

The Astrogram

VOLUME XVIII NUMBER 15

April 8, 1976

Low leaves NASA for academia

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Low, a graduate of Rensselaer and a Trustee of the Institute since 1971, has been NASA Deputy Administrator for the past six years. With the exception of one year as an aerodynamicist with General Dynamics in Ft. Worth, Texas, in 1948, Low's entire professional career has been with the space agency and its predecessor, NACA.

NASA Administrator James C. Fletcher said that he knows of no other person who has contributed as much to achieve and maintain United States leadership in space exploration. "George Low's influence on the manned space flight program from the very beginning of NASA, his courageous decisions in the Apollo program, his direction of the agency's programs toward the practical application of space technology, and his initiatives in the development of international cooperation in space have earned the admiration and gratitude of the entire country," Dr. Fletcher said.

In announcing his plans to leave Government service after nearly 29 years, Low said, "I have an opportunity now which will not be available to me again - to become the president of my own alma mater. Since I am totally dedicated to the proposition that the future of our nation depends on the
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Basically these laws have the effect of insulating the Federal employee against the influence of political considerations that might damage his job tenure. The laws are a protection against political reprisals, which were the order of the day under the spoils system, because they eliminate the grounds for such reprisals.

In general, employees in the Executive Branch of the Federal Government are subject to certain political activity restrictions. Part-time and temporary employees are included.

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Dr. Robert T. Jones, senior staff scientist at Ames, will get the NASA award for his many contributions to aeronautics. Dr. Jones, a young-looking 65, is an international authority on aerodynamics, optics, and biomechanics.

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Jones' contributions cover 64 technical papers, including the one on the swept wing, which made possible transonic and supersonic flight. His first paper described a 576-pound race plane, designed when Jones, at 19, was designer for the Nicholas-Beazley Aircraft Co., Marshall, Missouri, near his hometown of Macon, MO.

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Though most commercial transports today have swept back wings, very few technical people believed in the theory when it was developed.

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Dr. Jones has six children, two adopted, and lives in Los Altos Hills.

Ames Merit Promotion Plan

On April 20, 1976, Tuesday, from 11:30-12:30, Dennis Cunningham will repeat a presentation of a survey of ways to improve and implement changes of the Merit Promotion Plan.

Dennis will discuss what vacancies are advertised under the Merit Promotion Plan, the steps necessary to fill the vacancy, i.e., application forms, recommendation by immediate supervisor, ranking of candidates, selection of interviewing panel, and selection of the successful candidate.

This lunch meeting will be held at the Space Science auditorium and will be monitored by Caye Johnson of the Women's Advisory Group.

Women's News and Views

by Susie V. Rydquist

Calling all hands!

Volunteers are being solicited to replace outgoing members of the Women's Advisory Group.

A brief reminder: A prime objective of the Women's Advisory Group has been and will always be to *help* improve the status of women here at Ames. It takes a concerted effort to achieve some sort of success in this direction for the cause of women now and in the future.

So hands up and call Dorothy Davenport, ext. 5011 or Patricia Kirk, ext. 5739.

Stanford YWCA lectures

Tuesday noon lectures on subjects of particular interest to women will be sponsored by the Stanford YWCA. The lectures, open to the public, are held at noon at the Stanford clubhouse. The theme of the series will be the political and economic empowerment of women.

To kick off the series on April 6, Mrs. Gerry Steinberg, member of the Santa Clara County Board of Supervisors will speak on "The Political Woman."

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April 13, "Shared Jobs, a New Way to Work," with Linda Schuck from the Jobs Project at New Ways to Work in Palo Alto.

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View of women

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For many years, mystery and myth have obscured our knowledge about women's roles in China and Japan. Just as legal, social, and economic actions have affected women in America, so too have Japanese and Chinese women felt the impact of numerous changes. The noon series will explore these events in an attempt to provide information about the changing status of women.

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By the way, National Secretaries Week starts on April 19.

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For further information, contact Annette Laboy, ext. 6510, of the Equal Opportunity Programs Office.

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Low joined the National Advisory Committee for Aeronautics (NACA) at the Lewis Flight Propulsion Laboratory in Cleveland, Ohio, as an aeronautical research scientist in 1949. Nine years later, when NASA was organized, he came to its headquarters in Washington as Chief of Manned Space Flight. He was chairman of the special committee that formulated the original plans for the Apollo manned lunar landing program.

In April 1967, after the Apollo 204 fire, Low was named Manager of the Apollo Spacecraft Program. Under his leadership, the Apollo spacecraft was redesigned and manned space missions resumed in October 1968 after a lapse of 23 months. He then accelerated the Apollo timetable and brought Apollo 8 into the program as man's first flight into lunar orbit. Under his direction, Apollo 11 made the first manned lunar landing in July 1969.

