMAS TREES. The LAA will continue taking orders for Scotch pine Christmas trees through October 21. Prices are: 4 and one-half feet—$6.50; 5 feet—$8.00; 6 feet—$9.50; 7 feet—$11.00. A $2.00 deposit will be required when the order is placed. The trees will be distributed at the Activities Center on Sunday, December 10, and Monday, December 11. Call Sue Juanarena, ext. 3139, for further information.
FOR SALE

Articles
Sale or trade - telephones, touch tone, desk, trimming pieces, etc; sale - light fixtures, lightolier and markstone. Call P. M. Rakestraw; 851-2941 or 229-1536.

Engine, AJC, at, PS, PB, radials, $1195 or best offer.

Staton, stocked and managed pond, baths, LR, Fmly. Rm., Att. garage, carpets, anytime. Shopping, hospital, etc. secluded and private, drapes, conv. to shopping, schools, beach.

Animals
- spayed and all shots, must sell together to a single home. $200; and Gas Dryer, $25; and Gas Dryer, EC, $150.

FOR SALE

1967 Plymouth Val., 4 dr. sedan, std, needs water pump and 2 tires, $150 or best offer. Call Statton at 826-8610 or 827-2871.

Marine Sextant, Articles.

Runners Club Meet

The 6th Intercenter Meet will be held during the week of October 22-26. Participation in the meet will count. The events will be officially timed at the places and dates shown below:

2 mile 10,000 meter
Tuesday, Oct. 24 Thursday, Oct. 26
11:30 Bethel High Bethel High
School Track School Track
5:00 Orange Course, Green Course,
Front of Bldg. Front of Activities
1199. Center.

Trophies will be awarded for both events to the top three finishers in the following age groups: Men — 29 and under; 30-34; -39; 40-44; 45-49, 50 and over; Women — 34 and under; 35 and over.

Ribbons will be given to all participants. All NASA and contractor employees, retirees, university affiliates and co-ops who are at work during race week are eligible to participate.

For further information, call Larry Rowell, ext. 2289.

Retirement Parties

Acquilla D. Saunders, who retired from the Scientific and Technical Information Programs Division on October 8, will be honored with a retirement dinner on Wednesday, November 1, at Steve's Steak House, 11847 Jefferson Avenue. Cocktails (cash bar) will be at 6:30; dinner at 7:00. Cost is $5.50 per person for steak dinner (includes gift). Donations of 1.00 for gift only are welcome. For reservations, send cash or check to Betty Hughes, M/S 180A (ext. 2691) by October 23.

WEEK OF OCTOBER 23-27

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Crab Cakes; Chicken Pot Pie. Snack Bar: Hot Italian Sausage Sub; Steak and Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.

TUESDAY: Bull Island Clam Chowder; Fried Filet of Trout; Roast Beef Au Jus; Sausage Cassoulet. Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.

WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Franks, Bacon & Cheese; BBQ Ham Steak. Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Special; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers; Beef Balls Stroganoff; Pepper Steak, Snack Bar: Grilled Cheese; Ham & Cheese Club; BBQ Pork; Roast Beef & American Cheese.

FRIDAY: Vegetable Soup; Fish Dinner; Steak Smothered with Onions; Cheese Omelet; Snack Bar: Deluxe Sub; Hot Roast Beef; Tuna Salad; Turkey & Bacon Club.

WEEK OF OCT. 30—Nov. 3

MONDAY: Cream of Tomato Soup; Lasagna; Clam Strips; Savory Baked Chicken. Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Manhattan Clam Chowder; Broiled Beef Liver; Fried Filet of Trout; Chicken Beef Enchiladas. Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Ham & Lima Bean Soup; Roast Turkey Dinner; Meat Loaf; Wiener Burritos. Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey Noodle Soup; Veal Parmesan; Baked Tuna Noodle Casserole, Braised Beef & Vegetables. Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

FRIDAY: Vegetable Beef Soup; Fish Dinner; Beef Pot Pie; Teriyaki Baked Chicken. Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.

Doris R. Topping, who retired from the Technical Editing Branch August 31, 1978, will be honored with a buffet luncheon on October 27, 1978, at 12:00 noon at the Ramada Inn, 950 J. Clyde Morris Boulevard. The cost will be $5.00 per person (includes all contributions for the gift only, $1, are welcome. Send your reservation to Panice Hardison, Mail Stop 149, by October 25, 1978.
Apprentices Graduate Today

Thirty-fourth Annual Completion Exercises
H.J.E. Reid Auditorium, Activities Center

Program

Presiding
Processional

Invocation

Introduction of Speaker
Address
Musical Selection

Speaker for Class of 1978
Presentation of Certificates

Recognition of Honor Graduates
Presentation of AFGE Awards
Recessional

Trible to Address Graduates

Congressman Paul S. Trible, Jr., Representative from Virginia’s First District, will be the guest speaker for the Apprentice Graduation Ceremony at 1:30 p.m. today. The ceremony will be held in the Activities Center, Building 1222.

Trible was elected to the 95th Congress on November 2, 1976. He serves as a member of the prestigious House Armed Services Committee and Merchant Marine and Fisheries Committee, both of which reflect major interests of the Congressional district which he represents.

His assignments on the Armed Services Committee include the Subcommittee on Seapower and Strategic and Critical Materials, and the Subcommittee on Military Compensation.


Trible graduated from Hampden-Sydney College in 1968 with a bachelor degree in history and political science. In 1971, he received a J.D. degree from Washington and Lee University Law School where he was a member of the Law Review.

After graduation, he served for one year as law clerk for U.S. District Court for Eastern Virginia. Trible then became an Assistant U.S. Attorney for the Eastern District of Virginia in 1972 and served for two years.

In 1974, Trible was appointed Commonwealth’s Attorney for Essex County and was subsequently elected and reelected to that post. At age 27, he was the youngest person ever to hold that position in Essex County. In his work as a federal and state prosecutor, Trible won convictions in more than 100 felony cases. He lost only three cases.
Congratulations Graduates

The Class of 1978 represents the second class in which Thomas Nelson Community College Technical Co-op graduates have been combined with Langley’s regular five-year apprenticeship program, with a total of 50 graduates. Fourteen co-op graduates completed a NASA/TNCC 3-year program and received their Associate in Applied Science degree from TNCC in 1975. They were brought into Langley’s permanent work force and registered as apprentices with the Bureau of Apprenticeship and Training with an advanced standing of 2-1/2 years.

Sixteen of the remaining graduates entered Langley’s regular apprenticeship program in the Spring 1973. The other 20 entered on duty in the Fall of 1973. They have spent the past five years in a strenuous program classroom study and on-the-job training. This group has completed from 30 to 35 related study courses, including at least three quarters of Math, three quarters of Physics, three quarters of English as well as Trade Fundamentals, Statics, Strength of Materials, Dynamics, Metallurgy, Chemistry, Fundamentals of Aerodynamics, and other related courses as approved by the Advisory Committee of Engineering Technicians. The other related courses were those directly involved in the trade areas to which they are assigned.

The Class of 1978 is a highly motivated class. Many have already enrolled in additional college courses. Some of the co-ops are working toward a bachelor’s degree at Christopher Newport College, others at Old Dominion University. Some of the five-year apprentices are working toward their AA degree at Thomas Nelson Community College.

This class has the distinction of having two “firsts” — the first female minority graduate and the first pregnant graduate.

Langley supports the graduates on job-related courses, such as math or engineering courses that will directly benefit Langley and that will assist the employee in the performance of his duties. These courses are normally taken in evening school on the employee’s own time and at his own expense. Upon satisfactorily completing the course, the employee can request a job-related refund, and if approved, the cost of the tuition is refunded to the employee.

There are approximately 1,113 GS Technicians currently at Langley. About 605 of these are Apprentice School graduates.

Summa Cum Laude Graduates

3.800 and above

William A. Lovisz, Engineering Technician (Facilities Operations), OSD

David F. Johnston, Electronics Technician, FD

James F. Dezern, Engineering Technician (Facilities Operations), OSD

Sharon K. Crockett, Engineering Drafter, SED

Thomas R. McLehaney, Engineering Technician (Facilities Operations), OSD

Michael C. Hollemann, Electronics Technician, FD

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The Class of 1978

Not pictured:
Alexander Evans and 
James P. Anderson

*Designates Honor 
Graduate

Ralph Angel, Jr., 
Electrical Engineering 
Technician, OSD

John R. Atherton, 
Electrical Engineering 
Technician, OSD

Douglas F. Auvil, 
Engineering Technician 
(Mechanical Development), FD

William B. Bell, 
Electronics Technician, 
FD

Alan J. Brown, 
Engineering Technician 
(Facilities Operations), 
OSD

*Susan L. Bryant, 
Engineering Technician 
(Facilities Operations), 
OSD

Ernest C. Burt, III, 
Electronics Technician, 
FD

Dewitt Carter, Jr., 
Electrical Engineering 
Technician, OSD

Richard L. Chattin, 
Engineering Technician 
(Aerospace Model Development), FD

Bobby G. Cherry, 
Engineering Technician 
(Facilities Operations), 
OSD

Walter D. Gibson, 
Engineering Technician 
(Facilities Operations), 
OSD

Ng D. Ging, 
Engineering Technician 
(Facilities Operations), 
OSD

Peggy W. Harmon, 
Electronics Technician, 
FD

*Samuel S. Harris, 
Jr., Electronics 
Technician, FD

Charlie Haynes, Jr., 
Engineering Technician 
(Fabrication Development), FD

Joseph C. Hickman, 
Engineering Technician 
(Mechanical Development), FD

*William H. Hollingsworth, Jr., 
Engineering Drafter, 
SED

*Edward J. Nisbet, 
Electrical Engineering 
Technician, OSD

Charles E. Jenkins, 
Jr., Engineering 
Technician (Facilities 
Operations), OSD

Edward N. Kerlin, 
Engineering Technician 
(Aerospace Model Development), FD

Elbert W. Lee, 
Aerospace Engineering 
Technician, FRD

*Richard F. Mason, 
Engineering Technician 
(Fabrication Development), FD

*James Mayhew, 
Engineering Drafter, 
RFED

*Edward J. Nisbet, 
Electrical Engineering 
Technician, OSD

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A Special Thanks

The Class of 1978 wishes to express their gratitude and appreciation to Mary T. Lemke for all the little extra things she did to make their training time a lot easier.
Lovelace to Speak for Awards Ceremony

Dr. Alan M. Lovelace, NASA Deputy Administrator, will be the guest speaker for Langley's Annual Honor Awards ceremony on Thursday, November 9. The ceremony will be held at 2:30 p.m. in Building 1244 (Hangar).

Service Awards will be presented to the following:

Forty Years' Service: John W. Quinn, John P. Reeder and Lamar E. Williams.

Thirty-Five Years' Service: Kenneth D. Albert; Frances M. Arnn; Jack E. Ashe;
Carl G. Baab; George F. Black; Robert W. Boswinkle; Everett S. Browne;
Thomas D. Carpini; James N. Chacamaty; Clyde E. Clark; Arthur C. Combs; William E. Craig, Jr.;
James H. Daus; Jack H. Dysart;
William C. Edwards; Fred F. Eichenbrenner; M. Lawrence Emory;
Thomas E. Ezell, Jr.; Walter J. Felker;

Traffic Pattern Changes on Tuesday

On November 7, the traffic patterns at Gate 5, off Wythe Creek Road, will be modified to permit only in-bound traffic flow during the morning rush hours.

The new flow will be as follows:

6:30 a.m. to 8:30 a.m. — incoming traffic only. Vehicle operators are cautioned to note that the in-bound morning traffic must merge into a single lane before it reaches the accesses to Building 1209 parking lots.

8:30 a.m. to 3:30 p.m. — incoming and outgoing traffic.

3:30 p.m. to 5:30 p.m. — outgoing traffic only.

Richard R. Heldenfels; Beverly Z. Henry, Jr.; Benjamin F. Holloway; Edward A. Howe; Estel W. Hughes;
Joseph A. Italiano; Robert L. Kenimer; Cora B. Laprade; James H. Link; Moses J. Long; Donald L. Loving;
Edwin A. McErlane; M. Eloise McGhee; Dwight G. McSmith; George L. Meidinger; William W. Metz; Charles W. Miller; Robert F. Montgomery; John A. Moore; James N. Mueller;
Chester A. Oss; Marvin V. Owens; Lee D. Parker; Stanley E. Pearson; Kathryn H. Peddrew; Kermit G. Pratt;
Stanley Press; Warren J. Price; Robert M. Revere;

John W. Boyd; John Samos; Robert O. Schade; Stanley H. Scher; Ferdinand W. Schmidt; O. Earl Shortt; Harold R. Snyder; Earl F. Stahl; Manuel Stein; James E. Stitt;
Byrdie Terry, Jr.; George E. Theil; Doris R. Topping; Thomas Vranas;
Evelyn D. Wallace; Richard T. Whitcomb; C. Wayne Williams; Edwin F. Williams; Duane C. Zellers.

Recipients of other awards will be listed in the next issue of the Researcher.

Seasat Review Board Named

Dr. Alan M. Lovelace, Deputy Administrator, announced on October 19 the convening of a review board to determine the actual cause of the Seasat satellite failure. The ocean monitoring satellite stopped transmitting data shortly after midnight EDT on October 10 while it was over Australia.

Dr. Lovelace named Dr. Bruce Lundin, who recently retired as Director of the Lewis Research Center, to head the review board. In 1973, Dr. Lundin was Chairman of the Skylab 1 Investigation Board which investigated the causes of that spacecraft's solar panels failure to deploy in orbit.

James E. Stitt, Director for Electronics, is representing Langley on the review board.

Seasat 1 was launched June 26 from the Western Test Range near Lompoc, California.

Boyd Appointed Dryden Deputy Director

John W. Boyd has been appointed Deputy Director of the Hugh L. Dryden Flight Research Center in Edwards, California.

Boyd began his NASA career in 1949 as an aeronautical engineer at the Ames Research Center. He served in a variety of positions in aeronautics and astronautics before being appointed Research Assistant to the Director of Ames in 1966. In 1970, he was named Deputy Director of the Aeronautics and Flight Systems Directorate.

