

Springtime is savings bond time

It's the month of May and once again time to be thinking of saving.

Dr. Hans Mark, Ames Director, appointed Alvin Hertzog, Assistant Director of Administration for Management Analysis, to be the 1974 U. S. Savings Bond Drive Coordinator. The campaign will take place during May.

Each division chief will be requested to appoint a division coordinator in addition to canvassers for approximately every 30 employees.

Hertzog reminds Ames employees that, "The interest rate of Savings Bonds has been increased to 6%. Bonds have real tax savings when used for education of your children or for retirement purposes."

Use of satellite in flood monitor

A versatile satellite that has been found effective in studying Earth's resources over land and sea is also proving its usefulness for flood monitoring.

That is the conclusion of NASA scientists at Goddard Space Flight Center and U. S. Geological Survey scientists who studied satellite pictures of the Mississippi River Basin taken before, during, and after the 1973 floods.

Pictures were returned by the imaging sensors on board the Earth Resources Technology Satellite-1 (ERTS-1) launched by NASA into a 570 mile polar orbit in July 1972. The overall conclusion of the scientists is that repetitive satellite imagery is an effective, economical and accurate tool for flood monitoring.

"Never before has such a complete picture of flooding on a major stream been observed as was the case with ERTS-1 observations of the Spring 1973 Mississippi River flood," reported the Goddard men, Albert Rango and A. T. Anderson.

They found:

*By having a comprehensive picture of flooding over the whole river valley, areas of maximum flooding extent can be determined, thus focusing initial relief efforts on these hardest hit areas without having to wait for incomplete reports from various sources.

*Locations where additional flood control works may be necessary in the future are easily seen on the ERTS pictures by observing, for example, that flooding was more extensive on the Mississippi River tributaries than on the main stem. (Continued on Page 2)

Solution sought for aircraft noise level

The noise of today's jet aircraft engines is often very disconcerting and annoying to people living in communities surrounding an airport such as San Francisco's International Airport or San Jose's Municipal Airport. Conversations stop, ears ring, and nerves shatter when an aircraft takes off and becomes airborne. Citizens have consequently

of aircraft. Research is currently in progress on the problem of noise transmission through ducts with compressible mean flows. Small-scale experiments are planned in order to validate various theoretical predictions for reducing noise transmissions from ducts.

Now that modern technology has quieted the jet engine, the noise from the

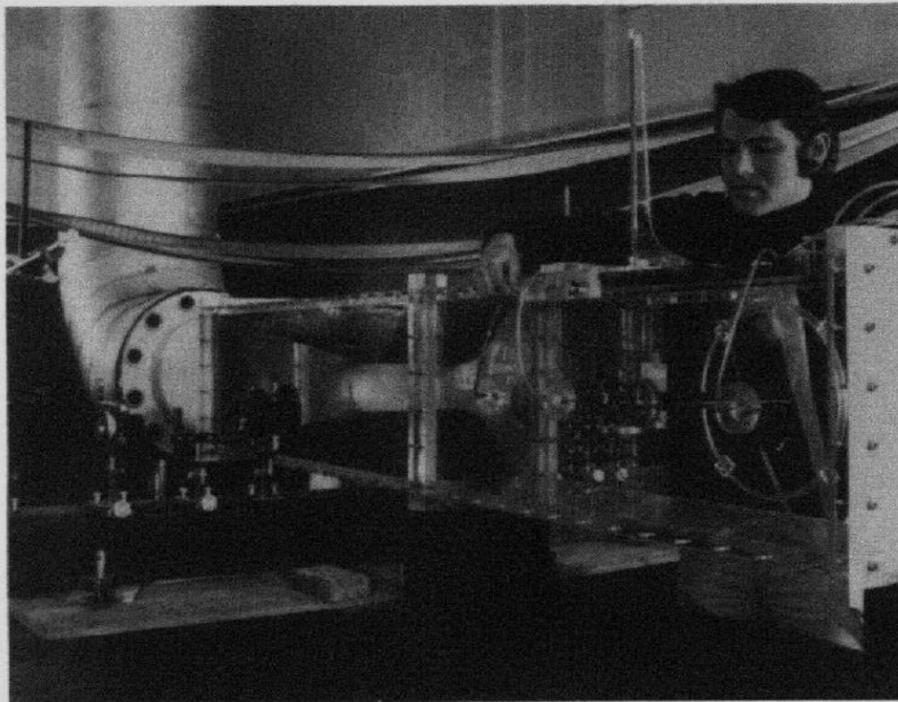
50,000 cubic feet per minute.

King is heavily involved with the third task which includes formulating an efficient computer program for calculating the effects of duct lining, area variations, and steady flow on the sound field emitted by an engine-nacelle combination. The computer program will serve as a useful tool for engine designers who must assess the effects of individual engine components or acoustic treatments on the entire engine-nacelle system.

Schwartz is mainly concerned with the program task which will determine the noise suppression potential of swirling flow on both hot and cold jet flows with induced temperature and density gradients. Results of preliminary experiments conducted in 1973 have shown that the noise emitted by a small fan jet engine can be reduced by swirling the jet exhaust. Tests are currently in progress using full size engines to fully assess the merits of this technique for noise reduction.

In many cases, atmospheric turbulence has a measurable effect on the propagation of aircraft noise. The tur-

(Continued on Page 2)



DR. SANFORD DAVIS . . . of the Aeronautical Structures Branch is shown with the 25 X 35 cm Acoustic Test Apparatus he designed for testing theoretical results of aeroacoustic research.

become concerned about the noise (and pollution) level of today's commercial airlines. They have demanded that something be done to reduce the noise level.

Many government agencies have responded to public concern within the past three or four years and have consequently established basic noise research projects.

The Federal Aviation Agency (FAA) will soon be requiring military and commercial aircraft to meet stringent noise regulations.

Ames is one of the many government agencies selected to perform basic noise research. Some of Ames work is being done within the Aeronautical Structural Branch by the "Aeroacoustics Research Group" which is headed by Dr. Sanford Davis. Other group members include Ames employees Lyndell King and I. R. (Bob) Schwartz; National Research Council (NRC) Fellow Al Wenzel, Assistant Professor at the University of Miami; and University of Santa Clara professor Dr. Dah Yu Cheng.

The program currently involves five tasks which are essentially centered around studying the mechanisms involving the generation of noise and how to suppress the noise, i.e., noise reduction

airplane itself is rearing its ugly head. An air flow-air foil interaction noise investigation is a second task to which the aeroacoustics group is directing its efforts. This program studies both theoretically and experimentally the process by which an airfoil converts a nonsteady streaming flow into a propagating acoustic wave. The results of this investigation should be applicable for defining design parameters for reducing noise from the airplane itself as well as from flapped airfoils, augmentor wings, and fan or compressor blading. The theoretical results are being confirmed in an experimental study in a 25 X 35 cm Acoustic Wind Tunnel.

Dr. Davis designed the one-of-a-kind Acoustic Wing Tunnel and the Ames model shop constructed it. The walls are fabricated of fiberglass with 1/4-inch lead sheet sandwiched in between to deaden the sound. The rest of the tunnel is constructed of 1-inch thick lucite (plastic). The idea is to get a high quality air flow which is not contaminated by the noise of the drive compressor. The apparatus is located in the main shop area of Building 227. It is an indraft type wind tunnel and it sucks in the air from the room up to

Kourtides plans conference

Demetrius A. Kourtides, Technical Assistant to the Chief, Chemical Research Projects Office, was cited in "Plastics Engineering" magazine for his voluntary contributions in helping to plan the Plastics Engineering Society's Annual Technical Conference (ANTEC), scheduled for May 13-16 at the San Francisco Hilton hotel. Kourtides worked with George P. Koo of the Stanford Research Institute in planning this year's ANTEC.

"Plastics Engineering" is the official publication of the 17,000-member international Society of Plastics Engineers. Both men are vice technical chairmen of the ANTEC, which is expected to attract 2,000 plastics engineers and scientists from many parts of the world.

Kourtides performs chemical engineering and technical management functions on research and development projects. He has published a NASA Technical Memorandum on "Function, Accomplishments, and Programs," and has authored other technical publications.