Appointed Deputy Administrator of NASA by the President in December 1969, Low also served as Acting Administrator from September 1970 to May 1971. He has guided the agency in the transition to the new goals of the 1970's and beyond, and has negotiated the space agreements with the Soviet Union which led to the Apollo-Soyuz joint flight and other cooperative space projects.

Among the other honors Low has received are two NASA Distinguished Service Medals for his contributions to Apollo 8 and for his work in the Apollo program; NASA's Outstanding Leadership Medal for his contributions to Project Mercury; the Arthur S. Flemming Award as one of the 10 outstanding young men in Government in 1963; the Robert H. Goddard Memorial Trophy in 1973; the National Civil Service League's 1973 Career Service Award for Sustained Excellence in 1973 and the Rockefeller Public Service Award (for Administration) in 1974.

Ames Fastpitch Softball Team



Bruce Ganzler, left, manager of the NASA Ames Fastpitch Softball Team is shown presenting last year's championship trophy to ARA President, Armando Lopez. Players from left to right are Jeff Hammill, Bob Corbett, Roger Hedlund, Mike Green, John Fetter, George Alger, Paul Soderman, Fred Peters and Jim Myers. Missing from photo are Larry Gary, Rick Cox, Mitch Sewell, and Al Hopkins. The trophy is on display in the trophy case at Ames Cafeteria.

Golf

Tournament chairmen Tom Almojuela and Mike Orozco report the following winners for the Ames golf tournament at San Jose Munny on February 21:

1st flight: 1-M. Orozco; 2-D. Banducci, 3-J. Martin; 4-C. Eddy.

2nd flight: 1-D. Graham; 2-D. Chaussee; 3-M. Radovich; 4-tie: L. Hochstein, H. Mathews, B. Kelley.

3rd flight: 1-A. Ingelfinger; 2-R. Richardson; 3-tie: D. Davis and B. Page.

4th flight: 1-P. Strawbridge; 2-B.B. Gray; 3-B. Barrow; 4-R. Oyama.

Tournament chairmen Don Graham and Richard Dick report the following winners for the Ames golf tournament Calero Hills on March 21:

1st flight: 1-L. McCulley; 2-T. Almojuela; 3-H. Mathews; 4-A. Petretti.

2nd flight: 1-J. Cayot; 2-D. Graham; 3-D. Chaussee; 4-M. Radovich.

3rd flight: 1-R. Richardson; 2-A. Ingelfinger; 3-P. Quettrone; 4-M. Reisner.

4th flight: 1-R. Oyama; 2-D. Johnson; 3-S. Johnson; 4-K. Bruck.

You're invited

Hi!

We are happy to invite you to our unique art show titled: "Baja Landscapes and Missions." Baja, California is a land of some of the most beautiful deserts, mountains, and seashores on earth.

It was a joy searching for and painting old missions located among cirio cactus wilderness and palm canyons. Baja is beautiful and we want to share it with you.

San Jose Main Library
3rd Floor
Month of April

Sincerely,
Anthony Quartuccio
& Hazel Fox

Hatch Act

(Continued from Page 1)

The general prohibitions on a Federal employee are that he may not use his official authority or influence for the purpose of interfering with or affecting the result of an election and that he may not take an active part in political management or in political campaigns of a partisan nature.

The U.S. Civil Service Commission enforces political activity prohibitions for employees in competitive positions. Alleged violations by excepted service employees are investigated by the employing agency with a right of appeal to the Commission. The Commission holds hearings in cases involving violations by either competitive or excepted service employees. The most severe penalty for violation is removal and the minimum penalty is suspension without pay for 30 days.

AHS meeting

The San Francisco Bay Area Chapter of the American Helicopter Society (AHS) will preview the 1976 AHS National Forum at a luncheon meeting scheduled for April 21.

The meeting will feature highlights of co-authored papers from the Ames Research Center and Kaiser Aerospace and Electronics to be presented at the AHS National Forum in Washington, D.C. this year.

Topics and speakers will be:

"An Experimental Study of Techniques for Increasing the Lead Lag Damping of Soft Inplane Hingeless Rotors" - William G. Bousman

"An Electronic Integrated Pilot Display is Evaluated in North Sea Operations" - Philip G. Cooper

"Mechanical Control System Integration Study for the XV-15 Tilt Rotor Research Aircraft" - Gary B. Churchill

"XV-15 Tilt Rotor Program Status" - L. G. Schroers*

"Impulsive Noise Characteristics of the UH-1H Helicopter" - Dr. Frederic H. Schmitz

"High Speed Impulsive Noise" - V. Rande Vause

*Not a Forum paper this year.