Boyd was born in Danville, Virginia, and earned his bachelor of science degree in aeronautical engineering from Virginia Polytechnic Institute and State University. He has done graduate work at Stanford University and is a 1966 graduate of the Stanford School of Business under a Sloan Fellowship.
Buckminster Fuller Speaks Nov. 13

Dr. R. Buckminster Fuller will be the guest speaker for the Langley colloquium and the “Our Future in the Cosmos” public lecture on Monday, November 13.

The colloquium lecture entitled, “Humans in the Universe,” will be held in the Activities Center (Building 1222) at 2 p.m. An informal discussion period will be held from 3 to 3:30 p.m. Fuller will be available for interviews from 1:15 to 1:45 p.m.

The public lecture entitled “An Evening with Buckminster Fuller,” will be held in the Hampton Coliseum. This lecture is co-sponsored by NASA and the College of William and Mary. Free tickets are available by phoning 877-9231, ext. 200, before November 6. After that date, tickets are available only at the Coliseum Box Office.

In his lectures, Fuller will present his ideas and solutions to man’s current and future problems. He is expected to discuss such problems as economic and population growth, pollution, and the exhaustion and wasting of our natural resources, particularly fossil fuels. He will emphasize how the great expansion of knowledge, which he sees taking place, can be used to benefit mankind. He is also expected to look beyond our present problems and predict the major changes coming in transportation, the economy, and architecture, and the economic and social consequences which may accompany such changes.

Fuller’s activities as an architect, engineer, writer, lecturer and educator are so numerous that only a few can be mentioned. He is the inventor of the geodesic dome, of which over 100,000 have been built; the most famous example being his design for the U.S. Pavilion at the Expo ’67 Montreal World’s Fair. He holds over 20 patents, has received honorary degrees from over 40 universities, and is the recipient of many international awards, such as the 1975 Planetary Citizens Award from the United Nations.

Thank You

Fred F. Eichenbrenner wishes to thank all of his friends for the splendid retirement luncheon held in his honor on October 6. “The fellowship and lovely gifts will ever remain a most memorable occasion for my family and me.”

Helen Banks wishes to “extend my sincere thanks and appreciation to all for their kind deeds and concern shown me during my recent accident. Again thanks to all.”

The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115A, telephone 2934.

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.
Minority Research Projects Encouraged

Citing the lack of research opportunities for instructors at minority institutions, Langley and Hampton Institute have worked together to develop the Langley Research Center—Hampton Institute Summer Research Fellowship Program.

Approximately 10 instructors selected from 26 institutions throughout the South are given the opportunity to take part in research at Langley for 10 weeks in the summer. Instructors work in the research mode with an associate from Langley in areas involving chemistry, physics, mathematics, computer science and engineering. After the summer program, the instructors are encouraged to develop programs to obtain research grants with NASA.

In the past, studies involving biology have also been included, but because of a lack of research at Langley in this area, it is being dropped, according to Dr. Geraldine Darden, Department of Mathematics Chairman at Hampton Institute and program coordinator.

The federally-funded program was developed in 1976 to promote research on minority campuses by getting people involved, according to Darden.

Alvin Anderson, Head of the Langley Office of Research Grants and University Affairs, noted that as a result of the program, there has been an increase in grants with the institutions involved in the program and the students have benefitted by the use of faculty insight of their research in class lectures.

Darden noted that the program results are four-fold: the program promotes more research on minority campuses; the students are impacted by assisting the instructors in their research and instructors discussing their research in class; the school is impacted by the institutions receiving equipment for the research; and NASA is impacted by instructors assisting in research and bringing new ideas to the research.

Darden said the program has been relatively successful and the Fellows have been pleased with the program. She added that another benefit to the Fellows is that they make contacts with other researchers and it is a learning situation for them.

The Fellows receive $400 a week for their research in the summer and no Fellow is allowed to be in the program more than two years.

In 1976 9 Fellows out of 44 applicants were chosen; in 1977, 11 Fellows out of 42; and in 1978 8 Fellows out of 47. Darden noted that the program received twice as many requests for applications as those returned.

The 1978 Fellows and their work were:

- Kresimir Blazevic, St. Augustine's College, MD. Blazevic did research the past two summers and while at St. Augustine's on high temperature adhesives and composites for aerospace applications.
- Curtis Means, Southern University, MATD. Means' research involved statistical analysis of simulated ozone data sets used in the analysis of data sets from satellites.
- D. D. Venable, Hampton Institute, MATD. Venable's research consisted of devising a model that tells by remote sensing techniques the pollution concentrations in the water.
- Ta-hsien Wei, North Carolina A&T State University, IRD. Wei's research consisted of the modification of a digital filter program so it would run on the Xerox Sigma 3 computer. The program originally ran on the CDC 6000. Wei also studied the use of digital filters in place of electronic instrumentation in wind tunnel research.
- James Glover, Tuskegee Institute, SDD. Glover's research was in support of a NASA project to utilize microprocessors to develop specialized computer hardware for structural calculations. He worked on developing methods for mapping three-dimensional structures into two-dimensional space best suited for computer hardware.
- Edith Bailey, Tennessee State University, STAD. Bailey's project was developing coordinate mapping for airfoils in windtunnels.
- Jacquelyn Long, Norfolk State College, ACD. Long became ill and was unable to complete the full program.
Sharpe is Outstanding Handicapped Employee

A Langley Research Center employee was chosen as NASA's nominee for the Outstanding Handicapped Federal Employee of 1978.

Ellsworth L. (Skip) Sharpe, a NASA employee since 1965, is totally blind in his left eye and legally blind with 10/400 vision in his right eye.

Sharpe, an internationally recognized expert in the field of cryogenic materials, works in Langley's Structures and Dynamics Division. He is a project engineer engaged in development of thermostructural concepts for hypersonic vehicles such as hypersonic transports and space transport systems.

Sharpe earned his Bachelor of Science degree in mechanical engineering from the University of Massachusetts. He then earned a commission in the U.S. Air Force.

While attending pilot training, he was in a sports car accident that damaged his optic nerve and was subsequently medically retired.

After the Air Force, Sharpe entered Springfield College and earned a Master's degree in education. He then returned to his high school, Agawam High School, Massachusetts, and taught algebra, geometry, calculus and general math for two years. He was the only legally blind teacher in Massachusetts from 1961 to 1963.

Sharpe said that most of the kids were cooperative and didn't try to cheat on tests. He noted that one of the reasons for this was they didn't know how well he could see so they didn't know how much they could get away with. He said that when tests were given, he gave several different ones to the students so they couldn't copy each other.

While at Agawam, Sharpe was also an assistant football coach, serving as the line coach and teaching fundamentals.

In 1963, he re-entered school and earned a Master of Science degree in mechanical engineering from Worcester Polytechnic Institute in 1965. He then came to Langley.

Sharpe said that he is not treated differently from other employees at Langley. He noted that most people don't know he's blind. He said that he tries to improvise in his work by using such mechanisms as enlarged gages, a talking calculator and a closed circuit television that magnifies reading material.

Sharpe noted that when he does need help he just asks for it. Also when he is in a hurry he carries a cane for recognition so that people will help him.

Sharpe has earned three mid-level promotions since working at Langley. He received the Apollo Achievement Award in 1969 and was Langley's nominee for Outstanding Handicapped Federal Employee in 1977. He has authored or co-authored eight technical papers and has given five technical talks.

Sharpe is actively involved in the Blinded Veterans Administration (BVA), of which he is a life member. He is a charter member and served as the initial vice president of the Maryland, District of Columbia and Virginia Regional BVA. For the past three years, he has served as president of this region. He is also the current National Secretary of the BVA, and served as the co-chairman for the 32nd Annual Convention of the BVA.

Sharpe and his wife, the former Carol McDonald, have four children: Susan, Timothy, Daniel and Anne.

Sharpe designed and built (with the help of friends and neighbors) a second story addition to his Newport News home. The addition has three bedrooms, one bath, and a 26 by 24 foot room with a cathedral ceiling. Three sliding glass doors lead to a 56 by 14 foot deck which Sharpe built on the back of the house. To repay one neighbor who helped him with this project, Sharpe hung doors to assist him in finishing a construction project.

Q. I would like to know why, in the Researcher, retirees who have worked for many years with NACA and NASA aren't given the same consideration and space as given to those receiving advanced degrees and as yet have very little working time with NASA.

A. The Langley Researcher staff agrees that retirees should be recognized. We have solved the problem of finding out who is retiring and now list retirees in the paper. Now, we must solve the problem of finding out early enough to do a story.

The Privacy Act prevents us from releasing information on retirees, unless they specifically request us to do so. Therefore, to give retiring employees additional recognition, the individual retiree must request it.

We will be happy to do more for retiring employees as space permits. If you are planning to retire, call the Researcher Editor, ext. 2934, to discuss the possibility of a story being printed in the paper.

The Space Shuttle Orbiter “Enterprise” is craned into a dynamics test stand at the Marshall Space Flight Center. The Enterprise was mated with an external propellant tank and two solid rocket boosters, already placed in the stand, to form a complete Space Shuttle. This was the first time all Shuttle elements were assembled. The Shuttle is undergoing ground testing at Marshall.
Langley Helps Veterans Administration

Working on a requirement of Dr. Joseph Binard, Chief of Spinal Cord Injury Service, Veterans Administration, engineers from Langley's Instrument Research Division recently assembled and demonstrated and instrumented seat cushion cover that provides temperature and pressure profiles across the patient seat area.

Continuously updated profiles will allow medical researchers to identify critical physical parameters. These are required for developing individualized comfortable seat cushions for patients with restricted mobility to help prevent bed sores.

To demonstrate the concept's feasibility, an automatic measurement system was assembled. The system uses specially developed pressure cells and thermocouples in conjunction with a 20-channel datalogger.

Congressional Hearings Planned

It was announced Tuesday that special hearings for the Subcommittee on Compensation and Employee Benefits for Post Office and Civil Service Employees will be held on the Peninsula on Saturday, January 20, 1979.

Representative Gladys Spellman (D, Maryland), Subcommittee Chairman, agreed to hold the hearings concerning forty-seven Langley Research Center employees who lost wages when NASA converted the pay of many technicians at the Center from Wage Board to General Service 12 years ago.

The exact time and place of the special hearings will be announced later.

Key Position

Robert R. Moore, Jr., was recently selected Acting Chief, Procurement Division.

Former Director Goes to Lockheed

Dr. Edgar M. Cortright has been elected to fill Lockheed Corporation's newly reactivated position of corporate senior Vice President-science and engineering. He began his new job on Monday, October 30, and reports to Lawrence O. Kitchen, President and chief operating officer. Cortright was Langley Research Center Director from 1968 to 1975.

Recent Retirees


Lawrence D. Guy, Structures and Dynamics Division, retired on November 3.

Elmer J. Wolff, Systems Engineering Division, retired on November 3.

Donald E. Stewart, Plant Engineering Division, retired on October 20.

Tests Resume

High-speed testing has resumed at the landing loads track of the Aircraft Landing Dynamics Facility. The quick-opening valve, which is the key to the water jet propulsion system, had been removed for refurbishment. Tests with the two carriages had been limited to either static or low speeds attained with a towing vehicle.

The present test program is aimed at acquiring the significant frictional and mechanical characteristics of two sizes of modern aircraft tires at speeds to 100 knots. The program is a joint effort between the Society of Automotive Engineers, the Air Force and NASA.

Job Openings

The following Merit Promotion Announcements are currently open:

78-76 – AST, Data Systems; Electronics Engineer; GS-855-12 or 13; Subsonic-Transonic Aerodynamics Division; Office of the Chief; Closes November 13, 1978.
Over 400 students from Peninsula area schools gathered at the Langley Activities Center on October 18 for the NASA Langley Explorer Program registration. The program, which runs through May 1979, is open to high school students interested in careers in the sciences and engineering.

400 Attend Explorer Program

One of the most pressing decisions a high school student must make is what career he or she will enter.

For those students interested in careers in the sciences and engineering, the Langley Research Center is lending a helping hand in reaching that decision.

High school students in the Peninsula area are given the opportunity to learn first-hand about careers through the NASA-Langley Explorer Program, sponsored by Langley and the Exploring Division of the Boy Scouts of America.

"In the highly technological society that exists today, there must be an opportunity for students to explore careers in order for them to make intelligent decisions regarding their career objectives or the world of work in general," according to Harold Mehrens, head of Langley's Educational Programs Office.

The program, which began in 1965, is open to all high school students in the Peninsula area. Over 400 students attended the October 18 registration for the program which runs through May 1979. The students meet every two weeks for two hours with NASA employees who serve as volunteers in the program.

In Memoriam

Byrdie Terry, Jr., Instrument Development Section, Fabrication Division, died on October 24 in Hampton General Hospital. He would have received his 35-Years' Service Award at the Langley Annual Honor Awards Ceremony on November 9.

Students in the program explore the areas of aeronautical engineering, electronics, astronomy, computer science, general engineering and technical writing. All students pay a $5 fee to be associated with the Explorers and for insurance.

The program's objectives are to provide exposure to the work environment; allow student interaction with the engineers, scientists and technicians; and provide opportunities to gather information regarding career areas which might reinforce or broaden the students career objectives.

Mehrens along with the Center were presented the Charles T. Spurgeon Award at the 1978 Annual Recognition Banquet of the Peninsula council. The award is given for the most outstanding Explorer program in content and membership. This is the first year the award has been presented.

Anderson Appointed to College Post

Dr. Alvin F. Anderson, Head of the Office of Research Grants and University Affairs at Langley, will be working at Hampton Institute for one year under the Intergovernmental Personnel Act.

Anderson is serving as the Assistant Director of Development for Federal Programs in the Office of Development at the Hampton Institute.

As Assistant Director, Anderson will be responsible for establishing a program to increase federal funds for selected programs of the college as well as increase the sources of federal support.

Anderson will spend half his time in Washington, D.C., and half at Hampton Institute.

Anderson came to Langley in 1972 and served as the Center's first Equal Opportunity Officer. He attended the King's Point Executive Institute before assuming his present position in 1975.

Anderson received his Bachelor of Arts degree in sociology from Seattle University, his Master of Arts degree in counseling from John Carroll University, Cleveland, and his Ph.D. from the University of Virginia.

Before coming to Langley, Anderson served as Associate Director of the Afro-American Studies Program and Assistant Professor in the Graduate Division of Education at Hampton Institute.