Dr. John A. Parker, Chief of the Chemical Research Projects Office here at Ames, is the technical program chairman for ANTEC this year.

AIAA/ARC Galileo Scholarship donations and finalists

The Galileo Memorial Scholarship Program was established by the San Francisco section of the American Institute of Aeronautics and Astronautics and the Ames Research Center shortly after the Convair 990 Galileo accident on April 12. The scholarship program is set up to assist and encourage high school seniors to pursue careers in engineering, mathematics, or the physical or natural sciences and is a memorial to the eleven men who perished with the aircraft.

At least one \$500 scholarship will be awarded annually.

This year's scholarship was open to high school seniors who were either resi-

dents of San Francisco, San Mateo, Santa Clara, or Santa Cruz Counties or children of Ames Research Center career employees, retirees, on-site support service contract employees, or Galileo crew members. There were over 60 applicants to the scholarship this year. Five finalists have been chosen. Next week, one of the five finalists will be selected to receive the scholarship for 1974. This year's Selection Committee includes the following people: Mamoru Inouye, Ames STT; Robert Cameron, SSO; Earl Watson, FAA; and James Mulkerin, Lockheed.

The Selection Committee will determine the winner of the Scholarship



THESE 5 STUDENTS . . . are finalists for the 1974 AIAA/ARC Galileo Scholarship. They (and their respective high schools) are, from left to right: David Shapiro, Fremont High School; Gordon Stitt, Aragon High School; Kathryn Yamada, Monta Vista High School; Michael Shin, McAteer High School and Steven Kazerski, Homestead High School.



MAMORU INOUYE (FRONT ROW, FAR LEFT) . . . Chairman of the San Francisco Section of the American Institute of Aeronautics and Astronautics (AIAA), accepts a check donation from Frank Schroeder (front row, middle) and Jack Watson (back, right) of Northrop Corp. for the AIAA-ARC Galileo Memorial Scholarship.

Looking on are Ames Director Dr. Hans Mark (back, left) and Chief of the Airborne Science Office Donald R. Mulholland (front, right).

Inouye represents both the AIAA and ARC. He is part of the Computational Fluid Dynamics Branch at Ames.

Solution of noise

(Continued from Page 1)

bulent atmosphere includes an incoherent fluctuating wave in addition to the incident (or coherent) wave emitted by the aircraft. This fifth and final project will investigate the relative importance of the coherent and incoherent waves due to the presence of a simulated aircraft noise field propagating through the real atmosphere. Wenzel is doing the majority of the work on this task.

The researchers are projecting that a completion date for all of the studies on noise-reduction investigations be within the next three years. Findings, however, may naturally show that more studies in related areas will be necessary.

The projects described above are being coordinated with the overall plan for the Stanford-NASA Joint Institute for Aeroacoustics under the direction of Stanford Professor Krishnamurty Karamcheti and Ames' Assistant Chief of Large-Scale Aerodynamics Branch, David H. Hickey.



RICHARD DICK (MIDDLE) . . . Engineering Manager for the Ames Division of ARO, Inc., presents a check to Inouye (right) of the AIAA and Ames Research Center for the AIAA-ARC Galileo Memorial Scholarship. Dr. Hans Mark looks on with a very pleased expression.

on the basis of the following items:

1. An essay, limited to 1200 words, which describes the career that the applicant intends to pursue and the proposed course of study in engineering, mathematics, or the physical or natural sciences. Explain the motivation for the choice, describe any special interests, and the accomplishments expected.
2. Scholastic standing as determined by grade-point average and/or Scholastic Aptitude or other college entrance test scores.
3. Letter of recommendation from a faculty member who has personal classroom knowledge of the applicant's abilities.
4. Interview of finalists by the Selection Committee.

Use of satellite

(Continued from Page 1)

*The regional approach using ERTS pictures, although not exact in delineating specific field and boundary locations, can be extremely useful in aiding in flood recovery efforts.



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The practical, determined, acquisitive Taurean loves comfort, pleasure and beautiful things. You strive to possess whatever fulfills these needs. Your sound financial sense tells you that the practical way to save for the good things of life is with U.S. Savings Bonds through Payroll Savings.

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astrogram

The Astrogram is an official publication of the Ames Research Center, National Aeronautics and Space Administration, Moffett Field, California, and is published bi-weekly in the interest of Ames employees.

Editor Meredith Moore
Reporters NASA Employees

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12 Tech Brief Awards



On April 23, Ames scientists and engineers received awards for work announced in the form of 12 Tech Briefs. Dr. Alan B. Chambers, Technical Assistant to the Director, made the presentations at a ceremony in the Director's Conference Room.

The award winning employees and their papers are (left to right, back row): Thomas N. Canning, PDS, "Bimetallic Devices for Stirring Fluids"; Ray M. Elam, Jr., RSC, "Method for Casting Polyethylene Pipe"; Charles Chackerian, Jr., SSA, "Detection for Nitric Oxide Pollution"; Hubert C. Vykukal, LTC, "Space Suit May Have Orthotic Applications"; Vard B. Holland, FSV, "Circuit Permits Independent Adjustment of Gain and Offset at Constant Input Impedance"; Ralph W. Donaldson, Jr., RFD, "Microminiature Gas Chromatographic Column"; (front row) William W. Ashley, PR, "Cutting Thin Sections of Bone"; Alvin H. Heimbuch, SC, "Chemical Modification of Poly (p-Phenylene) for Use in Ablative Compositions"; Lester Feinstein, STS, (RET) "Nondestructive Testing of Microtab Welds"; Theodore J. Wydeven, Jr., LTC, "Catalyst for Sodium Chlorate Decomposition"; David D. Feller, LRE, "Automated Method for Study of Drug Metabolism"; and Dr. Alan B. Chambers.

Those not pictured and their Tech Briefs are: Ronald J. Hruby, FSV, "Nondestructive Testing of Microtab Welds"; Thomas M. Walsh, FSV, "Interferometric Rotation Sensor"; and Dr. John A. Parker, SC, "Chemical Modification of Poly (p-Phenylene) for Use in Ablative Compositions."

"Practice makes perfect"

Each month the Ames Safety Office performs a practice drill on some aspect of safety as it relates to the Center.

Last month an exciting fire preplanning drill took place on the roof of the cafeteria. The Ames Emergency Crew and eight firemen from the Navy Fire Department at Moffett Field participated in arresting a simulated grease fire atop the building where Ames employees eat daily. Two fire trucks plus the Fire Chief responded to the practice emergency. A volunteer casualty "victim" was also used in the drill.

The Safety Office strives for realism in its drills because, as Safety Officer John Habermeyer says, "It's important for participants to gain experience and efficiency with as much realism as we can obtain. We all work hard to insure that everyone here at the Center is safe from all possible hazards. Everyday we face and conquer new and different emergencies, from gas leaks and floods to chemical spills and providing first aid to injured personnel. In this particular fire drill we used a photographer to film a training movie. We're planning to produce a training film which will be extremely helpful in enlightening anyone viewing it as to not only what is involved in putting out a fire but also how personnel should evacuate a building and stay out of the way of the fire department."

The training film has already emphasized points which one would normally not consider and the Fire Department has used edited sections to train personnel as to better methods. It's not just fun and games since hoses are extremely heavy to haul up two stories with a heavy back pack breathing unit, wearing heavy boots, and turnout coats. After the fire there is much tedious work to be done such as rolling up and completely drying out the long hoses before they can be used again.



RESCUE WORKERS . . . Paul Wagner (left) and Marvin Raby of the Ames Emergency Crew, wait for Navy firemen to quickly climb to the roof of the cafeteria.

Active Ames retiree

Instructor Don Goodsell thoroughly enjoys his retirement days which will number 1,095 (3 years) in July of this year. Goodsell, who worked in the electronics area at Ames for 25 years, teaches a 6-week soldering class at Ames to students enrolled in Mountain View/Los Altos Adult Education. The current class is held 3 days a week from 9 a.m. to 12 noon and the popular class presently has eight extremely enthusiastic enrollees, according to Goodsell.