The luncheon meeting will be held at the Ames Research Center Cafeteria (Bldg. N-235) Banquet Room, NAS Moffett Field, with the program beginning at 11:45 a.m. Numerous menu selections are offered by the cafeteria, or you may choose to bring a brown bag or skip the meal altogether.

All interested persons are invited to attend, and advance arrangements are required only if you do not have access to Ames Research Center. In that case, contact Jim Biggers (415-965-5043) or Carrie Kelley (415-965-5034) for an escort from the Ames visitors gate.

Scuba club

The Ames Scuba Club will meet on 14 April 1976 in the Ames Cafeteria dining room. The meeting will begin at 12:45 and be over by 1:30. This schedule permits attendees to get lunch before the serving line closes and, because of the relatively late hour, to hear the movie sound track. The program for this meeting will be the movie, "Lost Warrior," an excellent film depicting the discovery of a long-sought WWII Japanese submarine in Truk Lagoon. Plan a late lunch and join us.

Garden sale

The Foothill Men's Garden Club will present its Annual Garden Sale at the Rancho Shopping Center, Springer and Foothill Expressway in Los Altos, on April 17, starting at 9 a.m. Members grow the plants for this event. All proceeds are used to fund local scholarships and other civic purposes.

On sale will be hanging baskets, succulents, ferns, annuals, perennials, and a variety of vegetable plants. For further information, call Don McKellar at ext. 6345.

Ames Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
*76-90	Model Maker	WG-14	RSS	Technical Services Div.	10-31-76
*76-91	Model Maker	WG-14	RSC	Technical Services Div.	10-31-76
*76-92	Model Maker	WG-14	RSM	Technical Services Div.	10-31-76
*76-93	Numerical Control Machine Tool Programmer	WG-12/14	RSM	Technical Services Div.	10-31-76
*76-94	Numerical Control Machine Tool Programmer	WG-15	RSM	Technical Services Div.	10-31-76
*76-95	Research Instrument Maker, Instrument Maker	WG-12/ WG-14	RSM	Technical Services Div.	10-31-76
*76-96	Instrument Maker	WG-15	RSM	Technical Services Div.	10-31-76
76-98	Secretary (Stenography)	GS-5/6	DM	Center-wide	4-16-76
76-99	Procurement Clerk (Typing) or Clerk-Typist	GS-4/5 or GS-3/4	AS	Centerwide & Outside	4-16-76
76-100	Purchasing Agent	GS-4/5/6/7	ASG	Centerwide & Outside	4-16-76
76-101	Secretary (Stenography)	GS-5/6	RI	Centerwide & Outside	4-16-76
76-102	Contract Specialist (2 positions)	GS-9/11/12	ASF	Centerwide	4-16-76
76-103	Contract Specialist	GS-9/11/12	ASG	Centerwide	4-16-76

To apply: Call Extension 5599 or 5600

*Please note above vacancies are continuously open until 10-31-76. Selections will be made as need for higher level duties arise. It is advantageous, however, to apply as soon as possible.

MERIT PROMOTION PLAN SELECTIONS

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Until we meet again,

Bruce and Peggy Larson

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Please feel free to visit Beryl and me at our home at Lake Tahoe.

Ken Caillat

Thank you, Jim Grove, for sharing your birthday with the people from Graphics and Publications Branch!

Delta Dart kits

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MOTORCYCLE: 1972 Yamaha 650 XS2 with Calafia fairing and extras. Excellent condition, \$995. Call 344-7903.

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1974 Ford Ranger XLT F100 (½ ton) truck w/shell, V-8 automatic/power, A/C, radio, electric brakes and equalizer hitch set-up. For info call Betty after 6 p.m., 578-9331.

VOLVO 145 Station Wagon, 1968, automatic transmission, radial tires, excellent condition. \$1700/offer. 968-4450 after 5 p.m.

1975 DELUXE SIX-PAC CAMPER FOR COMPACT P.U. - stabilizer & tie downs. Ladder & luggage rack. Exc. cond. \$1350. 259-2925 after 6 p.m.

Miscellaneous

FOR SALE: Plush black carpet, unbound, 8x10-1/2, used 5 months; \$40. Call 258-8072 after 6 p.m.

Bell & Howell Movie Projector, auto load and GAF ST100 movie camera, full auto, zoom 1-6, lamp attachment, \$100 all; and an Airequipt slide projector, \$50. After 5 and weekends 246-9379.