Anderson has served as Director of Counseling Services at Voorhees College, Denmark, S.C., Director of Guidance Services at Brown High School, Charleston, S.C., and a counselor at the Luther Burbank School for Boys, Mercer Island, Wash.

Anderson has conducted community relations repograms on "Strategies in Black-White Relations: An Affirmative Action Program" for NASA at both Langley and Lewis Research Centers, and the Ohio Region of the Civil Service Commission.

He has published several articles in national journals and is the author of a handbook on "The Challenge to Black Counseling in a Black College." He is a member of many national and local professional organizations.
Happenings

BASKETBALL LEAGUE. There will be a basketball league organizational meeting on Monday, November 13 at 12:30 p.m., in the Hampton Room in the Activities Center. All persons with a team to enter in the league and all persons who want to play but are not affiliated with a team are urged to attend. If unable to attend send a note of your intentions to the Basketball Commissioner, M/S 325.

COIN CLUB. Heads you win. Tails you win. Be a coin collector. The Langley Research Center Coin Club meets on the third Thursday of each month in the Activities Center. The next meeting is November 16. For more information, call Sam Dollyhigh, 4576, or Barry Shrout, 3181.

BLOODMOBILE. The last visit during 1978 of the Red Cross Bloodmobile will be on Thursday, November 9, from 9:30 a.m. to 3:30 p.m., in the Activities Center (Building 1222). The record donation at Langley is 301 pints, so please come donate a pint of blood and help set a new record. Remember that you could be saving a life.

HAPPY HOUR is scheduled for today from 4 to 6:30 p.m. at the Activities Center.

TURKEY SHOOT. The annual Turkey Shoot will be held tomorrow on the Activities grounds from 9 a.m. to sunset.

LAA BINGO. The Activities Association will sponsor two SUPER BINGO GAMES in November. On Thursday, November 9, the grand prize will be $1,000, and on Thursday, November 16, the grand prize will be $1,500. Numbers will be called until someone wins. Don’t miss out on these SUPER PRIZES, starting at 7:30 p.m. Hot sandwiches and drinks are available at the bar.

ARTS & CRAFTS. The LAA Arts and Crafts show will be held Sunday, November 19, from 1 to 5 p.m. in the Activities Center. A wide variety of items will be shown, including ceramics, woodwork, hand crafts, Christmas decorations, prints, plaques, Raggedy Ann and Andy dolls, and many other items suitable for Christmas gifts. A nursery will be provided.

EXCHANGE GIFT SHOP. New stock: Teletone children’s phonographs, Mattel Electronic Football, Basketball, and Auto Race Game, Space Galax IV Roving Model, refill on stick pins, card game rule books, smoke alarm, spacialab book, electric juicer, and space shuttle model. Special orders are being taken for color TV’s, stereo sets, electronic pinball machines, and photo Christmas cards. Every Wednesday is cigarette and cigar order day for a Monday delivery.

IT'S A BOY. IT'S A BOY. The ANRD had two blessed events in October. Lucy Watkins of the secretarial staff in the Aeroacoustics Branch gave birth to a 9 lb, 2 oz boy, Donald Chris Watkins, Jr., on October 13; and Sharon Padula of the Noise Technology Branch gave birth to a 6 lb, 4 oz boy, Anthony David on October 16.

BULB MISERS. The LAA now has “bulb misers” for sale for $1.00 each. These thermistor discs serve as an electrical “shock absorber” to shield a light bulb against current surges. They are designed to increase the life of a light bulb by at least 300 percent. Call Sue Juanarena, ext. 3139.

The NASA Tennis Team won the Peninsula Tennis Patron’s Association Division I Championship by a match score of 4-1. Pictured are: (front row) Vic Spain, George Lawrence, Ed Waggoner, Dave Throckmorton, Ajay Kumar; (back row) John Whitcomb, Bill Abeyounis, Dick Leyman, Alan Wilshire, Leonard Credeur, and Dennis Bartlett. Not pictured: Ray Midden and Bob Smith.

Thought for Today
You cannot do a kindness too soon, for you never know how soon it will be too late.  
Ralph Waldo Emerson

Bowling News
The NASA Tenpin Bowling League began its 43rd year of competition on September 12. Highlights for the first month’s play are: Robert (Buddy) Forrest—692 set, Margie Mikula—668 set, Lemuel (Buddy) Forrest—266 game, Ruth Price—255 game, Hot Gas Lab—3058 team set and 1091 team game. Mike Kallick and Bill Nelson Lead the men with 179 averages; Ruth Price with a 176 and Penny Dagenhart with a 176 average lead the women.

Team Standings

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<tr>
<th>Team</th>
<th>Score</th>
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<tr>
<td>Bombers</td>
<td>13-3</td>
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<td>Question Marks</td>
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<td>Flyers</td>
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<td>Medallions</td>
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<td>Skylarks</td>
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<td>CSC</td>
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<td>Hot Gas Lab</td>
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<td>Bits &amp; Bytes</td>
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<td>AMF</td>
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<td>Short Circuits</td>
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<td>Ballers</td>
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<tr>
<td>Pinwigglers</td>
<td>7½-8½</td>
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<td>Mixed Nuts</td>
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<tr>
<td>Aces</td>
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<td>Tuits</td>
<td>5-11</td>
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<td>Gutter Gals</td>
<td>4-12</td>
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<td>Hits and Misses</td>
<td>2-14</td>
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FOR SALE

Articles
Fish aquarium, 10 gal., fully equipped with pump, filter, decoration, and 4 fish. Asking $15. Call 851-0725 after 3:30 p.m.

Vehicles
Chevrolet Malibu Station Wagon, 1965, good running condition, 283 cu. in. V-8 engine, AT, under 80,000 miles, original owner, $350. Call Genczo, 826-1725 days or 874-2935 nights.

Harker's Island boat, 21' hull, old but solid; 30 h.p. Universal Marine motor. Boat is in the water at the house, $300. Call 998-3892.

Chris Craft, 26' cabin cruiser, VGC, sleeps 4, galley, stand-up head, engines and trans. in like-new condition, kept under cover. Call 838-0173 after 4:30 p.m.

Real Estate
Old Hampton Area: Two blocks from Yacht Club, LR, DR, Den, eat-in kitchen, 4 BR, 1 bath, Det. Garage. Assumption only; will consider partial financing. Call 722-2809 after 5 p.m. and weekends 723-1732.

Gloucester County on Sarah's Creek: 3.47 wooded acres, in growing subdivision, state road, perks, $27,500. Call Martin, 693-4241.

Gloucester Point, Harbor Hills Subdivision: 3 BR, 2 ceramic baths, quality custom brick colonial, 1750 sq. ft., garage, 32 ft. paneled great room with fireplace and exposed beams, brick bar-b-q in kitchen. $61,500. Call Bushnell, 642-4815.

FREE

Animals
Beagles (tricolor), two, 2 years old, female; spayed and all shots. Must go to good home and together. Call Olsen, 2968 or 898-4727 after 5 p.m. on weekdays.

FOUND

Lens for a pair of glasses, in hallway of Building 1218. Contact Mary Mesic, 3395.

Two car keys in parking lot across from Building 1195. Contact Security Office, 2452.

Retirement Party

Mary L. Edwards, who retired from the Text-Editing Unit, STIPD, on September 8, will be honored with a buffet luncheon on Friday, November 17, at 11:30 at the Activities Center. The cost will be $5 per person (includes gift). Contributions for the gift only are welcome. Send your reservation to Betty Hughes, M/S 180A, by November 14.

Words In People's Mouths

"I can sing better than he can anyhow."

APPEARING NEXT
HANSDOM, GRAY
HAIRD JIM PA
WITH THE
BOYISH SMイル
IN PERSON

WEEK OF NOVEMBER 6-10
MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Crab Curls; Chicken Pot Pie; Snack Bar: Hot Italian Sausage Sub; Steak & Onion Sub; Egg Salad; Bacon, Lettuce & Tomato.

TUESDAY: Bull Island Clam Chowder; Beef Split Stroganoff; Over Noodles; Fried Fish of Trout; Roast Beef Au Jus; Snack Bar: Hot Reuben; BBQ Pork; NASA Sub; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Soup; Fried Chicken Dinner; Franks, Cheese & Bacon; Pepper Steak; Snack Bar: Hot Italian Sausage Sub; Ham & Turkey; Steak, Onion & Cheese Sub: Bacon, Lettuce & Tomato.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers Over Rice; Country Style Steak; Beef Enchiladas; Snack Bar: Grilled Cheese; Ham & Cheese; BBQ Pork; Roast Beef & American Cheese.

FRIDAY: HOLIDAY

WEEK OF NOVEMBER 13-17
MONDAY: Cream of Tomato Soup; Baked Lasagna; Clam Strips; Teriyaki Baked Chicken; Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Manhattan Clam Chowder; Braised Beef; Fried Fish of Trout; Wiener Burritos; Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Beef Soup; Roast Turkey Dinner; Meatloaf; Spanish Omelette; Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey Noodle Soup; Veal Parmesan; Broiled Beef Livers; Baked Tuna & Noodle Casserole; Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

FRIDAY: Ham & Lima Bean Soup; Fish Dinner; Savory Baked Chicken; Beef Pot Pie; Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.
CFC Final Standings

The Combined Federal Campaign at Langley was more than just a success this year. $180,184.47 was collected. The goal was $175,600.

Directorate subtotals are as follows:

- **Office of the Director** — 100 percent of the employees contributed a total of $3,110.30.
- **Electronics Directorate** — 91.25 percent contributed $38,082.81.
- **Structures Directorate** — 95.45 percent contributed $24,266.90.
- **Aeronautics Directorate** — 92.16 percent contributed $25,093.20.
- **Management Operations** — 94.35 percent contributed $16,719.35.
- **Systems Engineering** — 90.85 percent contributed $25,093.20.
- **Space Projects** — 97.37 percent contributed $17,740.00.
- **Space Projects** — 97.06 percent contributed $6,805.32.
- **Other Organizations** (retirees, Army employees, JIAFS, Audit Offices, Credit Union, etc.) contributed $8,698.40.

The organization with the largest average gift, $169.00, was the Office of the Director for Space. Langley's retirees also excelled, having an average gift of $49.69.

Clearing House for Ideas Established

A NASA Clearing House has been established to act as a focal point for gathering and publicizing innovative ideas and suggestions that have agency-wide interest or potential in areas of increased productivity and cost saving. The Systems Engineering Division in NASA Headquarters (Code DL-2) will act as the focal point for the agency in this activity. Center experiences resulting from continued on page 5

**NASA Due Refund**

NASA will get a $12,000 refund for the duty paid on an imported Dutch diamond because NASA has exported it—aboard the Pioneer spacecraft heading toward Venus.

Customs law says duty on an import can be returned if the item becomes a component of something shipped out of the country. Pioneer's $30,000 gem is the "porthole" through which six radiometer detectors can send out infrared beams to measure the Venutian atmosphere.

Only a diamond window could withstand the heat and pressure of the clouds surrounding Venus and still let out infrared wavelengths.

**Space Endurance Record Set by Soviets**

Thursday, November 2, marked the end of the longest spaceflight in history—139 days, 14 hours and 49 minutes, as reported by the Soviet news agency, Tass. Setting the record were cosmonauts Vladimir Kovalenok and Alexander Ivanchenkov.

The new endurance record surpasses the earlier Soviet-held record of 96 days, set March 16 by Georgy Grechko and Yuri Romanenko. The longest American space flight, which had stood as a record for four years, was 84 days. It was set in early 1974 by astronauts Gerald Carr, Edward Gibson and William Pogue aboard Skylab 4.
Shown here are the attendees at the Experiment Power and Data System (EPDS) Users Workshop held at Langley on October 18 and 19. The workshop was directed by Leon V. Taylor, Flight Electronics Division. The EPDS is used by investigators carrying out experiments on the Long Duration Exposure Facility for both power and recording data. The complete system design and development has been done by the Langley attendees shown, as well as James Bone, Gilbert Hanes and Charles Saunders, FED, and Robert Green, SED. Pictured are: (front row, from left) Robert Motley, FED; Winston Burns, The Aerospace Corp., Jerry Comisar, Lee Webb, Ball Aerospace Systems; Curt Gordon, ITE; William Fleischman, Grumman Aerospace; Anthony Digiacomo, The Aerospace Corp.; (back row, from left) John R. Hickey, Eppley Laboratories, Inc.; John Finger, General Electric; Dave Daniels, Eppley Laboratories; Roy McIntosh, NASA-Goddard, Les Calhoun, McDonnell Douglas; Leon Taylor, FED; John Cox, SED; Robert Masters, NASA-Lewis.

Turin Shroud to be ECVP Meeting Topic

Dr. Adam Otterbein will be the guest speaker at the November 29 meeting of the Engineer's Club of the Virginia Peninsula. He will speak about "The Shroud of Turin."

The meeting will be held at 6 p.m. at the Ramada Inn. Reservations may be made by calling George Meidinger at 244-2452.

The first recorded showing of a linen artifact, now called The Shroud of Turin, was made in 1357 by the de Charney family of Lirey, France. It was claimed to have been the burial cloth of Jesus Christ. It bears the full body image of both the front and back of a man.

Ownership of the cloth passed from the de Charney family to the royal family Savoy of Italy. The Shroud now resides in a silver case in the Hall of the Swiss of the Royal Palace, which is attached to St. John's Cathedral in Turin, Italy.

Otterbein's talk will discuss the known history of the Shroud, review the reasons for its interest and describe the scientific efforts to date. In particular, he will describe the data gathering which was done October 29, 1978, by some 50 American and European scientists.

Otterbein studied at Mount St. Alphonsus Seminary in Esopus, NY, and received his Doctorate in Theology from Catholic University. As a student under Dr. Edward A. Wuenschel at the Seminary, he became interested in the Shroud. When he returned to the Seminary as a faculty member, he founded the Holy Shroud Guild of America, of which he is President. Under the direction of Cardinal Spellman he established a center for the Guild at the Seminary.

Otterbein is presently with the Holy Family Retreat in Hampton, VA. His visit to Turin for study of the Shroud was followed by participation in the election of Pope John Paul II before returning to the United States.

Question and Answer

Q. It's about the time of year to start ordering copies of "Federal Employees Almanac" for 1979. Since bulk orders reduce the price per copy, does the Researcher know of anyone taking orders this year?