NASA specifications are taught in the adult education class. They are the highest standards in the area. At the end of the 6-week class, each graduating student receives a certificate. In the soldering work field the NASA certificate of graduation gives an individual top job preference and employment will be more readily available. Various local engineering firms, who at times serve as contractors to NASA-Ames, prefer soldering employees who are trained by NASA. This naturally makes the class extremely appealing to people who wish to learn the art of soldering and obtain a job.

Each of the present enrollees has already been promised a job by nearby firms once he has secured his soldering certificate.

Goodsell's busy retirement days are quite rewarding to the NASA instructor/examiner. He holds a high school teaching credential because of his numerous years of work experience in soldering. He receives a tremendous amount of self-satisfaction from teaching the soldering class. Goodsell states that each student is highly motivated and works hard. He says, "The entire experience is extremely fulfilling for me. It's really an excellent way for me to express myself — especially my ability — in a positive way. I become as enthusiastic as the students because 'I'm doing my own thing.' I realize that a great deal of the motivation on the students' part occurs because of the job possibilities at the end of the 6-week period and because the students are there because they want to be there."

Goodsell is also a flight instructor and has taught many Ames employees to fly a light airplane. He is obviously an active person. His philosophy towards retirement can essentially be summed up by his statement that, "In order to be happy in retirement a person must still have energy and enthusiasm to get set up in a manner where life continues to be creative and interesting. In this way, retirement days can make life totally worthwhile and extremely rewarding."



DONALD GOODSSELL, AMES RETIREE, INSTRUCTS STUDENTS . . . in soldering techniques. The group is nearly "guaranteed" a job once they obtain a certificate of graduation from Goodsell. The individuals, from left to right, are: Violeta Suba, Gus Stensler, Doris J. Obujer, Don Goodsell (instructor), Eleanor Smith (demonstrating), Linda Webb, John Oberg and Linda Stensler.

AMY

By Jack Tippit



"Thank you"

Dear Friends:

In the RICHES of having good friends and fellow workers –
 In the BLESSINGS of good health and a happy home –
 In the JOY of working in this great Country –
 In the WARMTH of happy memories of years gone by –
 I know my RETIREMENT can only be richly rewarding –

My sincere thanks to everyone who helped to make my retirement party such a wonderful success.

Thanks for the wonderful fly rod and all the equipment that goes with it. I assure you it will be cherished and used many times.

Sincerely,

Cliff Jern

Cousteau Film

The film, "Behind the Scenes with the Cousteaus" will be presented at the American Institute of Aeronautics and Astronautics' (AIAA) May 17 dinner meeting at the Ames Cafeteria at 8 p.m. Tom Horton, Executive in Charge of Production for the Cousteau Television Series, will narrate the film.

A no-host social hour begins at 5:30 p.m. Dinner is at 6:30 p.m. and the presentation of the AIAA-ARC Galileo Scholarship will be made at 7:30 p.m.

Advance reservations are mandatory. The Marine sentries at the main gate will admit into Moffett Field only those whose names appear on the reservation list. Call Joan Rzucidlo at 6440 on or before Wednesday, May 15. Persons wishing to attend the movie are also requested to make reservations.

Joggernaut wins medal

Betty Berkstresser, Systems Studies Division, won the third place medal in the women's division of the 4th Annual De Anza Ridge Run, an AAU sanctioned and Joggernaut sponsored race held on April 21.

Of the 91 starting men and women, 86 managed to finish the tough, but beautiful, course through the Cupertino foothills. Although Betty had never run over 5 miles and had never entered a race, she kept a steady pace to finish in 2:06:03 to capture the women's bronze medal. Asked how she felt after the race, she said she felt very good, though somewhat tired!

Other Joggernauts who ran the race were Dale Shute (1:29:32), Art Mandell (1:31:56), and George Lenehan (1:32:49).

Commuter's Corner

(Continued from last issue)

Anyway, drivers will save on gas, not to mention wear-and-tear on the car, by taking corners more slowly and foregoing attempts to pass every car that's in front. Another discourteous habit – unnecessary lane changing – is also a hazardous driving practice.

Car poolers should watch that they don't have another unnecessary habit – misusing the horn. If you must honk to let a rider know you are waiting, tap the horn lightly and look to see if the person is coming instead of continuously blasting.

The biggest problem car poolers usually deal with is punctuality. For the driver, double parking is irritating and defeats the purpose of car pooling since the motor is kept running. On the other hand, the driver will have to deal with passengers' wrath each time he is late. To avoid potential problems, the best thing to do is establish a cut-off waiting time. An AAA employee who car pools gives his passengers five minutes to show up and also tells them to call his home if he is more than 10 minutes late.

Another item to establish before starting a car pool is the best time to call the driver when someone won't be coming to work unexpectedly. For some people, the morning is a better time because the family goes to bed early, or the reverse might be true.

Two other things which are good to establish on the first day of the car pool are that all passengers are to use seat belts and, if there are passengers who will not be driving, the amount and date the car pool fee should be paid.

Other problems in car pool courtesy may never evolve if everyone talks about how they feel about them ahead of time. Here are some of the ones car-pooling AAA employees have already dealt with.

The front seat – "Who gets the front seat?" is a good question. Some say it's a question of age or sex. The simplest solution to this problem is for the passengers to take turns sitting up front.

Smoking – If everyone or no one smokes obviously there will be no problem. But if smokers are in the minority, make sure they have a window seat.

(To be continued next issue)

Instructor wanted

The Training and Special Programs Branch is looking for one or more part-time shop instructors to develop and teach a new shop orientation class as part of the Ames NYC program. The class would be sponsored by the MVLA Adult Ed and held at Ames. Ames retirees with machine shop or metal fabrication experience would be good candidates for this type of work. Those interested in applying should contact the Training Office, extension 5422.

ACE/MBA information

The Association for Continuing Education (ACE) will present a noon-hour orientation program by television for employees of member companies who are interested in learning more about the Golden Gate University MBA Degree.

This will be presented on Friday, May 24, from 12 to 1 p.m. on Channel 12 in Ames' Training Branch classroom, Building 241, Room 145A.

ACE Schedule

Summer semester for Golden Gate classes begins June 3. Classes scheduled are: Seminar in Labor-Management Relations (MW, 7 p.m.–8:15 p.m.) and Strategic Planning and Executive Action (TTh, 7 p.m.–8:15 p.m.)

ACE summer quarter begins June 24: Economics for Managers (T, 5:15 p.m.–7 p.m.); Introduction to Computer Technology (T, 5 p.m.–6:45 p.m.); Accounting for Managers (Th, 5 p.m.–6:45 p.m.); Practical Transistors (MW, 4:30 p.m.–5:15 p.m.); Physical Design for Electronic Engineers (W, 5 p.m.–6:45 p.m.); A Rational Approach to Decision Making (M, 5 p.m.–6:45 p.m.); Technical Proposal Writing (T, 5 p.m.–6:45 p.m.); Government Contracts Administration (M, 5 p.m.–6:45 p.m.); English as a Second Language (MW, 12 p.m.–1 p.m.); Elements of Supervision (TTh, 12 p.m.–1 p.m.); Management by Objectives (W, 3:30 p.m.–5:30 p.m.); Effective Reading (MW, 12 p.m.–1 p.m.); and Shorthand Speed Building (MTWThF), 12:15 p.m.–12:45 p.m.)

ACE courses starting the week of July 15 are: Introduction to Calculus (MWF, 12 p.m.–1 p.m.) and Conducting Effective Interviews (W, 3:30 p.m.–5:30 p.m.)

Speakers Bureau

John Habermeyer (Safety Office) was an invited speaker for the 36th Annual Meeting of the Fire Department Instructors Conference held in Memphis, Tennessee. His presentation on April 10 was "How an Industrial Hygienist Can Help the Fire Service."

On April 25, John Arvesen (Planetary Science and Applications Branch) addressed the Oceanic Society at their meeting at Fort Mason in San Francisco. John's address was "Aerial Survey of Water Quality."