Farberware electric fry pan, 12" hi-dome. Excellent condition, \$25. Regina floor polisher and shampooer, \$15. Acme Juicerator - fruit and vegetable juicer (heavy duty). Used less than 6 times. Excellent condition. \$75. New, \$129.95 plus tax. Evenings, 252-1229.

Moving - must sacrifice well cared for colonial furnishings: desk stereo, solid state; light fixtures and lamps; 21" TV; record/hi-fi cabinets, 2 hardrock maple step-end tables with matching coffee table; assortment of fine chairs; etc. 996-1063.

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Golf starter set, 2 woods, 5 irons, bag, cart, \$50. Golf shoes, size 8D, \$20. Trade 8" B/D radial saw for table saw. Call 227-8332.

6-Ft. Couch/\$15; recliner/\$30; Chest of Drawers/\$30; Occasional Rocking Chair (swivels)/\$30; sewing machine/\$30; child's swimming pool (plastic)/\$5.; T.V. cabinet/\$15. Call ext. 6132.

Kenmore Sewing Machine in cabinet. Head made in Western Germany. Includes built-in stitches and decorative cams. \$85. 356-7304.

FOR SALE: Pueblo Gold - 10 gal Sears excellent exterior paint. Covers in one coat, see on my house. \$3.50/gal, all or part. Call 257-6541 evenings after 8 p.m.

Wood bookcase, walnut finish, 36" wide, 28½" high, 8" deep, three shelves. \$12.50. Call 948-5073 after 5 p.m.

FOR SALE: Sylvania 21" Color TV, Mahogany Cabinet; excellent condition; \$125. Sears Queen Size mattress, box spring, and frame; excellent condition; \$85. Phone 258-8072 after 6 p.m.

NEED RIDE: flexible hours (start 8 or 8:30 a.m.), unable to drive, will share expenses from Colorado and Middlefield, Palo Alto. Call ext. 5249 or 328-2112.

The Astrogram

Room 142, Admin. Mgt. Building, Phone 965-5422

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
Associate Editor Marcia Kadota
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Deadline for contributions: Thursday between publication dates

NASA

National Aeronautics and Space Administration

Ames Research Center
Moffett Field, California 94035
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NASA-451



Low leaves NASA

(Continued from Page 1)

advancement of science and technology, I know of no better way to help assure that future than by participating directly in the technological education of our young people."

Low joined the National Advisory Committee for Aeronautics (NACA) at the Lewis Flight Propulsion Laboratory in Cleveland, Ohio, as an aeronautical research scientist in 1949. Nine years later, when NASA was organized, he came to its headquarters in Washington as Chief of Manned Space Flight. He was chairman of the special committee that formulated the original plans for the Apollo manned lunar landing program.

In April 1967, after the Apollo 204 fire, Low was named Manager of the Apollo Spacecraft Program. Under his leadership, the Apollo spacecraft was redesigned and manned space missions resumed in October 1968 after a lapse of 23 months. He then accelerated the Apollo timetable and brought Apollo 8 into the program as man's first flight into lunar orbit. Under his direction, Apollo 11 made the first manned lunar landing in July 1969.

Appointed Deputy Administrator of NASA by the President in December 1969, Low also served as Acting Administrator from September 1970 to May 1971. He has guided the agency in the transition to the new goals of the 1970's and beyond, and has negotiated the space agreements with the Soviet Union which led to the Apollo-Soyuz joint flight and other cooperative space projects.

Among the other honors Low has received are two NASA Distinguished Service Medals for his contributions to Apollo 8 and for his work in the Apollo program; NASA's Outstanding Leadership Medal for his contributions to Project Mercury; the Arthur S. Flemming Award as one of the 10 outstanding young men in Government in 1963; the Robert H. Goddard Memorial Trophy in 1973; the National Civil Service League's 1973 Career Service Award for Sustained Excellence in 1973 and the Rockefeller Public Service Award (for Administration) in 1974.

Ames Fastpitch Softball Team



Bruce Ganzler, left, manager of the NASA Ames Fastpitch Softball Team is shown presenting last year's championship trophy to ARA President, Armando Lopez. Players from left to right are Jeff Hammill, Bob Corbett, Roger Hedlund, Mike Green, John Fetter, George Alger, Paul Soderman, Fred Peters and Jim Myers. Missing from photo are Larry Gary, Rick Cox, Mitch Sewell, and Al Hopkins. The trophy is on display in the trophy case at Ames Cafeteria.

Golf

Tournament chairmen Tom Almojuela and Mike Orozco report the following winners for the Ames golf tournament at San Jose Muny on February 21:

1st flight: 1-M. Orozco; 2-D. Banducci, 3-J. Martin; 4-C. Eddy.