A. We checked two people who took orders last year, Nancy Ferro and Sam Plott. Ms. Ferro is not taking orders this year and Mr. Plott retired about a month ago. We were unable to find anyone else taking orders. If any Researcher reader is taking Almanac orders this year, please contact the Editor on ext. 2934.

The Langley Researcher, an official publication of the Langley Research Center, National Aeronautics and Space Administration, Hampton, Virginia 23665, is published every other week in the interest of its employees. Address contributions to the Editor, Mail Stop 115A, telephone 2934.

Editor ................. Karen Miller
Editorial Assistant .......... Jean Drummond
Staff Photographer .......... Bob Nye

The privilege of advertising articles in this publication is restricted to employees of Langley Research Center. Articles advertised here must be offered without regard to race, color, religion, sex, or national origin. All materials submitted are subject to editing.
Record Set for Parachute Jumping

A Langley and a Fort Monroe employee set a Virginia parachute record with a jump of 31,000 feet at noon on October 16 at Felker Army Field at Fort Eustis. The previous record was 27,000 feet.

Philip Glaude, Fabrication Division, and Maj. Gen. Robert C. Hixon, chief of staff for the Army Training and Doctrine Command at Fort Monroe, made the military tactical jump from the Army's U-21, a twin-engine turboprop aircraft.

Facing 170 mph winds and a temperature of 40 degrees below zero, the two exited the plane at 31,000 feet. The men did a two-man hook-up at 28,000 feet during their two and a half minute free fall before opening their chutes at about 4,000 feet.

The two used their regular sport jump equipment plus special equipment consisting of extra clothing, a helmet liner, two pair of goggles, insulated gloves and oxygen. They also wore flotation equipment, inflatable life preservers, in case they landed in the water. Sport jumps are made around 10 to 14,000 feet.

Glaude said they performed the jump at this time of year because of the availability of the equipment and because the summer and winter temperatures at that altitude vary little and a person tends to underdress for the upper altitude conditions during the summer.

In December, Glaude and Hixon will jump at 31,000 feet at night. He said there are a few hazards when night jumping, such as a person's depth perception is off. Some precautions that night jumpers take are that they illuminate themselves and equipment and they have a strobe light on the parachute because they are considered an aircraft by the Federal Aviation Administration.

Glaude, who joined NASA in 1961, conducted his first jump on Sept. 9, 1972, and in 1973 became a certified instructor. In the six years of jumping he said he has not experienced any extreme hazards. He said the greatest hazards were three parachute malfunctions, but he added, when a parachute malfunction he just releases himself from the main chute and pulls the reserve.

Glaude has been jumping in competition for five years. In 1976 he finished 10th and in 1977 finished 3rd in the eastern conference in accuracy jumping. He competed in the Nationals for the first time in 1976 at Tahlequah, Okla. Glaude was one of the jumpers who performed at the Langley Family Day activities in the summer of 1977.

Glaude is the only member of his Newport News family who is presently jumping. He said his wife, the former Susan Pavlosky, doesn't jump but she has entertained the idea. He added that of his three sons the youngest is the most interested in jumping, but he noted that he doesn't want him to jump when he gets older because "daddy does it." Glaude said that he wants it to be a true interest of his son.

Job Openings

The following Merit Promotion Announcements are currently open:

78-77- Procurement Agent; GS-1102-5 or 7; Procurement Division; Facilities and Materiels Contracting Branch; Buying Section; Closes November 20, 1978.

78-79- Supervisory Technician; GS-802-12 or 13; Engineering Division; Development Branch; Closes November 27, 1978.

78-78- Engineering Technician; GS-802-10 or 11; Systems Engineering and Operations Directorate; National Transonic Facility Project Office; Closes November 27, 1978.
Indian Researchers

Work at Langley

Throughout the history of flight, men from countries all over the Earth have taken part in aeronautical research, both in their homelands and here in the United States.

Langley's Subsonic-Transonic Aerodynamics Division presently has six researchers who are from India. The six men, all holding PhD's, are here through grants and contracts.

Dr. Ramaswamy, from Bangalore, India, is doing research on wind tunnel volume wall effects. Ramaswamy came here in June through the U.S. National Research Council.

Ramaswamy holds a bachelor of science degree in mechanical engineering from Bangalore University, a master's degree in aeronautics from the Indian Institute of Science. He served on the staff of the India National Aeronautics Laboratory in 1960. From 1967 to 1971 he worked on his PhD at California Technological Institute and then returned to the India National Aeronautics Lab.

Dr. Balakrishna is working on the modelling of cryogenic tunnels. He is at Langley through Old Dominion University. Balakrishna, also from Bangalore, received his bachelor's degree in electrical engineering and his PhD in automation from the Indian Institute of Sciences.

Balakrishna worked for 18 years at the India National Aeronautics Lab on various aeronautical systems. Balakrishna's interests are in control systems, structural test and aeronautical control problems.

Dr. Rao, from Bangalore, is presently working on vortex flow concepts for improving transonic and supersonic aircraft. Rao is working at Langley through ODU. Before working on vortex flow concepts he worked on advanced cargo concepts.

Rao received his bachelor of science and master of science degrees in general science from Allahabad University. He received his PhD from the University of London in aeronautics. He has worked for 15 years at the India National Aeronautics Lab.

Dr. Goradia, from Bombay, is presently working on boundary layer development and multi-component airfoils. Before that he developed original theoretical and computer programs for viscous flows on clean wing and lift systems.

Goradia received his bachelor of science degree in mechanical engineering from Bombay University, his master of science in mechanical engineering from the University of Michigan and his PhD in mechanical engineering from Georgia Tech. From 1961 to 1964 he worked at Air Products and Chemical Inc., Allentown, Pa., in cryogenics and in 1964 joined the staff at Lockheed. Goradia is at Langley through Lockheed.

Dr. Reddy, from Nellore, is working on numerical investigation of aerodynamic characteristics of wings with separated flows. Before coming to Langley he served as an assistant professor of mechanical engineering at ODU from 1977-78.

Reddy received his bachelor of science degree in mechanical engineering from the University of India, his master of science degree in aerospace engineering from the Indian Institute of Technology, Kanpur, and his master of science degree and PhD in aerospace engineering from the University of Kansas.

He has worked at Langley since 1974 through the University of Kansas. Mehrotra is the representative of all the Indians living on the Peninsula. He is responsible for all functions such as festivals and picnics.
HAPPENINGS

HAPPY HOUR. The last Happy Hour of the year will be held Friday, November 17, beginning at 4 p.m.

ARTS AND CRAFTS SHOW. Don't forget the Arts and Crafts Show to be held Sunday, November 19, from 1 to 5 p.m. in the Activities Center. Over 27 entries will be showing a wide variety of paintings and crafts. This will be a good chance to do some Christmas shopping. A nursery will be provided.

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The TAC Air Toastmasters Club is increasing its membership. TAC Air meets each month on the second and fourth Wednesdays at the Langley Officers Club. For more information, call Bob Lee, ext. 2486; Jim Moss, ext. 3770, or Andy Srokowski, ext. 3736.

HONEY BUNCH. The NASA-Langley Apicultural Club will meet on Monday, November 20, from 7 to 9 p.m., in the Activities Center (Bldg. 1222). Following the business meeting, a USDA film about beekeepers working with Africanized bees will be shown. For beginning beekeepers, now is the time to begin preparations and assembling equipment for readiness during the spring build-up, spring nectar flow and 1979 swarm season.

CLEARING HOUSE

continued from page 1

managing reduced resources have generated numerous ingenious approaches to coping with this situation.

The sole purpose of the clearing house is to share these ideas with other NASA installations. Center inputs will be compiled and published in the NASA Activities. No standard format will be required and no cost savings data need be included. No goals will be established and no scorecard of Center submissions will be maintained. The program is strictly voluntary!! This clearing house does not replace the formal NASA Suggestion Program. However, the Suggestion Program is an excellent source for these ideas.

Do you have worthwhile ideas/suggestions based on your experience? If you do, send them to the Management Support Division, Mail Stop 123, for coordination and forwarding to the Agency Clearing House.

CALL FOR PAPERS

The 14th Thermophysics Conference of American Institute of Aeronautics and Astronautics (AIAA) will be held in Orlando, Florida, June 4–6, 1979. The "Call for Papers" for this conference appeared in the September issue of Astronautics and Aeronautics.

For this conference, papers are solicited on topics which treat all aspects of "Computing Technology and Thermophysical Analysis" and "Nonintrusive Diagnostics for Fluid Mechanics, Combustion, and Atmospheric Measurements." In addition, contributions are invited dealing with the following general areas: thermophysical properties of materials; heat pipe theory and applications; ascent, reentry and planetary entry heating and thermal protection systems; laser irradiation effects; design and performance of insulation systems; analysis and design of spacecraft thermal control; heat transfer in plasmas; radiation heat transfer, surface optical properties; contact conductance; and contamination/degradation phenomena. Papers dealing with other topics in thermophysics will also be considered for inclusion in the program. An open forum will be included to allow for presentation of brief topics and recent significant results.

Long abstracts (minimum of 1000 words) including a summary of actual results or complete manuscripts should be prepared in accordance with "Instructions for Preparation of Meeting Abstracts" as printed in the AIAA Bulletin, Sept. 1978. Three (3) copies of either abstracts or manuscripts should be submitted before December 1, 1978, to the Technical Program Chairman:

Dr. Surendra N. Tiwari
Department of Mechanical Engineering and Mechanics
Old Dominion University
Norfolk, Virginia 23508
(804) 489-6485

General inquiries regarding the conference should be directed to the General Chairman, Dr. Walter B. Olstad, M/S 367 (Ext. 3887).

RECENT RETIREE

Louise S. Anderson, Financial Management Division, retired on November 3.

5 Langley Researcher, November 17, 1978
LAA New Delegates

The following delegates were recently elected to the Activities Association General Assembly for 1979:

John P. Arrington, Office of the Director;
Thomas M. Moul, Flight Dynamics and Control Division;
D. Eugene Hicks, Analysis and Computation Division;
R. Paul Seaford, Instrument Research Division;
G. Sharon Fairheart, Flight Electronics Division;
Mark J. Shuart, Materials Division;
W. L. Wilshire, Acoustics and Noise Reduction Division;
Randall C. Davis, Structures and Dynamics Division;
Velma R. Martin, Aeronautical Systems Division;
Patricia A. West, Flight Research Division;
Noel A. Talcott, High-Speed Aerodynamics Division;
Frances E. Sabo, Subsonic-Transonic Aerodynamics Division;
M. Frances Hartman, Financial Management Division;
Kathi D. Porter, Management Support Division;
Beryl A. Mayeaux, Personnel Division;
Parris Y. Engelson, Procurement Division;
Frederick D. Jones, Scientific & Technical Information Prog. Div.;
Sandra L. Gaster, Fabrication Division;
Bruce D. Little, Fabrication Division;
Sharon K. Crockett, Systems Engineering Division;
Anne D. Leatherman, Research Facilities Engineering Division;
Beverly J. Anderson, Operations Support Division;
E. Wayne Martin, Operations Support Division;
John W. Wainwright, Plant Engineering Division;
Vivian P. Parrous, Atmospheric Environmental Sciences Division;
John H. Soule, Space Systems Division;
Craig W. Ohlhorst, Marine & Applications Technology Division;
J. Ross Phillips, Director for Projects;
Sandra C. Chaney, Terminal Configured Vehicle Program Office;
Mary G. Coburn, Scout Project Office; and
Duane L. Reaugh, Business Data Systems Division.

A Langley Portrait

— by Keith Koehler

Can you imagine putting approximately 24,000 miles a year on your car just driving to and from work everyday?

Alfred G. Bridger, Operations Support Division, lives in Middlesex County and his daily drive to work takes one hour and 10 minutes, which covers approximately 47 miles.

For the past 20 years he has made the lengthy trek and he said, "It hasn’t been easy." However, he has never thought of moving closer to Langley because he likes living in Middlesex. The area is quiet, it’s nice country and there is a small volume of people in the area, he noted.

Bridger has been living in Middlesex almost all his life. He never finished high school because he entered the service in the 10th grade. While in the service, he fought in two World War II battles, the invasions of the Phillipines and Okinawa. After the service he went to work for his father.

Before coming to Langley in 1958, Bridger worked at the U.S. Naval Weapons Station and the Naval Mine Warfare School (the Coast Guard Reserve Training Center) in Yorktown.

When he started work in Yorktown his trip to work included the crossing of the Piankatank and York rivers by ferryboat. He said the only problems with crossing the rivers was the large number of people trying to use the ferries and the Piankatank ferry originally could only transport four cars at a time.

He noted that later a larger ferry was used and eventually a bridge was built. Bridger said that presently the only problems in driving to work is the heavy traffic and in the winter the snowy and icy roads.

Bridger will retire from NASA in January 1979. He said it has been an "honor to be part of NASA and work with the high caliber of professional people" at Langley.

Bridger and his wife, Ida, have one son, Alfred Jr., who is married.
The following people won turkeys in the LAA Turkey Shoot Raffle:

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Samuel J. Allor</td>
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<td>W. H. Brown (3)</td>
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<td>Philip C. Kassel</td>
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<td>Robert L. Phelps</td>
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In Memoriam

Dr. Theodore Theodorsen, who worked at Langley from 1929 to 1946, died on November 5 after an illness. Theodorsen came to the Langley Memorial Aeronautical Laboratory as an associate physicist. Within a short time, he became head of the Physical Research Division.

One of Theodorsen's first activities was to develop an instrument for detecting buried metals. On its first use, it picked up a live bomb on a former bombing range, the site of a new Langley facility, the hydrodynamic tank.

As an overview of his years at Langley, Theodorsen improved thin airfoil theory by introducing the angle of best streamlining; he went on to develop the new classical and elegant theory of arbitrary wing sections; he performed the first NACA in-house noise research; he worked on fire prevention in aircraft; and he developed the basic theory of aircraft flutter.

After leaving Langley, Theodorsen helped to organize and administer an aeronautical institute in Brazil (1947–1950); he was Chief Scientist for the U.S. Air Force from 1950 to 1954. He then became Chief of Research for the Republic Aviation Corp., from which he retired in 1962 to become an active consultant to the United Aircraft Corp.