Elliott Katzen (Astronautics Directorate Office) was the guest speaker for the Air Force ROTC's leadership class at San Jose State, on April 25. Elliott gave an overview of NASA and Ames, and discussed in more detail the Space Shuttle program.

WANT ADS

Transportation

FOR SALE:

'72 BMW 2002 Automatic, silver, sun-roof, AM/FM stereo/tape, Bilstein shocks, lowered, cosmic mags, semperits, \$4500. J. Albert, 965-1184.

'64 Ford Fairlane Sports Coupe. 18 miles per gallon, new tires, battery, transmission, loving care from one owner. \$325. Nancie, (415) 591-2003 Eve.

Housing

For Rent: Weekends, Weekly. Aptos Seascapes. Fully furnished 3 bedroom, 2½ bath Townhouse. AEK, W/D, wet bar, color TV, fireplace, patio, swimming pool. Close to Golf and Tennis. Short walk to secluded beach. 323-2375.

FOR RENT: Home in Cupertino foothills, near DeAnza College, 4 bdrm., 2½ ba., garage, family room, club nearby, \$500 per month. call Gaskins, 257-7248.

Miscellaneous

FOR SALE:

GUITARS: Yamaha FG75 acoustic, excellent condition \$55. Gibson acoustic, with case \$25, 965-8073.

SKIS: FISHER V.P.'s, 195 cm, with Marker Rotomat bindings and I'll throw in a pair of ski boots (Koflack 10½), \$50. Darrell 965-8073.

SMITH CORONA portable typewriter. Elite type, \$30. 738-2948 after 5:30 p.m.

Garage Sale: May 11, 3006 San Juan Ave., Santa Clara, 9-5, 244-8772.

Complete set Mex. gold coins. 50 peso down thru the rare 1 peso. \$600. J. Miller, 736-2696 after 7 p.m.

Be aware!

There is no better – or safer – way to save. Bonds are a guaranteed investment and, in turn, they guarantee savings. The Payroll Savings Plan is as close to being a painless way to save as any program yet devised. You don't see the money, you don't spend it. It is there, however, if needed. For example ... Bonds can be cashed in at full purchase price anytime after two months ... they can easily be replaced if lost or destroyed ... their interest is compounded semiannually and guaranteed ... they are not subject to local or state income tax, and Federal tax can be deferred until the Bonds are redeemed – often after retirement when most people move to a lower tax bracket.

National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

The Ames "Blue-Streak" Bond Edition

There has been a flurry of activity around the Center recently. At first it was dismissed by the Astrogram Office as the usual "Rites of Spring---then it appeared as though the local chapter of the Y.S.O.A. (Young Streakers of America) had made an educational tour of Ames.

However, when they hovered around for several days an investigator was sent from our office to interview these demonstrators to determine why they had congregated in this unseemly fashion.

A picture is worth a thousand words so-o-o-o here are several thousand well chosen words!

DEMONSTRATORS

The demonstrators agreed on only two things: their fondness for bonds and for President Cleveland. An usually reliable source indicated the streak-in (and streak-out) had been authorized by Al Hertzog.

(Continued on Page 2)



Donna and Stu Johnson agree, "We share a common bond!"



GEMINI
May 22-June 21

The intellectual, intuitive, charming, gregarious Gemini is emotionally tied to the need for a nest egg because it represents freedom, and travel, which you must have at all costs. The sure and convenient way to create one is with U.S. Savings Bonds through the Payroll Savings Plan.

* * *

By buying bonds in a child's name no tax will be due as long as the child's total income does not exceed the amount of his personal exemption.



"Barbara Manning claims, "I would feel much more secure if I had two bonds instead of just this ONE!"



George Olczak exclaims, "What do you have to lose? Buy a savings bond today!"

"THIS IS A SERIOUS MATTER"

Faced with mounting evidence of an organized Streak-in, Al Hertzog was questioned by a representative of the Astrogram office. Hertzog, tense, drawn and obviously exhausted, brushed aside all questions stating, "This is a serious matter. I have no (unintelligible) comment regarding the purported Streak-in. I will make my statement to the Bond Committee at the proper time and place.

"However, I will tell you this. I am completely innocent of any wrongdoing and I will not authorize this type of activity again!"

(Continued on Page 3)



CANCER
JUNE 22-JULY 22

The emotional, romantic, sensitive Cancer identifies strongly with children, family, and home. You protect your family and security and do not take chances with money. U.S. Savings Bonds are the safe, secure, sure way to save. They're replaced if lost or stolen and interest is guaranteed.



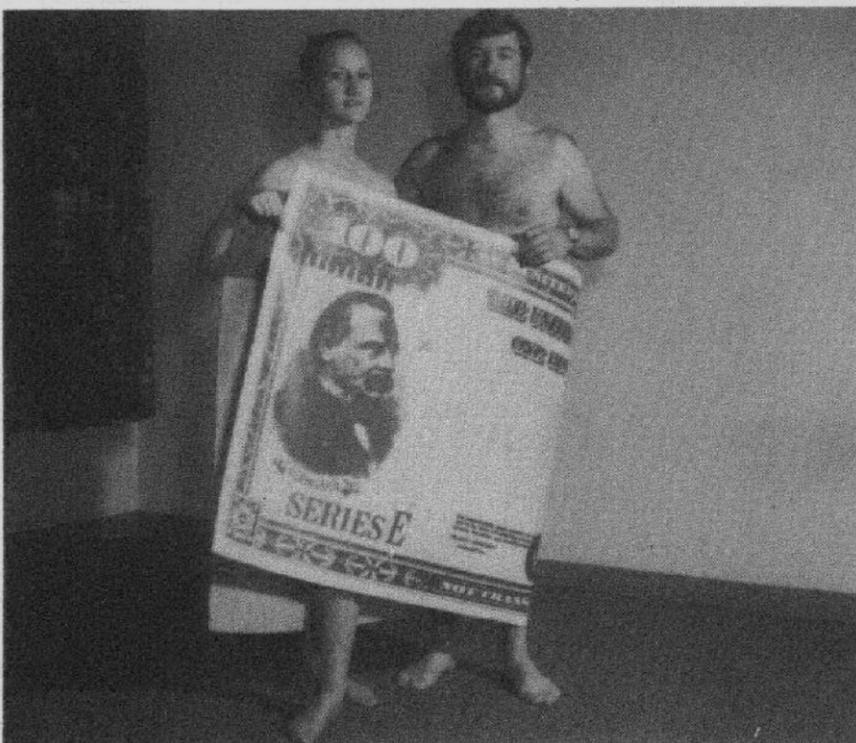
Mary Perez says, "I can't afford not to have a bond blanket."



Noelie Hall exclaims, "Cleveland is my kind of man!"



Joan Rzucidlo and Mike Wash agree that, "Whether you're saving for the education of your children, retirement or for protection against emergencies, the Payroll Savings Plan is a route to financial security."



Linda Cox and George Olczak reflect, "We're considering the possibility of buying a second security blanket. It's getting somewhat crowded with just the one."



LEO
JULY 24-AUGUST 23

The expansive, generous Leo, King of the Zodiac, is a natural leader. You desire—and deserve—prominence and a high standard of living. Other people look to you for guidance: set an example by saving for your goals with the regular purchase of U.S. Savings Bonds through Payroll Savings.

NEW HIGHER INTEREST-E Bonds now pay more interest than ever before—a solid 6% when held to maturity, which is now only 5 years.

There is ease and simplicity of automatic saving through payday installments. The money is saved for you before you get a chance to spend it.