2nd flight: 1-D. Graham; 2-D. Chaussee; 3-M. Radovich; 4-tie: L. Hochstein, H. Mathews, B. Kelley.

3rd flight: 1-A. Ingelfinger; 2-R. Richardson; 3-tie: D. Davis and B. Page.

4th flight: 1-P. Strawbridge; 2-B.B. Gray; 3-B. Barrow; 4-R. Oyama.

Tournament chairmen Don Graham and Richard Dick report the following winners for the Ames golf tournament Calero Hills on March 21:

1st flight: 1-L. McCulley; 2-T. Almojuela; 3-H. Mathews; 4-A. Petretti.

2nd flight: 1-J. Cayot; 2-D. Graham; 3-D. Chaussee; 4-M. Radovich.

3rd flight: 1-R. Richardson; 2-A. Ingelfinger; 3-P. Quattrone; 4-M. Reiser.

4th flight: 1-R. Oyama; 2-D. Johnson; 3-S. Johnson; 4-K. Bruck.

You're invited

Hi!

We are happy to invite you to our unique art show titled: "Baja Landscapes and Missions." Baja, California is a land of some of the most beautiful deserts, mountains, and seashores on earth.

It was a joy searching for and painting old missions located among cirio cactus wilderness and palm canyons. Baja is beautiful and we want to share it with you.

San Jose Main Library
3rd Floor
Month of April

Sincerely,
Anthony Quartuccio
& Hazel Fox

Hatch Act

(Continued from Page 1)

The general prohibitions on a Federal employee are that he may not use his official authority or influence for the purpose of interfering with or affecting the result of an election and that he may not take an active part in political management or in political campaigns of a partisan nature.

The U.S. Civil Service Commission enforces political activity prohibitions for employees in competitive positions. Alleged violations by excepted service employees are investigated by the employing agency with a right of appeal to the Commission. The Commission holds hearings in cases involving violations by either competitive or excepted service employees. The most severe penalty for violation is removal and the minimum penalty is suspension without pay for 30 days.

AHS meeting

The San Francisco Bay Area Chapter of the American Helicopter Society (AHS) will preview the 1976 AHS National Forum at a luncheon meeting scheduled for April 21.

The meeting will feature highlights of co-authored papers from the Ames Research Center and Kaiser Aerospace and Electronics to be presented at the AHS National Forum in Washington, D.C. this year.

Topics and speakers will be:

"An Experimental Study of Techniques for Increasing the Lead Lag Damping of Soft Inplane Hingeless Rotors" - William G. Bousman

"An Electronic Integrated Pilot Display is Evaluated in North Sea Operations" - Philip G. Cooper

"Mechanical Control System Integration Study for the XV-15 Tilt Rotor Research Aircraft" - Gary B. Churchill

"XV-15 Tilt Rotor Program Status" - L. G. Schroers*

"Impulsive Noise Characteristics of the UH-1H Helicopter" - Dr. Frederic H. Schmitz

"High Speed Impulsive Noise" - V. Rande Vause

*Not a Forum paper this year.

The luncheon meeting will be held at the Ames Research Center Cafeteria (Bldg. N-235) Banquet Room, NAS Moffett Field, with the program beginning at 11:45 a.m. Numerous menu selections are offered by the cafeteria, or you may choose to brown bag or skip the meal altogether.

All interested persons are invited to attend, and advance arrangements are required only if you do not have access to Ames Research Center. In that case, contact Jim Biggers (415-965-5043) or Carrie Kelley (415-965-5034) for an escort from the Ames visitors gate.

Scuba club

The Ames Scuba Club will meet on 14 April 1976 in the Ames Cafeteria dining room. The meeting will begin at 12:45 and be over by 1:30. This schedule permits attendees to get lunch before the serving line closes and, because of the relatively late hour, to hear the movie sound track. The program for this meeting will be the movie, "Lost Warrior," an excellent film depicting the discovery of a long-sought WWII Japanese submarine in Truk Lagoon. Plan a late lunch and join us.

Garden sale

The Foothill Men's Garden Club will present its Annual Garden Sale at the Rancho Shopping Center, Springer and Foothill Expressway in Los Altos, on April 17, starting at 9 a.m. Members grow the plants for this event. All proceeds are used to fund local scholarships and other civic purposes.

On sale will be hanging baskets, succulents, ferns, annuals, perennials, and a variety of vegetable plants. For further information, call Don McKellar at ext. 6345.