In recent years, he found time to ponder relativity theory.

LAA Travel 78

L.A.A. has about 20 seats remaining on the Rio charter that departs from Norfolk January 28 and returns February 5. A deposit of $75 per person is needed by November 24 in order to insure your reservation.

Your trip includes:
- Round trip transportation via Trans International Airlines, DC-10 (Meals and Beverages served aloft)
- Deluxe accommodations for seven nights at the Nacional Hotel
- Welcome Caipirinha Party
- Brazilian Breakfast daily
- Dinner four evenings (Dine around)
- All Round Trip Transfers and Baggage Handling
- U.S. Departure Taxes
- All gratuities for bellboys and doormen
- City Tour
- Tour to world famous gem factory
- Complimentary chaise lounges
- Hospitality desk in your hotel

This is the last call for the Caribbean Cruise sailing from Norfolk, December 16–23 for San Juan, St. Croix, St. Thomas with a fly back from Nassau. Some of these are excellent ports to do your Christmas shopping. For brochures and details call the Activities Office 3139, Ernie Greene 2312 (Home 838-0357), or Herb Boulter 3234 (Home 838-4773).

7 Langley Researcher, November 17, 1978
Articles

David Bradley 5 h.p. (walk behind) garden tractor with Drag Harrow, Cultivator, Disc Harrow, plow and various spare parts, $400. See at 4 Brook Run, Tabb (Yorkshire Terrace) after 5 p.m., or on weekend.

Approximately 40 sq. yds. predominantly red, shag carpet, EC, Call Bray, 3075 or 596-3783 after 5 p.m.

400 mm telephoto camera lens, universal mount, current mount minolta, Tripod and vivitar, hard shell case, EC; one owner, used 6 times, $90. Call 827-5343 after 5 p.m.

Real Estate

Gloucester County, 5+ acre waterfront tracts on large, stocked, freshwater pond, fishing, boating, and sailing, quiet and secluded with only 5 homesites on 50 acres, private entrance, underground power and telephone service provided, $31,500. Call Ed Ray, 693-3583.

WANTED

Responsible person to drive car from Newport News to Ft. Lauderdale, FL, the first week in December. Call Lichtenstein, 595-5682.

Skis, bindings and poles for 3-year-old child, 130-150 cm, skis for adult. Call Rod Ricketts, Ext. 2661 or 595-8309.

Riders for a car pool leaving from the Deep Creek area of Chesapeake at 6:30-7:00 a.m. leaving Langley Bldg. 1293A 4:15-5:30 p.m. Call 2851 or 487-9242 after 5:30 p.m.

Retirement Parties

Elmer J. Wolff, who has been on long-term assignment in the Aeronautical Systems Division from Systems Engineering Division, retired on November 3, and will be honored with a dinner on Thursday, Nov. 30, at 6:30 p.m. at the Activities Center. The cost will be $6.50 per person (including gift). Contributions for the gift only are welcome. Send your reservation to Betty Pate, M/S 249A, by November 24.

A retirement luncheon will be held for Harold Long, George Stacey and Charles Kaiser on December 15, at 11 a.m. in the Activities Center (Bldg. 1222). Cost will be $5 per person or $9 per couple (includes gift). If you wish to attend, please call by December 4: Kenneth Holley, ext. 2311 or 3288; Judie Boin or Glancie Strickland, ext. 2826.

Speakers Bureau

On October 2, Hampton P. Stump spoke to the Math Science Section at the Association of Virginia Academics meeting about the metric system.

On October 4, Baxter Carr spoke to the Appalachian State University Society of Physics Students about solar energy.

On October 5, Bob Rainey (retired) spoke to the Norview Lions Club about the Space Shuttle.

On October 6, John Samos spoke to the Southeast Industrial Arts conference about spinoffs.

On October 9, John Shoosmith spoke to the Blue Ridge Council of Mathematics Teachers about the role of mathematics in aerospace research.

On October 10, Howard Wright spoke to the Petersburg Kiwanis Club on the future of space technology.

On October 17, George Ashby spoke about the Space Shuttle to the York Exchange Club; Ray Hook spoke about space colonization to the Harbor Front Kiwanis Club; Dwight McSmith spoke about aircraft crash safety to the Langley Aero Club.

Key Positions

Jeanne P. Huffman was recently selected Head, Technical Editing Branch, Scientific and Technical Information Programs Division.

Richard T. Bright II was selected Acting Head, Projects and Services Contracting Branch, Procurement Division.

Vincent R. Mascitti has been selected as Head, Advanced Supersonic Technology Office, Aeronautical Systems Division.

Thank You

Acquilla D. Saunders thanks her friends for the “perfect” retirement party given in her honor on November 1. “The fellowship during the years at Langley will hold a lifetime of memories. The beautiful and memorable gifts will always be treasured; however, your friendship is the icing on the cake.”
ACEE Program Aimed at Improving Aircraft Fuel Consumption

Fifty-two years ago the commercial airline service began with 100 mph mail planes. Today the service consists of 600 mph passenger jets covering nearly every U.S. city. People have become dependent on air travel.

Commercial airliners have become one of the United States' largest exports. The aerospace industry contributed a positive trade balance of $13 billion from 1970 through 1976 in new civil transport sales alone. Additional sales of related engines and accessories for civil aircraft have totaled about $10 billion in the same period. The sale of one jumbo jet offsets the import of 9,000 small cars.

In the past, American commercial airplane manufacturers have dominated the transport sales market, but competition from abroad is growing fast. There will be a $60 to $100 billion market through the next decade and U.S. manufacturers must find a way to hold on to the large share of this market.

One of the largest economic problems facing the airlines today is the sharp rise in fuel cost. In 1973 the price of fuel was 12 cents a gallon. Now fuel costs range from 40 to 45 cents a gallon. Fuel cost accounted for approximately 20 percent of operating cost in the early 1970's compared to 40 percent in 1976.

Recognizing the importance of fuel efficiency and in response to a direct request from the Senate, NASA began an effort in 1975 to define technology advances for fuel conservation. As a result, the Aircraft Energy Efficiency (ACEE) program was formed in 1976.

Through new technology for greater fuel efficiency, the general ACEE goal is to help the United States industry to prepare to produce operationally more efficient aircraft in order to meet rising competition from abroad, continue domination of the large expected world market, and sustain a favorable component in the balance of trade.

To meet these goals, ACEE is composed of six different technology areas, each with substantial potential for reducing fuel consumption and a combined potential of 50 percent fuel reduction.

Three areas, Engine Component Improvement, Energy Efficient Engine and Turboprops, relate to engine technology and are the responsibility of the Lewis Research Center. The other three, Laminar Flow Control, Energy Efficient Transport and Composites, relate to "airframe" technology and are the responsibility of Langley.

Each of the areas in the $451 million program are considered separate projects. The Engine Component Improvement project consists of diagnoses of causes of performance deterioration in current engine designs and identification of component changes for improved initial performance and less deterioration.

The Energy Efficient Engine project will carry an advanced, more efficient design through the component development and experimental engine stages.

The third project under the responsibility of Lewis is Advanced Turboprops. The effort in this area is aimed at extending the operation of turboprops, which are more efficient than jets, to the higher speed range of today's jet transports. The first phase of this effort is focused on defining aerodynamic shapes for the propellers and on solving the special noise problems presented by props whose tips are moving at supersonic speeds.

In the area of Laminar Flow Control, Langley and industry researchers are trying to define and demonstrate a practical, reliable, and maintainable

Continued on page 4.
Blood is a very precious gift of life and the men pictured here have been giving for years. At left is George G. Kerner, Jr., Operations Support Division, whose donation total reached 10 gallons on November 9. When Charles E. Edmiston (right), Fabrication Division, donated a pint on November 9, his total reached 12 gallons. Edmiston said he has been donating blood since about 1953 because "I think it's for a real good cause. If I or my family ever need blood, the Red Cross will be there to help. And I'm doing what I can to help."

Bloodmobile Report

Langley employees set a new record at the November 9 visit of the Red Cross Bloodmobile. Three hundred twenty-two pints were donated.

Reaching gallon status were:
- 12 gallons - Charles E. Edmiston
- 10 gallons - George G. Kerner
- 9 gallons - Paul W. Culotta
- 8 gallons - Thomas W. Forrest
- 7 gallons - Robert Davis
- 6 gallons - Perry W. Hanson
- Stanley L. Pearce, Herbert J. Cunningham


In Memoriam

T. Guy Meador, Jr., died in his home in Hampton on November 4. He had retired in March 1978 after 33 years service as an engineering technician at Langley. A native of Bedford County, he was a graduate of the Maritime Academy in Kings Point, New York. Meador was a member of Community Presbyterian Church, and the Phoebus Men's Club. He was a vice captain and courtesy boat examiner of the U.S. Coast Guard Auxiliary. He is survived by his wife, one daughter, two sons and three grandchildren.

Mary M. Bates died of smoke inhalation in a fire in her Hampton home on Monday, November 20. Mrs. Bates worked in the Laser and Spectroscopy Branch, Instrument Research Division; she had been with NASA for 16 years. A native of Jacksonville, Florida, she was a Peninsula resident for 30 years. Mrs. Bates is survived by three sons, a sister and two grandchildren.

After nearly a month of attempts to reestablish contact with Seasat, NASA's experimental oceanographic satellite, project officials have declared the mission formally terminated.

Data collected during the spacecraft's 106-day lifetime will be processed at the Jet Propulsion Laboratory in Pasadena. Project officials expect the tasks to occupy more than one and a half years.

The instrument payload on Seasat included two Langley-developed sensors. A scanning multifrequency microwave radiometer was used to measure sea surface temperature, estimate wind speed and detect water in the atmosphere. A radar scatterometer measured sea surface wind speed and direction. These sensors collected data for 99 days.

Seasat's synthetic aperture radar completed some 300 data-gathering passes, collecting about 60 hours of data on images of sea ice, waves, coastal conditions and various land forms. The altimeter returned data for 70 days and the visual and infrared radiometer for 52 days. In addition, a series of sea surface, fact-finding experiments conducted with Seasat were completed.

A failure review board is working to determine the causes of the premature end to the spacecraft's operation. Dr. Bruce Lundin, former director of Lewis Research Center, heads the review board.

Seasat was launched June 26, 1978, from Vandenberg Air Force Base, and contact was lost with the satellite on its 1,502nd orbit of Earth Oct. 9, 1978, when a so-far unexplained short circuit drained all power from the batteries.
Berger to Discuss Nondestructive Testing for Next Colloquium

Harold Berger will speak on "Nondestructive Testing - Its Growing Importance for the 1980's" at the December 11 colloquium. The lecture will be held in the Activities Center (Building 1222), beginning at 2 p.m. There will be a question and answer session at 2:50 p.m. and an informal discussion period from 3:00 to 3:30 p.m.

Berger is Chief, Office of Nondestructive Evaluation (NDE), National Bureau of Standards. He has managed the Bureau’s NDE program since it was formed in 1975. Prior to that, he directed neutron radiographic work at the NBS research reactor. Before joining NBS in 1973, he was employed at Argonne National Laboratory, Battelle Memorial Institute and the General Electric Company. His technical activities have involved imaging systems for many radiations, including x-rays, neutrons and ultrasound.

Nondestructive testing (NDT) has been used extensively since World War II, particularly by the aerospace and nuclear agencies, which require unusually high reliability and quality. The early use of NDT, involving radiographic, ultrasonic, magnetic, penetrant and eddy current techniques, will be described in Berger's talk.

Although this early (and continuing) use of NDT contributed to increased safety and long-lived products, Berger feels there is potential for a much greater contribution. Significant improvements in industrial productivity and in the conservation of energy and materials can be realized from more reliable and quantitative NDT. A wide variety of problems, such as an aging fleet of military airplanes, the demand for a clean environment with NDT implications for nuclear plants, pipelines and off-shore facilities, and the needs associated with product liability are placing increased demands on NDT. These challenges are stimulating many new developments. To illustrate this, recent advances in radiography will be discussed; this will include real-time methods, image enhancement and unusual radiation techniques involving neutrons and protons.

Job Openings

The following Merit Promotion Announcements are currently open:

78-80 — AST, Technical Resources Management; GS-801-9, 11, or 12; Programs and Resources Division; Research and Development Programs Branch; Closes December 6, 1978. (amendment)

78-81 — Supervisory Equipment Specialist (PISE); GS-1670-11 or 12; Instrument Research Division; Instrument Control Office; Closes December 6, 1978.

1979 Calendars

Requests for 1979 desk and wall calendars can now be submitted to the Stockroom (M/S 382) on NASA/Langley Form 2 (see page 5) for issue in mid December. Please do not combine other forms on the same request. Each Branch secretary should submit Branch and Section requirements to reduce the number of requests.

Speakers Bureau

On November 8, Cary Spitzer spoke about Viking to the National Association of Naval Technical Supervisors; Dwight McSmith spoke to the Methodist Men’s Club about light aircraft crash safety.

On November 9, John Sams spoke to the Second Presbyterian Men’s Club about spinoffs.

On November 12, Bob Helton spoke to the Aid Association for Luthers about the Tech House.

On November 14, Ransom Ritter spoke to the National Association of University Women on “Benefits from Space.”

On November 15, Ira Abbott spoke about the Tech House to the Women’s Club of Williamsburg.

Key Position

George L. Meidinger, was recently selected Head, Technical Support Section B, Laboratories Operations Branch, Operations Support Division.

NASAs headquarters has approved the recently negotiated Agreement between the Langley Research Center and Local 2755 of the American Federation of Government Employees. The Agreement was officially approved on November 13, 1978 and will continue in effect for three years from that date. Shown above at the local signing ceremony are: (seated) Ira H. A. Abbott, Vice-President, Local 2755; William C. Tennis, President, Local 2755; W. Bruce Dunn, Spokesman for Local 2755; Dr. Donald P. Hearst, Langley Director; James J. Fay, Spokesman for the Langley Research Center; and Diane S. Lawson, Secretary for the negotiations. (Standing) Ernest L. Rowe, Assistant Chief of the Operations Support Division; John T. Hughes, Chief Steward of Local 2755; and Donald B. Shortt, Secretary-Treasurer of Local 2755.

– photo by Bob Nye

Langley Researcher, December 1, 1978
ACEE Program
Continued from page 1.

boundary-layer suction system for viscous drag reduction.