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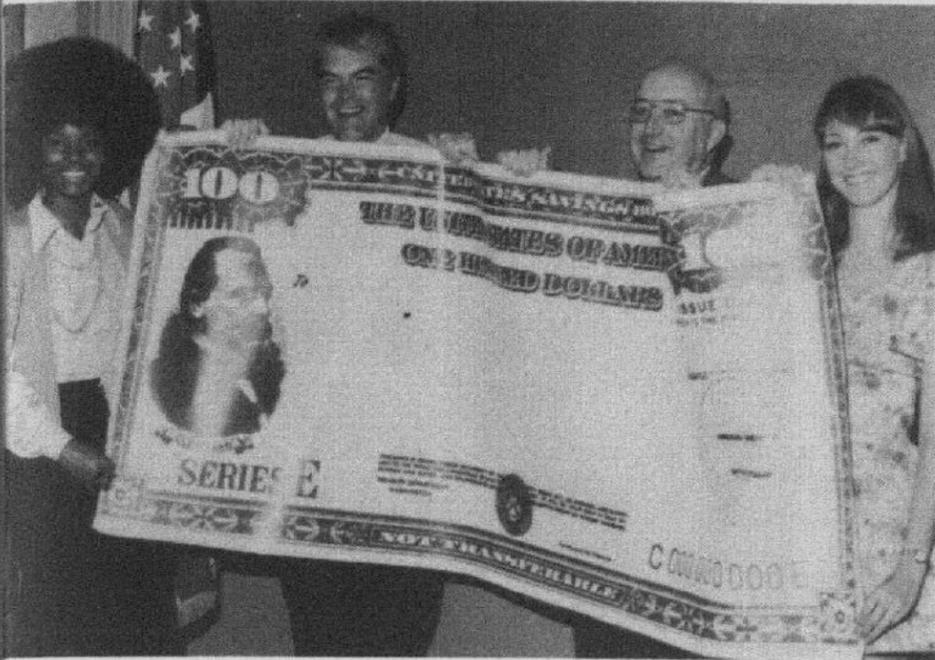
astrogram

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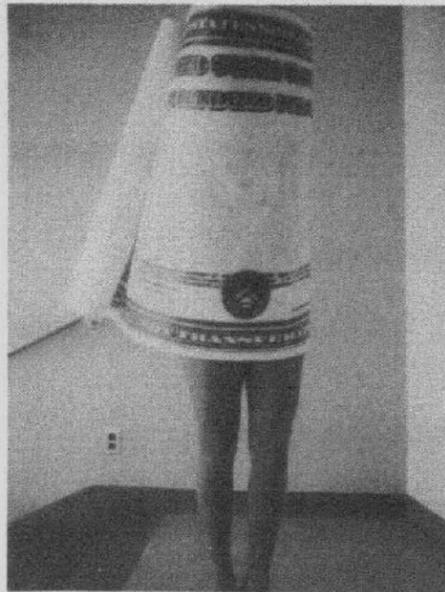
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AMES STREAKERS DRESS UP!



Barbara Manning (left) and Genie Neel try to persuade Dr. Hans Mark and C. A. Syvertson not to be so bashful and to "take it off" in the spirit of the 1974 Savings Bond Drive. The gentlemen prefer to don their security bond blanket!

Mystery
Bond Mate of the Month



Mystery Bond Mate of the Month says, "Come share my bond!"

HERTZOG DENIES EVERYTHING

When confronted with the accusation that there will be a savings bond offered to any of the demonstrators who would streak the Administration Building, Hertzog denied everything and refused to even admit he was the Coordinator of the 1974 Bond Drive.

In fact, he would only give his name and organizational code number, in a very aggitated manner. He repeatedly stated, "My name is Al Hertzog and I'm from Code A. For any further information please contact George Lenehan who is my counsel in this manner."

Interest on bonds is exempt from state and local income tax.



George declares, "Two (bonds) are far more comforting than one."



Candidates for Next Month's Mystery Bond Mate of the Month



VIRGO
August 24-September 23

The discriminating, intelligent, hard-working Virgo is a perfectionist. Though practical, you find it hard to accumulate money because your high standards lead you to excessive spending. The Payroll Savings Plan for U.S. Savings Bonds is the practical way to regular saving for the future.

VOTE TODAY!

The pictures of the following presidents appear on savings bonds.

Who is your favorite President?
VOTE NOW!

□	Washington	\$ 25
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□□□	Kennedy	75
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□□□□□	F.D.R.	200
□□□□□□	Wilson	500
□□□□□□□	Lincoln	1,000
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Judy Molica states, "I'll never drop my bond!"



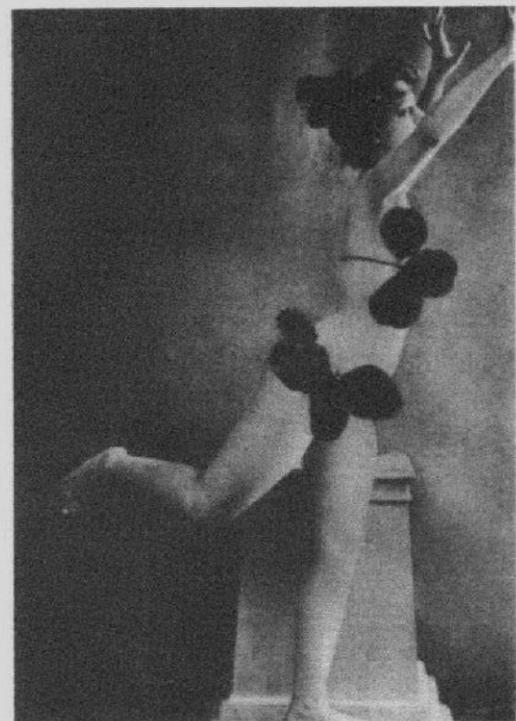
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\$ 3.75	\$ 99	\$ 311	\$ 547
5.00	131	414	730
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7.50	198	623	1097

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NASA research leads to safety

New synthetic materials resulting from advanced aircraft research at Ames may find application in civil aircraft tires and automobile brakes, according to Dr. John Parker, Chief of Ames Chemical Research Projects.

Advanced aircraft materials research prompted application of a new polymer to brake systems, notes Parker. Modifications of high technology aircraft brakes can be applied to automotive brakes to improve wear and performance. The new polymer, which is resistant to heat build-up and consequent frictional deterioration, promises 6-10 times normal brake wear.

A new synthetic rubber offers promise for use in treads of high-wear, blowout-resistant tires for aircraft. The polymer's unique molecular properties suggest improved safety and durability over materials presently used in the manufacture of these tires.

Aircraft tires, customarily retreaded for commercial aircraft every 100 landings or so, may be able to complete as many as 200 landings on the new polymer before needing to be retreaded.

Research conducted by Dr. Morton Golub, of the Chemical Research Projects Office staff, indicates that substitution of the high-temperature resistant elastomer for traditional elastomers results in a slower oxidative degradation.

The tire program at Ames had its inception in concern over the need for improved aircraft tires for advanced, high performance commercial transport aircraft, including the SST. With the demise of the U.S. commercial program, research continued on improved tires for current and planned transport aircraft. The experimental tires resulting from this research will be tested in commercial airline service using Boeing 727 aircraft by the end of the coming summer.

Ames hosts workshop

One hundred and twenty scientists and engineers representing industry, the university community, and NASA have gathered this week at Ames to participate in the Outer Planet Probe Technology Workshop. Fifty-five of the attendees will present papers in the various technical sessions; at least twelve of those papers will be presented by Ames employee participants.

The three-day Workshop, which is being conducted by the Ames' Advanced Space Projects Office of the Development Directorate and sponsored by the

(Continued on Page 3)

College program for minorities

NASA has launched the National Aerospace Fellowship Program, a pilot project, to encourage women and members of minority groups to seek careers in engineering and certain scientific fields.

Agreements have been completed with seven colleges and universities to award 20 aerospace fellowships to students in their junior or senior year who are in the top third of their class and who have shown a potential for space related science or engineering and have expressed an interest in these fields of study.

The students will report to selected NASA installations when the summer recess period begins at their respective schools. Four centers have been selected by the students to provide them with summer experiences. Nine students elected to work at Goddard Space Flight Center; five will work at Ames; four have chosen the Johnson Space Center; and two will spend their summer at Langley.

Participating schools and the number of fellowships are: Howard University, Washington, D.C., 4; Goucher College, Towson, Maryland, 2; Bennett College, Greensboro, North Carolina, 2; Morehouse College, Atlanta, Georgia, 2; Spelman College, Atlanta, Georgia, 2; New Mexico Highlands University, Las Vegas, New Mexico, 4; Southeastern State College, Durant, Oklahoma, 4.