Ames Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
*76-90	Model Maker	WG-14	RSS	Technical Services Div.	10-31-76
*76-91	Model Maker	WG-14	RSC	Technical Services Div.	10-31-76
*76-92	Model Maker	WG-14	RSM	Technical Services Div.	10-31-76
*76-93	Numerical Control Machine Tool Programmer	WG-12/14	RSM	Technical Services Div.	10-31-76
*76-94	Numerical Control Machine Tool Programmer	WG-15	RSM	Technical Services Div.	10-31-76
*76-95	Research Instrument Maker, Instrument Maker	WG-12/ WG-14	RSM	Technical Services Div.	10-31-76
*76-96	Instrument Maker	WG-15	RSM	Technical Services Div.	10-31-76
76-98	Secretary (Stenography)	GS-5/6	DM	Center-wide	4-16-76
76-99	Procurement Clerk (Typing) or Clerk-Typist	GS-4/5 or GS-3/4	AS	Centerwide & Outside	4-16-76
76-100	Purchasing Agent	GS-4/5/6/7	ASG	Centerwide & Outside	4-16-76
76-101	Secretary (Stenography)	GS-5/6	RI	Centerwide & Outside	4-16-76
76-102	Contract Specialist (2 positions)	GS-9/11/12	ASF	Centerwide	4-16-76
76-103	Contract Specialist	GS-9/11/12	ASG	Centerwide	4-16-76

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National Aeronautics and Space Administration
NASA-451



The Astrogram

Volume XVIII Number 16

April 22, 1976

Jupiter's tail believed enormous

Pioneer 10 sensors have indicated that Jupiter has an enormous magnetic tail, almost half a billion miles long, completely spanning the distance between the orbits of Jupiter and Saturn.

Pioneer 10 is on its way out of the solar system and crossed the orbit of Saturn in early February. Spacecraft sampling data shows that Pioneer was solidly in Jupiter's tail for at least 24 hr in mid-March. For 5-hr periods before and after the apparent encounter with the tail, the spacecraft was not programmed to return tracking data and may have been partially in the tail's influence, says Pioneer project scientist Dr. John Wolfe.

During the 24 hr in the tail, the spacecraft's solar wind instrument registered zero because the tail's magnetic envelope structure shut out the solar wind completely. Calculations show that Pioneer was in the proper position to intercept the tail, about 1 deg to the right of the Sun-Jupiter line. This bias is due to Jupiter's orbital velocity.

"It is just barely conceivable that the solar wind could have died completely for a whole day without our being in the tail, and we'll know more when we have complete tracking data," Dr. Wolfe said, "but we believe we've found that Jupiter has a very stretched-out magnetic envelope or tail" (see drawing).

Scientists had speculated that Pioneer might be in a "magnetic bubble" broken off from the tail, but Wolfe now believes that because of the long time of zero solar wind, Jupiter has an intact tail stretching all the way from Jupiter to Saturn.

"The cylindrical tail may expand as it goes out," Wolfe says. "It may be even larger than the nine-million-mile diameter of Jupiter's magnetic envelope at the planet because the solar wind density is down four times by the time you're out to Saturn's orbit," he says. (Continued on Page 5)