Airflow on today's conventional airfoils is smooth and layered (laminar) at the leading edge. However, just behind the leading edge there is a transition of this boundary layer to a turbulent state which causes the skin friction drag on the airfoil surface to increase. If the air can be sucked through the surface in a prescribed way, the boundary layer of air can be maintained in a laminar state over the whole surface.

Researchers must show that laminar flow control is technically and economically feasible for long-range commercial transports of the 1990's. If laminar flow can be achieved, fuel savings may be from 20 to 40 percent, depending on application.

Factors affecting laminar flow which have been researched in the first phase of this effort are surface contamination, surface and suction system configuration, suction distribution, manufacturing processes, noise and wing geometry such as sweep and airfoil shape.

Study contracts with Boeing, Douglas and Lockheed are in their final stages. Means of controlling leading-edge insect contamination have been identified and an advanced supercritical laminar-flow-control airfoil has been defined. Preparations to test the airfoil in Langley's eight foot Transonic tunnel are underway, and planned future efforts include extensive flight testing.

In the area called Energy Efficient Transport, NASA researchers and the commercial transport industry, through cost-shared contracts, are trying to develop the energy potential of advanced aerodynamic technology, improved propulsion system integration and the incorporation of active controls in aircraft design.

Aerodynamics is that branch of aeronautics that relates to the effect of the detailed geometry of the aircraft on the airflow. Turbulence and early flow separation limit the amount of lift that can be obtained without substantial drag.

Researchers have shown that the supercritical shape reduces the strength of the shock wave and results in a more stable flow that allows substantial drag reduction at the same lift through use of thicker sections, increased aspect ratio and reduced sweep.

Other drag-saving geometry changes that are under investigation are the use of winglets at the tips of the wings and the position and external shape of nacelles.

Researchers are also looking at the use of active controls. In this area, control surfaces are linked to limit unwanted motion or loads on the aircraft structure. The controls permit structural weight reduction and drag-saving aerodynamic changes without additional structural weight.

Active controls will also permit tail size reduction without loss of stability and, thus, reduce trim-drag force. Some active controls may be used to the greatest advantage in the future, research is also proceeding on advanced digital computer systems that will be highly reliable and fault tolerant.

With the use of these features, future energy efficient transports can obtain an estimated 10 to 20 percent fuel savings compared to current wide body transports.

While this effort is still young, it has already led to flight tests of an active wing load alleviation system that will be introduced into service in 1980 by Lockheed. Support flight testing by Boeing, of winglets on the 747, and by Douglas, of long-duct nacelles on the DC-10, are likely future activities.

The third area under Langley's responsibility is Composites. The objective of the program is to accelerate the introduction of composite secondary and primary structures in future commercial transport aircraft by developing technology and confidence required for commercial transport builders to commit to production of composite structures.

Composite construction consists of embedding filaments of one material in a sheet of another material (a matrix) to form a tape or woven cloth. Tapes and cloth are then laid up at different angles to form structures with greater strength.

Laminar flow control (LFC) studies by Langley researchers must show that LFC is technically and economically feasible for long-range commercial transports of the 1990's.

Advanced turboprops are studied by the Lewis Research Center under the ACEE program.

4 Langley Researcher, December 1, 1978
Recoup Notes

Hampton City Council recently authorized City Manager Wendell White to sell $7 million in municipal bonds to pay the city's share of a trash-burning, steam-generating plant called Project Recoup, at Langley Research Center. Langley will buy the steam produced at the plant. Over the next 20 years, the city is expected to save $12 million in waste disposal costs.

ACEE Program

and stiffness and less weight than conventional metal structures.

Reduced cost is also feasible and desirable in application of such materials to commercial airplane structures. According to R. W. Leonard, Manager of the ACEE project office at Langley, the commercial transport industry is presently looking at the use of graphite and Kevlar 49 filaments and epoxy matrix materials.

NASA is presently using cost-shared contracts with the three transport aircraft manufacturers, McDonnell Douglas, Boeing and Lockheed, in the study of composite structures. The cost-shared contracts include development of three secondary structural components, the Douglas DC-10 rudder section, the Boeing 727 elevator and the Lockheed L-1011 aileron.

NASA is also using cost shared contracts for the development of three medium-size primary structural components or load carrying structures. These structures include the Lockheed L-1011 vertical fin, the Boeing 737 horizontal stabilizer and the Douglas DC-10 advanced composite vertical stabilizer.

Contract studies have also been completed to define required development efforts for application of composites to wing structures.

Leonard said that all three companies have shown an interest in early application of composites to secondary structures, and the NASA contracts are preparing the way for such applications to new and derivative aircraft with the defining of material properties, manufacturing process development and testing of large components for design evaluation and Federal Aviation Administration certification.

Happenings

NEW YEAR'S EVE DANCE. The LAA will sponsor a New Year's Eve Dance in the Activities Center on December 31, 1978, from 9 p.m. to 2 a.m. Music by 12 O'CLOCK HIGH. Tickets go on sale at the Activities Office on December 12. The price is $15 per couple, set-ups included (BYOB). Semi-formal.

LAA TRAVEL. Of the 80 seat LAA allotment on the Rio Charter, there are about 12 seats remaining to be filled. This direct charter departs from Norfolk Jan. 28 and returns Feb. 5. A $75 deposit (per person) to L.A.A. will hold your reservation. For detailed brochures, call the Activities Office 3139, Ernie Greene 2312, Home 838-0567 or Herb Boulter 3234, Home 838-4773.

THE SKYWATCHERS ASTRONOMY CLUB will meet on Tuesday, December 5, at 7:30 p.m. in Building 1251, room 105. After the business meeting there will be a presentation on the Hestynsprung-Russell diagram and a discussion of observing programs. The meeting will be followed by a viewing session using the club's 16-inch reflecting telescope.

AMTRAK SERVICE. The response to Amtrak's special reduced rates for government employees on their Colonial route has been so good that the offer is being extended until May 25, 1979. Under this offer, a round trip for each employee and family member is $1 plus the one-way fare. The Colonial route runs between Newport News and Boston, for a copy of the listing of fares, call 2934.

TOASTMASTERS. If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The TAC Air Toastmasters Club is increasing its membership. TAC Air meets each month on the second and fourth Wednesdays at the Langley Officers Club. For more information, call Bob Lee, ext. 2486; Jim Moss, ext. 3770, or Andy Srokowski, ext. 3736.

ALMANAC ORDERS TAKEN. The 1979 Federal Employees Almanac can be ordered through the Langley Activities Association. A $1 deposit will be required when placing the order. Contact your LAA Delegate for further information.

Thanks

Doris Topping thanks all her friends for the delightful retirement luncheon in her honor. "It was a most wonderful and memorable occasion—made so by the warm fellowship and lovely gifts. The many years at Langley Research Center and especially this happy occasion will always be remembered with pleasure."

GIFT SHOP NEW STOCK. Books: Exploring Tomorrow in Space; Scientific Break Thru. Electronic Football, Basketball & Auto Race; Batteries for hearing aids and watches; Travel Alarm clock; Shuttle plastic model; Large U.S.S. Enterprise model; Steam iron; Smoke alarm; Children's stereo; Box of 18 greeting cards; Calculators; and Balsa wood. The Gift Shop needs volunteers for price comparison, for inventory suggestions, for publicity, and for book reviews. Contact Abe Leiss, ext. 2614.

BRIEFING ON JAPANESE PRODUCTIVITY. Harvey E. Buffum, Boeing Company executive, will give a briefing titled "Productivity Improvement: The Japanese Versus the United States." on Tuesday, December 5, in Building 1212, Room 200, beginning at 9 a.m. Buffum, who visited several Japanese manufacturers early this year, will compare Japanese and U.S. productivity, and present some Japanese methods for production improvement.

CHILDREN'S CHRISTMAS PARTY. The annual LAA Children's Christmas Party will be held Sunday, December 3, at the Activities Center. A variety show called "Christmas Frolics," featuring Bob and Jill will entertain the children with clowns, magic acts, cartoon drawings and games. Each child will receive a gift from Santa. Tickets are $1 each, and will be sold at the Activities Office or at the door. Two shows are scheduled at 1 and 3 p.m.

LAA OFFICERS Elected. The following people were recently elected to the Langley Activities Association Board for new terms: Ross Phillips, Vice President; Frances Hartman, Treasurer; Gwendolyn Gage, Arts and Crafts Chairperson; and Eugene Hicks, Social Chairman. Continuing their terms in office are: Herb Boulter, President; Margaret Hunt, Secretary; Ernie Green, Activities Chairman; Dana Morris, Children's Chairperson; and Billy Holliday, Building and Grounds Chairman.

5 Langley Researcher, December 1, 1978
NTF Forgings “Near Perfect”

The drive shaft and fan disk for the National Transonic Facility wind tunnel are nearing completion and are scheduled to be delivered to Langley in March or April 1979.

The two forgings are presently being balanced and assembled in Schenectady, N.Y.

The two components, which cost $1,540,000, are forged of nine percent nickel steel and are the largest forgings ever made from this alloy, according to Bob Berry, Fabrication Division. A forging is essentially a piece of metal hammered into shape while it is hot.

The two forgings were done at the Muroran Plant of Japan Steel Works, Ltd., measures 57 feet long and 69 inches in diameter. The shaft weighs 57 tons. The shaft is constructed of a special alloy consisting of nine percent nickel. The shaft and fan disk, also contracted by JSW, are the largest forgings ever made of this alloy.

The NTF is scheduled to be operational in June 1982.

Runners Do Well
In Intercenter Meet

Langley’s participation in the last Intercenter Meet reflects the increased interest in running throughout the nation. We had the largest group of entrants to compete since the meets were started in April 1976. If the increase in both quantity and speed continues, we will be on par with the running-oriented people of the west coast. From Langley, there were 60 men and 2 women participants in the 2-mile race and 39 men and 1 woman in the 10,000 meter (6.2 miles) race.

The NASA-wide meet included a total of 580 people in the 2-mile and 293 in the 10,000 meter events. Among the ten centers who competed in the 2-mile event, Langley finished sixth. Ames was first followed by JSC, Headquarters, JPL, Lewis, Langley, DFRC, GSFC, KSC, and MSFC. Langley finished fourth out of seven in the 10,000 meter event. Again, Ames was first followed by Lewis, JSC, Langley, GSFC, and DFRC.

Those from Langley who placed in the top ten in their age groups and thereby earned placing points are listed below. Everyone who entered helped us earn points by their participation.

Earl Dunham placed 1st in the 2-mile and 6th in the 10,000 meter, respectively. Rich Booth placed 9th in both. John Hoppe placed 4th in both. Don Humes was 1st in the 2-mile. Al Graham was 5th in the 2-mile and 3rd in the 10,000 meter. Al Wenzel placed 7th and 4th, respectively. Jim Robinson placed 8th and 3rd. Joe Kubalak placed 10th and 4th. Lucy Parks placed 7th and 2nd, respectively.

The next get-together sponsored by the Langley Runners’ Club will be held on Saturday, December 9. At 9:00 a.m. will be a 2 by 1 mile mixed relay (one man and one woman running 1 mile each). At least one member of the team must be a NASA or contractor employee. At 9:45 will be a 5,000 meter race open to all NASA and contractor employees and their families. If the participation is large enough, cross-country scoring will be used to determine which of the following groups is fastest: NASA (each directorate scored separately), contractors, or the at-large runners. Participants need only show up in front of building 1199 by the starting time to enter.
United States Air Force
Tactical Air Command Band

Christmas Concert
December 6 - 7:30 p.m.
Activities Center
FREE ADMISSION

The 564th Air Force Wind Ensemble, conducted by Captain Rackley, will perform a Christmas Concert that may be enjoyed by the entire family.

Sponsored by:
The Langley Activities Association
Checkless Deposits Can Be Made to LFCU

Langley Research Center is the first Civil Service agency to have its employee net pay transmitted on tape through the Federal Reserve System to the financial institution of their choice.

By using the new electronic funds transfer, Langley Federal Credit Union members can have their net pay deposited in their share or share draft account.

A share draft account affords overdraft protection and provides a duplicate record of all drafts made. At the end of each quarter, the shares in a draft account earn dividends at the same rate as a regular share account. A relatively new service of the share draft account is the use of "pre-authorized payments." This allows a member to pay any recurring bill automatically. For instance, if you make regular mortgage payments, you may authorize LFCU to honor payment drafts from your mortgage holder.

From December 1 to January 31, the Credit Union is offering a year’s supply of share draft books to members who open a draft account, sign up for a line-of-credit and have Payroll send their net pay to the Credit Union.

A retirement luncheon for Evelyn Allison, General Files, will be held on Wednesday, December 20, 1978. For more information call Arlene Evans or Barbara Newton, Ext. 3221.

FOR SALE

Articles

DOLLS - four hand made Holly Hobbie dolls; one each dressed in red, yellow, blue & white check, or orange, $21 ea. Call Geneva Weiner, 596-3648.

General Electric Refrigerator in EC, 14 cubic feet with freezer on top, $200 OBO, (4 yrs. old). Call 898-4727 after 5 p.m. weekdays.

Montgomery Ward’s Airline stereo record player w/detachable spkr., 3 speeds, tone control, great for 10-15 yr. olds, GC, asking $25; also, Sharp's AM-FM stereo w/8-track player and BSR phono, VGC, fine for young teenager, $60. Call Youngblood, 877-1224.

Vehicles

1977 Customized Dodge Van, beautiful black metallic paint with blue accent stripe, super-wide wheels and tires, and dual exhausts, interior is tastefully finished with all the extras including: 4 captains chairs, couch, bar, sunroof, CB radio, and AM-FM 8-track stereo, low mileage, like new, $7500. Call 722-2689.

One fourth ownership in 1960 Piper Comanche 250, IFR equipped, ownership incorporated, $4,000. Call Shaughnessy, 595-2024.

WANTED

Wanted to by back issues of "Tropical Fish Hobbyist" magazines - also aquarium fish books and pamphlets, Cali 887-0854 after 5 p.m.

Wanted to join or start car pool from Edgemill to West area on 8:00 shift, Reubush, ext. 2673.