The Ames participants will arrive next month. One student is

from Bennett College and the remaining four are all from New Mexico Highlands University.

Each student will receive \$2,500 for the academic year to cover tuition, fees, books, supplies and other education related costs. They will be reimbursed at the prevailing rate for Federal summer intern participants.

According to Dr. Dudley McConnell, NASA's Assistant Administrator for Equal Opportunity Programs, "We are trying a number of things to increase the flow of minorities and women into aerospace fields. This program is new and exciting and as we work out the kinks it may change during the year, but the goal of the program is clear. NASA will also continue to increase the number of minorities and women in cooperative work-study programs and NASA is providing a range of options to attract and encourage outstanding minorities and women into technical areas."

Students who achieve outstanding records in this program and who demonstrate potential and interest in aerospace technology fields will be offered positions with NASA at the time of their graduation if appropriate job vacancies exist.

Officials emphasized that this is the initial year of the program, and if successful, they hope to see it expanded during the next academic year.

Winter named NASA's Director for Life Sciences



Dr. David L. Winter has been appointed NASA's Director for Life Sciences at NASA Headquarters. Dr. Winter was Deputy Director of the Ames Life Sciences Directorate and, with his new appointment, succeeds Dr. Charles A. Berry in the post which is responsible for management of life sciences programs in the NASA Headquarters Office of Manned Space Flight.

Dr. Winter's new activities include biomedical and bioscience research, medical aspects of manned spaceflight operations, advanced life support and protective systems, man-machine integration and advanced bioinstrumentation. He also has the responsibility for directing the total NASA Life Sciences Program which encompasses life science applications, aeronautical life sciences, research into the question of extraterrestrial life, and occupational medicine.

His new post will be run from Ames, with some commuting to Headquarters until this summer when he plans to move to the Washington area where he will reside.

At Ames, Dr. Winter has overseen research programs that included the Space Shuttle passenger selection criteria studies, whose latest conclusion was the determination that there is no apparent bar to putting women in space. Dr. Winter believes that as NASA prepares for the Space Shuttle era the

(Continued on Page 2)



DOUBLE OR NOTHING! Dr. Hans Mark, Center Director, doubled his bond allotment during a bond streak-in (by Judy Molica) at a staff meeting last week. Also pictured are Pat Peterson (left) and C. A. Syvertson (foreground).

Local research units trade know-how Unidentified callers Dr. Winter

The Oakland-based Children's Hospital Medical Center of Northern California and Ames recently signed a unique, open-ended agreement for reciprocal use of personnel, equipment, and facilities to aid in medical research.

The agreement was drawn up to provide medical teams from Children's Hospital and researchers at Ames with a means to freely exchange know-how and equipment for mutual benefit.

Possible areas of study include human physiology, endocrinology, neurology, medical monitoring techniques and controlled environments.

"We're tremendously excited about this agreement," stated Dr. Gladys Harrison, Research Scientist in biomedical research at Ames. "It's the first time NASA has had such an arrangement with a private hospital.

Dr. Sandy Abraham, Director of Research at the Children's Hospital, continued, "People's health problems are

our concern and NASA's cooperation here is invaluable."

There are two projects already underway as a result of the agreement. The first project is an attempt to unravel the physical structure of a particular enzyme involved in the formation of fatty materials in animals (with the aid of electron microscopy). This enzyme is known to exist and, from work performed at Children's Hospital by Dr. Abraham and his associates, is expected to be large enough to be seen in electron microscope photographs. However, it has not been studied from this point of view until now.

The second study proposes to isolate a factor in blood serum which appears to be effective in reducing cardiac output. Knowledge about this factor could have important applications in the area of space flight according to Dr. Harrison.

No expiration date has been set for the agreement.

Not all of us are as fortunate as the majority when it comes to having the ability to speak in a distinct and so-called "normal" manner; i.e., without a speech impediment.

One such employee is Max Wilkins of the Systems Development Branch who has within the past 2 years learned esophageal speech. Wilkins is in a somewhat ironic situation. He is currently on a project which brings him in contact with quite a few people on and off the Center by means of the telephone. Most recently, Wilkins has experienced that a large number of his callers are hanging up on him. This is naturally a frustrating experience and Wilkins writes the following message to the Astrogram and to fellow employees who may or may not understand the situation:

"I am currently on a project which brings me into contact with quite a few people on the field, many of whom do not know that I speak with an artificial voice. Consequently, I've received calls which I have answered with my robot-sounding voice and the caller has hung up without leaving a name or message. I think those who hang up think that someone is trying to play tricks. One unidentified caller, after I had tried to answer his question, said in an aside to someone: "Yep, that's a tape recorder all right but it's all screwed up." (Since he was at least half wrong, I got some satisfaction out of hanging up on him!)

"I would like to ask that those who call me and who cannot understand me, say so, identify themselves, and then hang up. I'll then either get someone to return the call, or I'll write them a note, or I'll go see them personally, or if it's my boss, I'll take annual leave! Those who I call and who do not recognize or understand me, say so and I'll write out my message and either send it or deliver it. (It'll be a helluva note if half of the people on the field have to start writing messages.)

"Those who are used to the sound of my voice can usually understand me even on the telephone unless there is much background noise. They are hesitant to interpret for me because to them it is incredible that others cannot understand me. Those who don't sometimes act like they do and I am never sure that what I've said has actually been understood. It is important in this project that I do be understood. I had hoped by now to have learned esophageal speech and be more understandable but complications arose which has delayed that progress."

(Continued from Page 1)

emphasis is on safely broadening the selection criteria to include a wide range of scientist-passengers. Piloting skills will not be necessary for this particular group. They will be selected on their need to be in space with their experiment if they can be gotten on and off board safely.

Born in New York City in 1933, Dr. Winter received a B.A. Degree in 1955 from New York's Columbia College, and is a 1959 graduate of Washington University Medical School, St. Louis, Missouri. After a Surgical Internship at Barnes Hospital in St. Louis, Dr. Winter was a Neurosurgical Resident and later a Teaching Fellow in Physiology at Baylor University School of Medicine. In 1962 he became a Research Medical Officer for the U.S. Public Health Service at the National Institute of Neurological Diseases and Blindness in Bethesda, Maryland. He joined Walter Reed Institute in 1964 and came to NASA-Ames in 1971.

Astrological forecast for bond streakers



LIBRA

SEPTEMBER 24-OCTOBER 23

The cooperative, artistic, sensitive Libran has a strong sense of justice and a great love of beauty and art. You can save for the beautiful new home and elegant objects to satisfy your highly developed sense of form and beauty with U.S. Savings Bonds through Payroll Savings.



SCORPIO

OCTOBER 24-NOVEMBER 22

Scorpio, the secretive, magnetic perfectionist, possesses will power and intense emotional drive. You never deal with life superficially. You have good judgment and good luck in financial matters and know how to make money multiply. Watch your savings grow fast with U.S. Savings Bonds.

Johnson receives Incentive Award



Gerald A. Johnson (left) has recently received an Incentive Award for his suggestion concerning a modified suction cup device for weighing and handling fire extinguishers. Johnson's invention will "not only allow work procedures to be simplified, but it will reduce man-hours as well." Pictured with Johnson is John Habermeyer, Chief of the Ames Safety Office.

Prior to the invention it was always necessary for two men to check and weigh a carbon dioxide fire extinguisher... one man was needed to hold the extinguisher itself while the second man did the checking etc.

By adapting the portable suction floor pullers which many computer facilities have for fire control, Johnson discovered a time saving device which would clamp to any wall or door and could be utilized by only one person for the whole operation.

New auto insurance available

A new group automobile insurance program will soon be available to Ames employees. The program will be offered through the California Casualty Insurance Group.

Next week all Ames employees

will receive a brochure and a wage request card. Employees will then be able to attend an informational meeting during the week of June 10 at which time account representatives from California Casualty will be available to answer questions.

B of A notice

Beginning Monday May 13th the Bank of America, Moffett Field will charge \$1.00 for cashing personal checks for non-customers of the B of A. This does not include items drawn on the B of A or items presented by the holder of a courtesy card or BankAmericard. This charge is by order of the U. S. Treasury Dept.