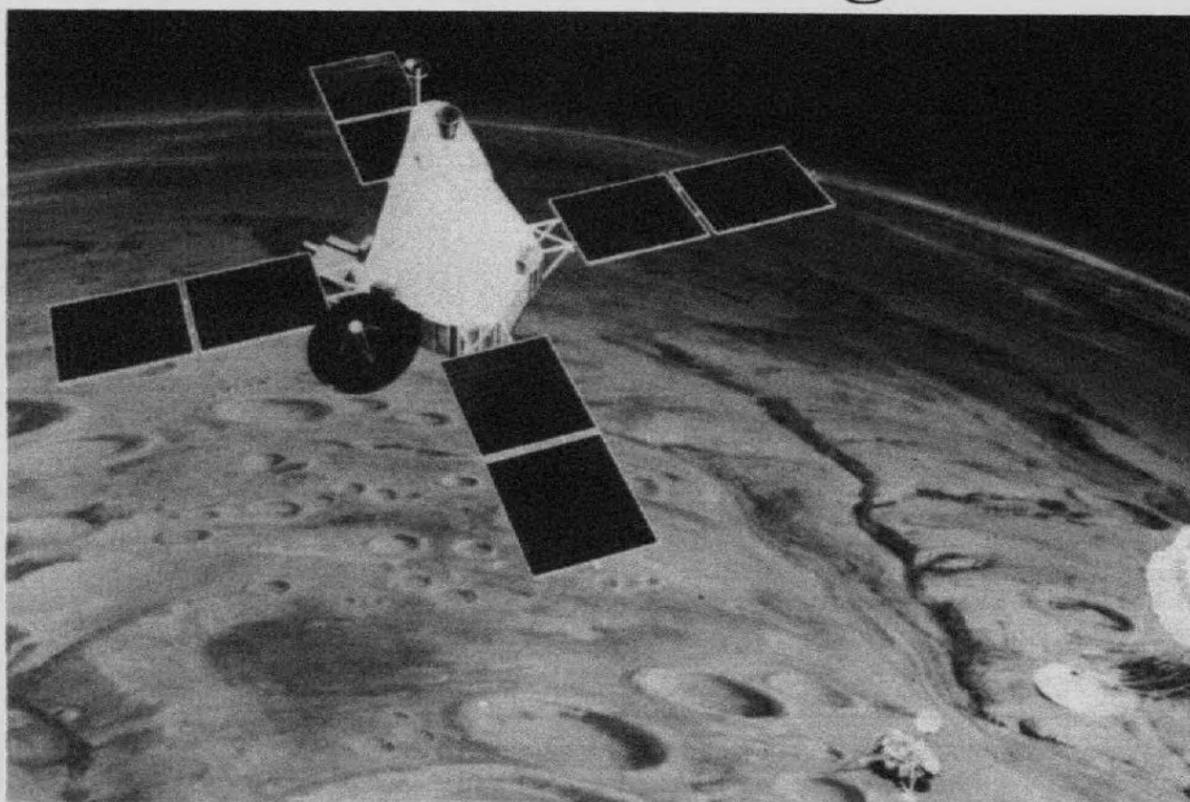
New EEO counselors

Center Director Dr. Hans Mark has selected the following personnel as new counselors: Bea Morales, Audrey Summers, Pat Kirk, and Henry Mack.

The new counselors will take over the counseling duties previously performed by Sheldon M. Smith, Lewis A. Turner, Dorothy M. Davenport, and Allison Ybarra.

Equal Employment Opportunity counselors serve as a bridge between employees and management and have the responsibility for establishing an open and sympathetic channel through which employees may raise questions, discuss grievances, obtain answers, and, on an informal basis, resolve problems connected with equal employment opportunity. The counselor's role is an integral part of the total EEO Program, and it is essential that the role of the counselor is understood and supported by all Center personnel at all levels.

Mars atmosphere study scheduled for Viking



After an 11-month journey through 736 million kilometers (460 million mi) of space, the Viking Lander will have just 5 minutes to profile and analyze the Martian lower atmosphere.

Developed at Ames Research Center, the Lower Atmosphere Structure Experiment will produce a profile of the temperature, pressure, and density of the last 100 km (60 mi) of the atmosphere as the Lander rapidly decelerates from about 4,500 m/sec (10,000 mph) to a gentle 3 m/sec (6 mph) touchdown on Mars, July 4 at 9:41 p.m. EDT.

The experiment is one of three separate investigations prepared by members of the Viking Entry Science Team. The other investigations will analyze the composition of the gases of the upper atmosphere and measure ion and electron energy during Mars entry to determine ion type and concentration.

Alvin Seiff, lead investigator of the Lower Atmosphere Structure Experiment, Ames Space Science Division, expects the study to solve some puzzles about Martian winds and atmospheric temperature and pressure.

Ninety m/s (200 mph) winds appear to cause periodic planet-wide dust storms on Mars, but present knowledge, based on numerical models rather than direct measurements, doesn't predict winds of that intensity. Horizontal wind velocity measurements and atmospheric temperature readings at different altitudes will help explain wind dynamics.

Seiff feels that besides answering basic questions about the Martian atmosphere, the investigation will broaden our view of our own atmosphere. After the Viking mission, scientists may better understand the

circulation of the Earth's atmosphere, which determines our weather and the behavior of our polar caps, which mark the coming and going of the ice ages with their growth and recession.

Mars' polar caps grow and recede seasonally as they condense and evaporate carbon dioxide.

An accelerometer on the Lander will measure the craft's rate of deceleration through the Martian atmosphere. Scientists can determine the density of the atmosphere from the Lander's size, shape and weight and its deceleration rate. Data from tests of Lander models fired through carbon dioxide atmospheres in Ames ballistic ranges are used to calibrate this measurement.

Atmospheric pressure and temperature can be derived mathematically from the density. During the descent from 100 km (60 mi) to 25 km (15 mi), the density, pressure, and temperature profiles will all be derived from the accelerometer measurements.

As the Lander falls to within 25 km (15 mi) of Mars, direct sensing of temperature and pressure will begin. The aeroshell stagnation pressure instrument and the recovery temperature instrument on the Lander's aeroshell continually sample the air as the Lander races down through the Martian atmosphere.

The pressure instrument contains a thin diaphragm that bends with increasing pressure. The movement converts the pressure into an electrical signal much like the function of a microphone diaphragm.