Retirement Parties

Mary T. Lemke retired from government service on November 17, 1978. As a special tribute to her, a social hour and buffet will be held on December 19, from 4:30-6:30 p.m. in the Activities Center (Building 1222). The cost will be $4.50 per person (includes gift). Please forward your remittance to Frances Keeter, Mail Stop 309, by December 12. Contributions to the gift only are welcome.

CAFETERIA MENU

DECEMBER 4-8

MONDAY: Old Fashioned Bean Soup; Spaghetti Dinner; Fried Filet of Trout; Savory Baked Chicken, Snack Bar: Hot Italian Sausage Sub; Steak & Cheese Sub; Egg Salad Sandwich; Bacon, Lettuce & Tomato Sandwich.

TUESDAY: Bull Island Clam Chowder; Crab Cakes w/Tartar Sauce; Roast Beef & Au Jus; Spanish Omelette, Snack Bar: Hot Reuben Sandwich; BBQ Pork w/Slaw on Jumbo Roll; NASA Submarine; Roast Beef & American Cheese on Rye.

WEDNESDAY: Beef Noodle Soup; Fried Chicken Dinner; Franks, Bacon & Cheese; Beef Enchiladas, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Special; Steak, Onion & Cheese Sub; Bacon, Lettuce & Tomato Sandwich.

THURSDAY: Chicken & Rice Soup; Braised Chicken Livers Over Rice w/Onions; Beef Balls Stroganoff Over Noodles; Pepper Steak, Snack Bar: Grilled Cheese Sandwich; Ham & Cheese Club Sandwich; BBQ Pork w/Slaw on Jumbo Roll; Roast Beef & American Cheese on Rye.

FRIDAY: Vegetable Soup; Fish Dinner; Steak Smothered w/Onions; Baked Virginia Ham, Snack Bar: Deluxe Submarine; Hot Roast Beef on Jumbo Roll; Tuna Salad Sandwich; Turkey & Bacon Club Sandwich.

DECEMBER 11-15

MONDAY: Cream of Tomato Soup; Baked Lasagna; Teriyaki Baked Chicken; Clam Chowder, Snack Bar: Ham & Cheese Club; Egg Salad; Steak, Onion & Cheese Sub; Hot Reuben.

TUESDAY: Manhattan Clam Chowder; Braised Beef & Vegetables; Fried Filet of Trout; Wiener Burritos, Snack Bar: NASA Sub; Hot Italian Sausage Sub; BBQ Pork; Roast Beef & American Cheese.

WEDNESDAY: Vegetable Beef Soup; Roast Turkey Dinner; Meat Loaf; Braided Veal Cutlet, Snack Bar: Tuna Salad; Ham & Cheese Club; Steak & Onion Sub; Bacon, Lettuce & Tomato.

THURSDAY: Turkey Noodle Soup; Veal Parmesan; Baked Tuna & noodle Casserole; Broiled Beef Liver, Snack Bar: Hot Italian Sausage Sub; Ham & Turkey Club; Roast Beef & American Cheese; Hot Ham & Cheese.

FRIDAY: Ham & Lima Bean Soup; Fish Dinner; Chicken Enchiladas; Beef Pot Pie, Snack Bar: Hot Roast Beef; Turkey & Bacon Club; Deluxe Sub; BBQ Pork.
Highlights of
The Annual Honor Awards Ceremony
November 9, 1978

Photographs by Bob Nye
and Fred Jones

Dr. Richard T. Whitcomb, Subsonic-Transonic Aerodynamics Division, is presented Langley's highest honor, the H.J.E. Reid Award, for his paper, "A Design Approach and Selected Wind-Tunnel Results at High Subsonic Speeds for Wing-Tip Mounted Winglets."

Billy B. Dancy, and John D. Thompson, both of the Fabrication Division, received the Technology Utilization Award "for outstanding technical contributions in developing a miniaturized blood vessel tension tester for use in muscle response within the walls of blood vessels."

Dr. John D. Buckley, Fabrication Division, received the Technology Utilization Award "for significant technical guidance and fabrication support to numerous application projects and for promoting the transfer of NASA technology."
Outstanding Leadership Medals were presented to John P. Reeder (right), TCV Program Office, and Robert H. Tolson (center), Atmospheric Environmental Sciences Division. Reeder's citation reads, "For outstanding leadership in planning and conducting flight demonstrations of the Time Reference Scanning Beam Microwave Landing System capabilities, which verified the benefits of utilizing MLS in advanced airborne system." Tolson's citation reads, "In recognition of exceptional scientific achievement in conceiving, planning and leading the Phobos-Deimos Encounter Experiment. This experiment has resulted in the first detailed exploration of a minor solar system body, and has contributed significantly to our knowledge of planetary processes."

Charles M. Benjamin (left) and George D. Allison (center), received Langley's Public Service Award for their work with the Aeronauticsmobile and the Spacemobile. Their citations read, "For achievements beyond normal expectations in informing the general public, the aviation community and the education community of NASA's current and future programs and projects."

Dr. Charles W. Swain's Public Service Award was for "outstanding contributions to the establishment of a Learning Center for Langley Research Center, the coordination of the Career Development Task Force, and voluntary participation in a research project involving the Tech House."

Dr. Geraldine C. Darden received Langley's Public Service Award "for implementation and outstanding direction of the Hampton Institute/Langley Research Center Summer Faculty Fellowship Program which for the past three years has brought to the Langley Research Center well-qualified researchers from predominantly black colleges to conduct significant research of mutual benefit to NASA and their institutions."

Langley Researcher, December 1, 1978
Lula R. Agee, Office of External Affairs, received a NASA Exceptional Service Medal "For dedicated and exceptional service to the public and the employees of the Langley Center in the management of the Activities Center. Her effectiveness and efficiency have contributed significantly to the image of this facility."

George C. Saley, Structures and Dynamics Division, was presented the Outstanding Volunteer Service Award "for aggressive leadership in youth work in the Hampton Roads area through use of outdoor and sea experiences to enhance growth of character and capability."

Jess G. Ross, Management Support Division, was presented the NASA Equal Opportunity Medal "For significant accomplishments and outstanding contributions in the area of Equal Employment Opportunity through professional skill, leadership, personal dedication, sustained enthusiasm, and unceasing effort."

Marvin D. Rhodes, Structures and Dynamics Division, received Langley's EEO Award for "outstanding personal dedication in developing a high quality research program on effects of impact damage on composites at North Carolina A&T State University, thereby improving the education and employment opportunities at this institution."

Edward A. Howe, Financial Management Division, receives Langley's Equal Employment Opportunity Award "for actively supporting and achieving the goals of Equal Employment Opportunity for employees within the Financial Management Division."

3 Langley Researcher, December 1, 1978
F. Edward McLean, recently retired from the Aeronautical Systems Division, received a NASA Exceptional Service Medal "For exceptional service and dedication in the conduct of the NASA Supersonic Cruise Research Program, resulting in significant advances in the technology of Supersonic Cruise Aircraft."

Joseph L. Johnson, Jr., Subsonic-Transonic Aerodynamics Division, was presented a NASA Exceptional Service Medal "For exceptional scientific achievement in the conception, aerodynamic development, and refinement of the uppersurface blown flap concept for Short-Take-Off-Landing Aircraft."

Austin D. McHatton, Systems Engineering Division, was presented a NASA Exceptional Service Medal "For outstanding achievements in the development of techniques for handling, packaging, and deployment of membraneous structural elements in space. His contributions to the techniques of using thin film structural elements embrace advances from passive communications satellites to solar sails."

C. Wayne Williams, Scientific and Technical Information Programs Division received a NASA Exceptional Service Medal "For outstanding long-term service as Head of the Langley Publications Branch which supports Center and NASA-wide printing requirements with efficient, high quality and rapid response services. His direction has contributed to NASA's capability to disseminate information of its activities for the benefit of all."

Thomas D. Carpini, Instrument Research Division, received a NASA Exceptional Service Medal, "For outstanding contributions in the development, calibration, and application of a flowmeter to quantitatively measure Shuttle engine fuel flow under "POGO" conditions."

Thomas M. Walsh, TCV Program Office, received a NASA Exceptional Service Medal "For exceptional contributions in the development and verification of flight control theory which provided the capability of automatic operations of aircraft using signals from microwave landing systems."
"Give us, O God, the vision
which can see Thy love in
the world in spite of human
failure. Give us the faith to
trust Thy goodness in spite of
our ignorance and weakness.
Give us the knowledge that we
may continue to pray with
understanding hearts, and show
us what each one of us can do
to set forward the coming of the
day of universal peace. Amen."

The Apollo 8 went into orbit
around the moon early on
Christmas Eve 1968. On the
third orbit Col. Frank Borman
radioed this prayer from space.
Best Wishes to All

As we enter the holiday season we should be proud of what Langley people have done for others—the application of our research to aeronautics and space—the application of NASA technology and our expertise to others, such as the Virginia Resources Information System—personal contributions to the Combined Federal Campaign—voluntary services to the community—etc. We have much of which to be proud and for which we can be thankful. Best wishes to all during the Christmas season and Happy New Year!

Donald P. Hebard
Langley Director
I have two subjects this month—the Dual Ladder at Langley and the Director’s Discretionary Fund.

What is the Dual Ladder? The basic concept is that a scientist, engineer, or technician may progress in his/her career on either a purely technical path or a path that results in a supervisory or management position. I believe that a dual ladder is particularly important in a research laboratory such as Langley—there must be opportunities for highly qualified technical people to advance to high grades without becoming supervisors. Under the dual ladder concept, a person does not have to become a supervisor to “get ahead.”

At Langley, we have always had a dual ladder for our scientists, engineers, and technicians. A recent examination of the Center’s GS 14 and 15s showed that about one-half are performing purely technical tasks. The other half are supervisors or managers who have both technical and administrative responsibilities. Our technician workforce contains a large number of “senior craftsmen”—people who are above the journeyman grade level and are not supervisors or managers. These results clearly show that Langley still has an effective dual ladder. My intention is that future promotion policies and practices continue to insure an equitable dual ladder at Langley.

A few months ago, I announced that the NASA Administrator had established a Center Director’s Discretionary Fund; a total of $250,000 has been allocated in FY 79 for Langley. An increase in future years is a possibility. Research proposals to be funded by the Discretionary Fund may now be submitted consistent with the following:

- The research is to be conducted primarily in-house. Research grants and contracts may be used to support the in-house effort.
- The funds will cover IMS as well as R&D costs.
- During FY 79, the maximum funds available for any single research effort is $50,000.
- Proposals may be submitted at any time during the year.
- Proposals are to be submitted simultaneously to me and to the proposer’s line management. Each proposal will be evaluated in a method appropriate for the particular proposal (this will, in all cases, include the proposer’s line management). After evaluations I will select the proposals to be funded.
- The proposed effort may cover a period of up to two years. Approval for more than one year is contingent upon satisfactory annual progress.
- Proposals should be brief and include the following:
  - Statements describing the idea, the research plan, the expected impact of a successful effort, and the relationship of the proposed research with previous and ongoing research at either LaRC or elsewhere.
  - A statement explaining why the proposed research is not funded by the normal process.
  - A resource statement in terms of direct manpower (Civil Service and Non Personal Contractor Support) by division and R&D dollars broken by category, (IMS, computer time, hardware, etc.).
- The Programs and Resources Division will assign, for each approved task, a job order for resource reporting purposes.
- Written and oral progress reports will be required on an annual basis.
- Dr. Wayne Erickson will assist me in the administration of this fund and in the monitoring of the approved research tasks.

I view this fund as an excellent opportunity and look forward to proposals for creative and innovative research. Please contact Dr. Erickson if you have any questions.

Thank You

We, the members of the Mary M. Bates family, wish to acknowledge and thank all those people and co-workers for the many acts of kindness that were rendered during this bereavement period.

Many, many thanks, Ken Scott, Marshall and Keith Bates

Sam Plott writes, “I would like to thank my friends for a wonderful retirement party and many gifts. Not only do I thank you for the party and gifts, but for the association through the years. That made my life and career at Langley Research Center meaningful. All these will be such a great pleasure to remember.”

Deadline Notice

The next issue of the Langley Researcher will come out on Friday, January 12, 1979. The deadline for this issue will be Friday, January 5, 1979.

Aerospace Penpoints by Wesley Berryman

Wright Brothers First Flight Anniversary
1903-1978

Aerospace Penpoints, will be a monthly feature of the Langley Researcher. If you have a saying or quotation you would like to see in this column, please call Wesley Berryman on extension 3344.

3 Langley Researcher, December 15, 1978
Activities to Commemorate 75th Anniversary of Wright Brothers Flight

Special ceremonies will be held at Kitty Hawk, N.C., this Sunday, December 17, to commemorate the 75th anniversary of the Wright brothers’ historic 1903 flight.

The ceremony will begin at 9:30 a.m. at the exact site of the first successful powered flight, outside the Wright Memorial Visitor Center at Kill Devil Hills. The ceremony is sponsored by the National Park Service and the First Flight Society, with assistance from NASA-Langley.

U.S. Attorney General Griffin B. Bell will represent President Carter at the ceremony and give the main address. Secretary of Transportation Brock Adams and National Park Service Deputy Director Ira J. Hutchison will also speak to an anticipated audience of 10,000 people.

Langley Director Donald P. Heath will represent NASA at the ceremony.

A recreation of the Wright brothers’ first flight will be attempted as part of the commemorative activities.

At 10:35 a.m., the exact time that Orville and Wilbur Wright opened a new era in transportation, Ken Kellett of Boulder, Colo., will restage the successful Wright flight with an almost-exact reproduction of the Wright Flyer. Kellett, a 25-year-old aviation enthusiast, almost single-handedly built the full-scale reproduction in Denver under the auspices of a non-profit organization called “Quest for Flight.”

Concluding the morning ceremony will be two military fly-overs of the Wright Memorial monument, located atop Kill Devil Hill beside the Visitor Center.

At the same time, descendants of witnesses at the first flight and relatives of the Wright brothers will place memorial wreaths around a boulder that marks the take-off point of the famed 1903 flight. The boulder was originally placed and dedicated by the National Aeronautics Association in 1928.

Other activities planned to mark the 75th anniversary include:

- A week-long educational program, conducted at the Wright Visitor Center by a lecturer from NASA-Langley and by representatives of the National Park Service. School children from the surrounding area will be bused to the lectures, which will be interpretive programs on the history of flight from early attempts to today’s space missions.