National art honor for Cary Fisk

Cary Fisk won second place honors in the annual Benedictine Art Awards sponsored by Benedictine, S.A., Fecamp, France, in association with Julius Wile Sons & Co., Inc.

Cary Fisk, an accountant, is a member of the Financial Management Division. He has been painting for approximately seven years. This is the third consecutive year that he has placed in the finals of the Benedictine Art Awards which annually receives many hundreds of entries.

In addition to the honor the second place award carries, a financial award of \$750 has been won by Cary. His painting will be on permanent exhibit in the Benedictine Art Gallery, New York City. Cary's still life painting included a woven basket of bread, two small earthen jugs, three onions, and the Benedictine liqueur bottle.

Cary's wife, Juanita, is also employed at Ames and works in the Security Branch, Personnel Division.

Ames hosts workshop

(Continued from Page 1)

Advanced Programs and Technology Office of the Planetary Programs Directorate at NASA Headquarters, will perform the important function of focusing future research and development activities required to support these challenging exploratory probe missions to the outer planets.

The outer planets — Jupiter, Saturn, Uranus, Neptune, and Pluto — with their satellites, are of significant scientific interest because their exploration can yield information on the nature and origin of the Solar System as well as provide basic data on the mass and momentum interchanges that occur between the expanding atmosphere of the Sun and the Galaxy. In the context of planetary formation, knowledge of one planet or satellite can be related to that gathered at each of the other bodies to contribute an overall understanding of the Solar System.

An important element in the study of the outer planets is the examination in detail of the planetary atmospheres, namely, direct measurement of the composition, structure, cloud physics, and dynamics, because it will contribute greatly not only to an understanding of the early history of the Solar System but also of the evolution of the Earth's atmosphere.

The purpose of the Outer Planet Probe Technology Workshop is to assess, review, and summarize the state-of-the-art with respect to outer planet probe instruments and subsystems, as follows: (1) review and summarize mission definitions, probe requirements, system subsystems, and mission-peculiar hardware; (2) explore mission and equipment trade-offs associated with a probe mission to either Saturn or Uranus and the influence of Titan and Jupiter options on both mission performance and cost; (3) identify required future R&D activities.

Two Ames employees appointed Sloan Fellows

Dr. Dale Compton

Last week Dr. Dale L. Compton Chief of Ames' Space Sciences Division, flew back to Boston to spend twelve challenging months in the Alfred P. Sloan Fellows Program at the Massachusetts Institute of Technology (MIT).

The program for which Dr. Compton was rigorously selected leads to the degree of Master of Science in Management which is "designed to broaden and develop young executives for more general and senior management responsibilities in the future" according to a Sloan brochure.

Sloan Fellows chosen each year range in number anywhere from 45 to 50 people.



Dr. Compton reflects that NASA traditionally sends two employees each year to MIT as Sloan Fellows. The agency nominates the candidates and the school performs the selection. The other gentleman from NASA attending the 12-month program this year is George Cherey, Deputy Associate Administrator of Programs, OAST.

Sloan Fellows are usually in their thirties and thus classified as "mid-career." Much of the time the program aids people who are hoping to make a change from the technically oriented to the management oriented level.

Dr. Compton is looking forward to his year at MIT and expresses much enthusiasm at what he hopes to gain from the Sloan program. He states, "This experience will allow me to see things from a totally different vantage point. I will gain the knowledge of new tools which will help me to decipher how state and local government agencies, business and industry work---i.e., management wise, law wise, economically, etc. I hope to gain an awareness of how NASA fits into the overall picture. Also I hope to learn an appreciation of the problems other agencies and industry

etc. experience. If one can understand the "other guy's problems" and what he is trying to accomplish then one's own situation often times becomes more clear."

Dr. Compton adds, "Like all educational experiences, one has to have the ability to practically use the classroom techniques to be successful and useful."

The intensive Sloan program is highly thought of and rated throughout the world. In lay terms one could say, according to Dr. Compton, that the better part of a 5 year MBA program is studied during the 1 year Sloan program.

Dr. Compton will not be living through his "Sloan experience" (or his first Eastern winter) alone. Dr. Compton's wife and two children (ages 8 and 11) will be in Boston for the year too. In fact, the whole family will be living in a leased home on Dudley Pond in the Boston suburb of Wayland. Everyone is naturally excited about the forth coming year. Needless to say, lots of historical sites will be visited during the holidays.

Dr. Compton first came to Ames in 1957 after receiving his BS in Mechanical Engineering from Stanford University. In 1958 he obtained his MS in Aeronautical Engineering. He spent his first 15 years at Ames as an aeronautical engineer.

Dr. Compton continued his education through the Ames Training Branch and its Graduate Study Program and in 1972 received his Ph.D. in Aeronautical Engineering. He became the Technical Assistant to the Director, Dr. Hans Mark, for one year and then served as Deputy Director of Astronautics for another year. He has recently become the Chief of the Space Sciences Division.

Dr. Compton enjoys the management exposure he has gained thus far and greatly looks forward to the rare Sloan experience.

Q. Marion Hansen

Q. Marion Hansen, Chief of Flight Project Development Division, has been appointed a Sloan Fellow at Stanford for the 1974-1975 academic year.

The Stanford-Sloan Program is conducted by the Graduate School of Business under the sponsorship of the Alfred P. Sloan Foundation. Sloan Fellowships are competitively awarded to exceptional young executives who have demonstrated their potential for senior management.

To receive the competitive award, Mr. Hansen was nominated by Ames, selected by NASA Headquarters, and

then accepted by Stanford for the Sloan Program. The two Sloan Programs in the country, which are conducted at Stanford and MIT, represent the highest ranked and most extensive management fellowship programs available to NASA employees.

During the 9 month full-time course Mr. Hansen will participate with about 40 other Sloan Fellows appointed from other industrial and government organizations. The group will be exposed to a wide variety of management and business courses and case study situations. They will also listen to and interchange ideas with a number of today's outstanding national leaders in labor, business management, and government.

While obtaining a general background in business management, Mr. Hansen plans to emphasize the development and management of projects and organizations. He says, "I hope to gain a thorough background in organization development, for application to a wide variety of organizations and project situations. I hope to be able to contribute more significantly to the development and management of our organization in the future." He further states, "I believe the breadth of experience I will be able to tap and the contacts I will be able to develop during the program will help me to grow substantially and to be more effective."



Mr. Hansen came to Ames in 1959 on assignment from the Air Force, after he obtained his B.S. in Electrical Engineering and his ROTC commission from Brigham Young University. Upon completion of his military tour, he joined Ames as an official member of the staff and continued his education at Stanford under the Honors Coop program to receive his M.S. in Electrical Engineering in 1964. He was appointed Chief of the Vehicle Guidance and Control Branch in 1966 and Chief of the newly created Flight Project Development Division in 1972.

Mr. Hansen is a private pilot, the choir director of a 45 voice choir in the LDS (Mormon) Church, and a father of 7 attractive children. He and his wife, Maline, make their home in Cupertino. Born and raised in a small town of 1,000 people, Snowflake, Arizona, he comes from a close knit family. He says his favorite forms of vacation are family camping and "relating."

Speakers Bureau

Dr. Robert "Bob" Linebarger (Computer Systems Branch) was invited to participate in the Career Fair at Markham Junior High School, San Jose, on May 15. He was on a panel which discussed careers in physical and life sciences.

Gilbert Schroeder (Pioneer Project) will be the luncheon speaker for the June 4 meeting of the Redwood City Rotary. Gil will discuss the Pioneer 10 and 11 missions.

William "Bill" Hurley (NASA Inspections Office) presented "NASA's Space Programs" to the Sunnyvale Host Lions Club at their evening meeting on May 1.

On May 18, several members of the Ames staff participated in the AIAA's Model Airplane Contest for 1974. In addition to Mamoru Inouye (Computational Fluid Dynamics Branch), who has served as Chairman of the AIAA's San Francisco Section, other participants were George Xenakis (Flight and Navigation Branch) as General Chairman, Lou Young (Pioneer Project) as Assistant to the General Chairman, and Betty Berkstresser (Systems Studies Division) and Ralph Carmichael (Advanced Vehicle Concepts Branch) as judges. The contest was held at San Jose City College.