- A special presentation on the history of Orville and Wilbur Wright by Charles H. Gibbs-Smith and Paul Garber, historians from the Smithsonian Institution’s Air and Space Museum and experts on the Wright brothers and their accomplishments. The presentation will begin at 3 p.m. Saturday, Dec. 16, at the Wright Visitor Center.

- The U.S. Hang Gliding Association will sponsor a national “fly in” at Jockey’s Ridge State Park, just south of Kitty Hawk, Dec. 15-17. The association represents more than 10,000 hang gliders in the U.S., Canada, Mexico, and Europe.

- Francis Rogallo, former Langley researcher and inventor of the Rogallo Wing used in hang glider construction, will conduct seminars in glider experimentation during the three-day meet. Dennis Pagen, national hang gliding champion, from Hyner, Pa., will participate in the seminars.

- The First Flight Society will hold its annual luncheon meeting in Nags Head, beginning at noon Dec. 17. Gibbs-Smith will deliver the keynote address.

During the meeting, Sen. John H. Glenn, Jr., the first U.S. astronaut to orbit the Earth, will be inducted into the First Flight Shrine, an honor presented by the First Flight Society. Glenn’s portrait will join those of other flight pioneers in the Wright Memorial Visitor Center.

- A two-hour television special, titled “The Winds of Kitty Hawk,” will be presented by NBC Sunday, Dec. 17, beginning at 8 p.m. The production is a dramatization of the unheralded work of the Wright brothers that led to their momentous achievement.

If you plan to drive to the area, the route is clearly marked with direction signs to Nags Head and Kitty Hawk. Get on Interstate 64 East and drive around Norfolk, exiting onto State 168. Change to U.S. 158 near Barco, N.C., and take the 158 Bypass to the Wright Memorial Visitor Center, located on the right side of the highway.

Driving time is about two hours, but a crush of traffic is expected around the Visitor Center on Sunday morning, so a very early start is recommended.
From "Flyer" to Viking

"I am intending to start in a few days for a trip to the coast of North Carolina...for the purpose of making some experiments with a flying machine. It is my belief that flight is possible..."

When Wilbur Wright wrote this news to an acquaintance in 1900, he and his brother Orville were still three years away from achieving their goal, and almost no one else in the world shared their belief that powered flight was a possibility.

But the persistence of these two men, aided by their family and a few friends, kept them at their quiet struggle against all known odds until they succeeded in proving that man could propel himself through the air in a flying machine.

For three years the Wright brothers traveled between their home-made wind tunnel in Dayton, Ohio, and the wind-swept sand dunes just south of Kitty Hawk, N.C., to experiment with gliders and what they called the "flyer."

At 10:35 a.m. on Thursday, December 17, 1903, at a place called Kill Devil Hills, Orville Wright (by a toss of a coin) became the first man to pilot a powered craft through the air.

This Sunday, December 17, marks the 75th anniversary of the Wright brothers' achievement, a moment in time that began man's conquest of the air and ultimately led him to leap beyond the barriers of Earth.

From that modest 12-second, 120-foot-long first lunge into the air came a change in human life so profound that neither Orville nor Wilbur Wright, with all their vision, could hope to comprehend it.

But that first flight made almost no immediate change in anyone's life. Few newspapers printed the story, many people thought the Wright's claim was a hoax, and most of the world's people never even heard about the flight until years later.

The tiny tribe of aviation enthusiasts in the United States and Europe were interested in the event, of course. One man who had a special interest was Dr. Samuel Pierpont Langley, Director of the Smithsonian Institution and an aviation pioneer.

Dr. Langley had been trying for several years to fly his own design for a heavier-than-air craft, which he called an "aerodrome." His most recent attempt, which ended in frustration as his aerodrome broke in half and sank into the Potomac River near Washington, was made on December 6, 1903, only 11 days before the Wright's success.

The brothers continued to develop improved versions of their Flyer, demonstrated it in the U.S. and Europe, and gradually received recognition for their achievement.

But the U.S. government did not buy a Wright plane until 1909, and by the time World War I began in Europe in 1914, the U.S. had a total of 23 airplanes, ranking it far below many other nations in airpower.

In 1915, with airplanes becoming weapons of war over the trenches in France, the U.S. government established its first aviation research agency, the National Advisory Committee for Aeronautics (NACA). Orville Wright became a member of that Committee in 1920 (Wilbur died in 1912), and served until his death in 1948.

After a belated beginning, the United States made strong headway in aeronautical advancements. NACA's first research laboratory, named in honor of pioneering Dr. Samuel Langley, was established in 1917 as the Langley Memorial Aeronautical Laboratory.

For more than 40 years, the Langley facility developed innovations and research methods that made airplanes fly more efficiently, safer and at greater and greater speeds. It also spawned four other research and flight centers around the country.

Already edging into space with the X-15 supersonic aircraft, the NACA research centers became the nucleus of America's new space agency, NASA, the National Aeronautics and Space Administration, in 1958.

Since that time, NASA's accomplishments in space have been heralded throughout the world, from the first experimental satellites, through the Apollo lunar landings, to today's planetary explorations of Mars and Venus.

But NASA's aeronautics research has continued apace. Almost every airplane flying today incorporates some facet of research born at a NASA center. And today's NASA engineers are working to make aircraft quieter, more fuel-efficient, and still safer to operate, especially in crowded terminal areas.

And two stubborn Americans, ignoring the odds and keeping fast to their dream, started it all 75 years ago on an isolated sand spit near Kitty Hawk.
**Happenings**

**ONE-DAY SKI TRIPS.** The following one-day trips are being planned: Jan. 11—Bryce Mountain; Jan. 18—Wintergreen; Feb. 1—Bryce Mountain; Feb. 8—Wintergreen; Feb. 15—Massanutten; Feb. 22—Bryce Mountain; March 1—Wintergreen; March 8—Massanutten; March 15—Bryce Mountain. The cost of the trip is $25, which includes transportation, lift and rentals (if you have your own equipment, the cost is $4 less). The bus leaves Newmarket South at 5 a.m. and returns at 9 p.m. For further information, call Richard Bennett, 599-6293.

**TWO-DAY SKI TRIP.** A special two-day midweek trip to Snowshoe is planned for Thursday and Friday, January 25 and 26. The cost will be $75 for 2 days of skiing, lift tickets, equipment rental, lodging and transportation. The bus will leave at midnight on Wednesday, Jan. 24, from Newmarket South; arrive at Snowshoe on Thursday morning, ski all day; spend the night; ski all day Friday, starting for home Friday at 6 p.m. Call Richard Bennett, 599-6293 for information.

**CAVALIER TOASTMASTERS.** The Cavalier Toastmasters Club is seeking several new members. They meet the first and third Tuesdays of every month at the Holiday Inn. If you are interested in becoming a better speaker, investigate this opportunity. "How many times have you wanted to speak up but didn't, simply because you felt you could not phrase your thoughts in a coherent manner?" Toastmasters can help. For further information, call H. J. Dell at 850-1205 or Joe Boyle at 723-3400.

**GIFT SHOP NEW STOCK.** New stock at the Employees Gift Shop are: Lionel racing cars and track; latch hook pillow and rug kits; steam irons; toasters; juicers; cassette decks; stereos; NASA business cards on special order; Bushnell binoculars; space models; miniature doll furniture; Xacto tools; styrofoam 747 airliner; Kodak film; and book: Peninsula Bunch.

**TOASTMASTERS.** If you need to improve or maintain your public speaking and leadership skills, then join Toastmasters. The TAC Air Toastmasters Club is increasing its membership. TAC Air meets each month on the second and fourth Wednesdays at the Langley Officers Club. For more information, call Bob Lee, ext. 2486; Jim Moss, ext. 3770, or Andy Srokowski, ext. 3736.

**HONEY BUNCH.** The NASA-Langley Apicultural Club will hold its regular monthly meeting at the Activities Center on December 18, 1978, 7–9 p.m. After a short business meeting a program of open panel discussion to define and implement club objectives during 1979, and to organize community activities such as demonstrations at schools and fairs. Mr. Rudy Goodrich will show a slide set of honey bees working local plants. Bee equipment and spring preparations will also be discussed.

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**Thanks**

Elmer J. Wolff "would like to express my sincere appreciation to all who honored me at the retirement dinner on November 30. I shall not forget the many great associations that I enjoyed during my career at the Langley Research Center."

**Retirees Corner**

Peggy Lail, Langley retiree, sends a note from Sunny Florida, "To all my friends at NASA, Merry Christmas and Happy New Year!"

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**Vegetable Gardens**

Anyone not already on the waiting list who wants a vegetable-garden plot in 1979 at the Center must send a note to Martha Norman, M/S 249B, by January 10, 1979. The following information must be included: name, mail stop, office phone number, home phone number, size of plot, color of corn if corn is to be planted, and willingness to plant Club-provided flower seeds along one border. Basic plot size is 20'x20' and new members are usually limited to no more than a total of 20'x40'. Plot areas are segregated according to corn color to reduce cross pollination.

Water is available. Members must provide their own fertilizing and liming. Cost will not be finalized until 1979 but will probably not exceed $7/20'x20' for new members. Each Club member must also contribute time to community chores such as staking, stringing, and installing and maintaining water lines.

Current members must return their December renewal forms to Martha by December 19.

**Recent Retiree**

Mary T. Lemke, Personnel Division, retired on November 17.
T'was the night before Christmas
and all through the flat
Not a creature was stirring
but the upstairs brat.
The stockings were hung
by the chimney with glue
And we hoped that St. Nick
wouldn't get stuck in the flue.
The children were nestled
all snug in a cot,
Some of 'em sleeping
but most of 'em not.
While maw in her 'kerchief
and I in my gown
Had raided the icebox and
were just sitting down
When in the apartment above
there arose such a clatter
I sprung up and dropped
my teeth in the platter.
Away to the window
I flew like a flash,
Tore open the shutter and
threw up the hash.
The moon on the breast of
the new fallen rain,
Made Mercury Freeway look
like a broken water main.
When what to my bloodshot eyes
should appear
But a coupla sleighs and
sixteen reindeer.
When I saw the old driver
I dropped the bottle quick
Because even I knew
it must be St. Nick.
More rapid than Monday
these deers they came
And he whistled and shouted and
called them by name.
"Hey Dasher, Dancer, Prancer,
and Vixon,
On Comet, on Cupid, on
Mason and Dixon.
To the top of the porch,
to the top of the wall,
And do be careful,
I don't want to fall!"
Then as I looked up
high on the roof,
I said to myself now
I've had enoof.
I heard a dog bark
so I turned around
And down the chimney
St. Nicholas came with a hound.
He was dressed all in fur
from his feet to his head
And his clothes looked like he
had worn them to bed.
His feet were muddy and
he tracked everywhere,
The maid would be mad
but he didn't care.
He was a funny little man,
a right jolly old soul
But he swore when he stepped
on a red hot coal.
His droll little mouth
was nothing to view
And his beard was so heavy
it was hard to chew.
A stump of a pipe
he held in his teeth
And the smoke was so dense
you couldn't seeeth.
His eyes how they twinkled,
his dimples so big,
His cheeks were like roses,
his nose like a fig.
He had a broad belly and
a little round smile
And he shook when he laughed
like jelly in a pile.
He filled all the stockings
'til they were quite big
And when he had finished
he lit up a cig.
Then to the chimney
stepped the big bloke
And up it he went
like a cloud of smoke.

Job Openings

The following Merit Promotion
Announcements are currently open:
(Because of the employment freeze,
consideration will be limited to
permanent employees of the Langley
Research Center.)
78-86 - AST, Aerostructural Dynamics;
Aerospace Engineer; GS-861-11; Systems
Engineering Division; Engineering Analysis
Branch; Structural Analysis Section;
78-87 - Supervisory Management
Analyst; GS-343-12 or 13; Management
Support Division; Management Analysis
Branch; Closes December 27, 1978.
78-88 - AST, Electrical Experimental
Equipment; Electrical Engineer; GS-850-7;
Research Facilities Engineering Division;
Systems Design Branch; Facilities
Electrical Section; Closes December 27,
1978.
78-89 - Supervisory Inventory
Management Specialist; GS-2010-9;
Management Support Division; Property
Management Branch; Equipment
Management Section; Closes December

He jumped to his sleigh
with a leap quite nift
And off he sped
like the 4:30 shift.
But I heard him exclaim
as he drove out of sight,
"Merry Christmas to all
and to all a goodnight!"
Riding combination from Hidenwood area of cross that has been shown. English Hunter but gelding, $175 or also rides Western, his sire was Dominion Star, $375; Kraftman classical 6 string guitar, GC, needs new strings, $15. Call Kay, 851-6908.

Skki equipment—three pairs of ski bindings (Marker rotamat—$30; Marker elastomat—$20; Look flash—$10); one pair of lady's Lange ski boots (size 6½ medium)—$15. Call Rod Ricketts, 955-8309.

Baby dresser/changer, crib, playpen, baby seat, stirs sewing machine, royal electric portable typewriter, sofa and chair, bed. Call 599-4194.


2'12 yr. old, 15.2 hands- Thorobred-quarter gelding, $125; 1 1/2 yr. old, $300. Call 874-3660.

A retirement luncheon for Dickie Bridger, Bob Green and Ogie Hayes will be held on January 10, at 11:30 a.m., in the Activities Center (Building 1222). Cost is $5 per person or $9 per couple (includes gift). Donations of $1 for gift only are welcome. Make checks payable to Jack Fryer and send to Jack at Mail Stop 284A (ext. 2271). Cost is $5 per person or $9 per couple. There will be a cash bar. Call Sue Grafton or Clara Simmons at 2184 for reservations.

A retirement luncheon for Stanley E. Pearson on January 17, 1979, at 11:30 a.m. in the Activities Center (Bldg. 1222). Cost will be $5 per person (including gift). Contributions for gift only are welcome. Send reservations to Elise Eason or Carl Smith, ext. 2901, M/S 233, by January 10, 1979.

Newport News to West area on 7:30 shift, Call Gale Wilson at 827-3551 or 596-3991.

Will the person who borrowed U.S. Coast and Geodetic Survey Publication 68 “Elements of Map Projection” please return it or call me. Garine Stevens, ext. 3621, M/S 246B.

Storm windows, used, sized 33X64 but can be made slightly smaller. Curfman, 723-2464.