Dr. Leonard P. Zill (Planetary Biology Division) will be the guest speaker for the Science Awards Program of the Palo Alto Unified School District, on June 4. The evening awards program is to recognize the top science students of all three of the district's high schools: Palo Alto Senior, Cubberley, and Gunn High Schools.

On May 14, Barbara Busch (Educational Programs Office) described some of the benefits of the space program for the senior American Government class at Castilleja School, Palo Alto. The request came from class member Kathy Kozacek, who is a participant in the Student Space Biology Research Program at Ames, where she works one day a week in the lab of Kenneth Souza (Biological Adaptation Branch). And on May 10, she was the guest speaker at the Eagle Scout Court of Honor for seven new Eagle Scouts in Dublin. She told the audience about the similarities between NASA Astronauts and Boy Scouts.

Art Wilbur (Chief, Systems Development Branch) was the evening speaker for the initiation banquet of San Jose State University's Eta Kappa Nu, national electrical engineering honorary fraternity. At the May 3 program he discussed "Pioneer Power Supplies."

On May 1, Dr. Donald DeVincenzi (Life Sciences Directorate Office) talked to interested students attending Cupertino High School's "Career Week in Science and Engineering." Don discussed those kinds of careers for NASA.

Robert "Skip" Nunamaker (Deputy Manager, Pioneer Project) was the Palo Alto Kiwanis' luncheon speaker on May 16. Not surprisingly, he talked about the Pioneer programs.

James Jeske (Scientific Applications Analysis Branch) visited Mitty High School in San Jose on April 24. He talked to the sophomore geometry class about the uses of geometry in NASA's computer work.

On May 7 and May 10, Dr. Lawrence Evans (Systems Studies Division) addressed two groups of 4th-5th-6th grade students in the Cupertino School District's Mentally Gifted Minor program. Larry described the Pioneer program to the students.

On May 15, George James (Pioneer Project) was the guest speaker at a Science Seminar held at Acadales High School in Lafayette. He told the students, who represent the science departments of five area high schools, about the Pioneer 10 and 11 missions.

On April 23, Charles Hall (Manager, Pioneer Project) was the noon speaker for the San Francisco Rotary. He brought the group up-to-date on the Pioneer programs.

On April 22, Dr. James Lawless (Chemical Evolution Branch) made two presentations at Mt. Diablo High School in Concord. For their "Career Day" program he talked about careers in chemistry and life sciences in NASA. He also addressed the chemistry class, on the general field of "Chemistry in NASA."

On May 6, John Dyer (Pioneer Project) was the evening speaker for the meeting of the San Francisco Bay Area Chapter of the Society of Logistics Engineers. At the meeting, held in Sunnyvale, Jack discussed the preparation and logistics involved in the Pioneer 10 and 11 programs.

Dr. Keith Kvenvolden (Chief, Chemical Evolution Branch) delivered a telelecture from Ames to the science department of the University of Montana, in Missoula, Montana, on April 25. Keith's telelecture was entitled "Evidence for Chemical and Early Biological Evolution."

SOFTBALL

The Ames Fast-Pitch Softball Team started the season with a bang by downing A. B. Dick Mimeo's 6 to 1 recently. The Ames pitchers, Bob Corbett and Jim Myers, stifled Mimeo's attack by allowing only 2 hits and 5 base runners. The Ames batters rapped 8 base hits to dominate the game. Mike Green, player-coach, went 2 for 4 to lead the offense.

WANT ADS

Transportation

FOR SALE:

Toyota Corolla '69 Station wagon, R&H. Stick, Good condition, \$1000. 321-8838 after 5 p.m.

Camper shell, like new, insulated, paneled including lite. Cab-high, will fit 68" width, 80" length, \$245. 965-4165.

305 Scrambler, 10,000 miles, '67, \$250. Call Dave 941-3197 after 6 p.m.

'65 FORD 3/4 T. Air, 4 speed, top cond., with camper shell, \$975. 735-9029.

'67 OLDS CUTLASS V8 2-DR HT, PS, PB, A/C, 39,000 mi., \$650. 967-0911, eves.

WANTED: '72 FORD RANGER 250, air, at low mi. w/ or without camper. 735-9029.

8-Foot, non-cabover camper. Contains table, icebox, wardrobe closet and three storage cabinets; sleeps 2 (3 if you're friendly!); very clean and in excellent condition; jacks are included; \$350. Call Sharon King, 747-0596.

Housing

FOR RENT:

3 Bedroom house with 1 1/2 bath, garage, AEK, carpets with drapes, fireplace, close to Moffett, \$260 per month, Phone: 734-2103.

WANTED TO RENT: Quiet Cottage for young responsible couple; no children or pets. Call 948-6361.

SUMMER RENTAL (or year round) at Aptos, 3 bdrm, 2 bth, all appliances, 3 blks from Aptos-Seascape clubhouse, off 10th fairway, daily commute bus to Lockheed, Sunnyvale. 378-2548.

FOR RENT: Cabin in High Sierras near Pinecrest. Beautifully furnished, AEK, W/D, dishwasher, 3 bedrooms, sleeps 10, TV, stereo, shag carpet throughout. Perfect for family vacationing. Swimming, boating, stables near. (408) 294-9289

Miscellaneous

English Pointer "Molly" is loving, healthy, young and beautiful. All she needs is a good home (we'd love to keep her, but two dogs are all we can manage). Al Bakke, 246-3356.

FOR SALE: Browning automatic shotgun, model Light 12, modified choke. Mint condition, \$250. Call 262-6567.

FREE to Good Homes: Two kittens, 1 male, 1 female, call 262-6567.

FOR SALE: HAM RADIO GEAR. Drake R4, MS4. Mint \$225. Heath QRP R16 HW7, AC supply HWA-7, \$65. Call 262-6567.

FOR SALE BOAT

17' Sea Ray. Fiberglass. Vinyl top, side curtains, aft cover, tempered safety glass windshield. 75 H.P. Evinrude, selectric shift and ride guide mechanical steering. Holsclaw trailer. Completely equipped. Excellent condition. \$1950. Call Dave Miller 408-732-5200 Days or 415-851-2731 Evenings/Weekends.

Polaroid 440 camera with focused flash and carrying case; two years old and in excellent condition; \$50. Call Sharon King, 747-0596.

Golf Clubs - Kroyden Starter Set, with bag & cart. \$50. Tow Bar - Universal, fits all bumpers, new. \$65. Call 227-8332.

Baby items - crib, baby table and carriage. Call Kathie x6327, or 263-7384 after 6 p.m.

Bicycle, 3 speed, almost new. \$35. 967-0911, eves.

Beautiful mahogany Victrola (Victor Talking Machine Co.) Cabinet, 28 X 20 X 33, monaural Knight FM tuner & amplifier, Universal 12 in. speaker, Gerard auto changer, \$50. S. C. Sommer, 321-8418.

Lido 14' Sail Boat - one-fifth share of Ames' membership - \$200 or best offer. Boat in excellent condition, fiberglass, unsinkable, fitted cover, with trailer, ideal for family sailing or racing. A.M. Cook, x5057 or 867-5982.

Garden swing. \$12. Call 323-7070.

New home wanted for 3 yr. old, male, white German Shepherd, and male Cock-a-Poo. Call 241-9145 after 5 p.m.

FOR SALE: 14 ft. Catamaran sailboat with trailer. \$750. Phone 948-2633.

Bicycle: girls, stingray type, banana seat, lg. handle bars, \$10., call 739-6054.

WANTED: 1 blue dress and 1 white dress Naval uniform. Waist - 26 1/2. Will pay. Call Gini at 948-7983 eves.

WANTED: Set of good, wood lathe, turning chisels. Call: Joe de Rose 269-8158. Work: x6050.

Join the Payroll Savings Plan.

Room 142
Admin. Bldg.
Phone 965-5422

astrogram

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