During the final 6 km (200,000 ft) of the Lander's descent, the aeroshell is cast off and the (Continued on Page 3)

Good news for commuter bicyclists!

The road to work along Moffett Blvd. is a little safer. There is now a way to get from Route 85 to the bridge over 101 without getting into traffic.

Here's how: (see the accompanying map for details)

1. Travel north on Moffett Blvd. to the Rte. 85N exit. Stop.

2. When a break in traffic comes, cross the exit road, and get onto the sidewalk using the new sidewalk ramp.

3. Follow the sidewalk north to the cut in the fence - make a right turn. (This is a little tight, but we are working with the State of California to get a new, more direct path here, so bear with us.)

4. Cross Leong Dr. using the new sidewalk ramp, and turn left to head north on Leong Dr. toward Ames.

5. At the stop sign, cross Leong Drive and enter the new bike path located on the north-west corner. Be careful, because right-turning southbound cars do not yet have a stop sign on Leong Drive (we are working on this too).

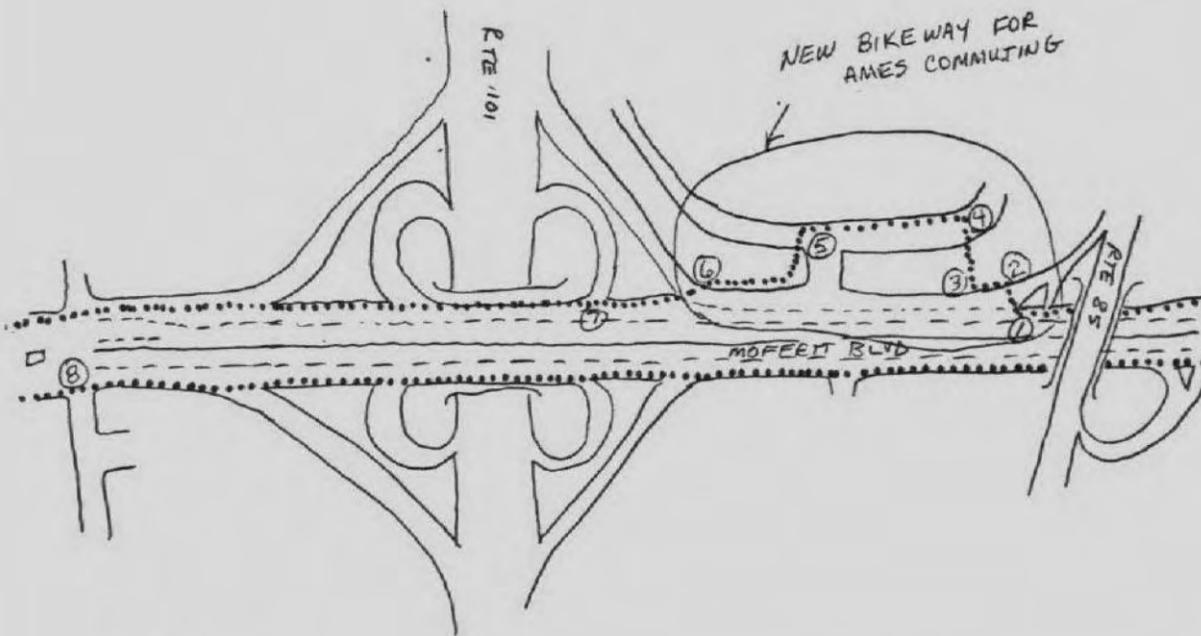
6. Follow path to crossing of the 101S entrance road. Stop! (You are not required to stop, but you will find it a lot safer to do so until you are sure of a free space to cross.)

7. Cross the entrance ramp, and ride up the overpass.

8. The present section of the bikeway ends at the top of the bridge approach. Here you can either signal a lane change and continue on the road, or use the sidewalk to cross the bridge. (This section in the plan is being worked on with the State of Calif., but will take some time to complete.)

9. When you leave Ames in the afternoon, pick an off-peak time (e.g., 4:15, or 4:45) - it is a little easier when the traffic is lighter. I recommend a trial run during the weekend if you are unsure of the surroundings.

This is only a small section of the overall bikeway to Ames, but it does permit passage past the worst danger points. Efforts are continuing to have the full length of Moffett Blvd. from Middlefield Rd. to the Navy gate marked and signed, but as you probably have observed, the process is a slow one. (The first request for a bikeway to Ames was submitted in Oct. 1973!) Even so, there is now a usable route available, so start using that bicycle - it is a good time of the year to try!! We welcome any comments or suggestions about the bikeway... direct these to Larry Carr, Assoc. of Ames Commuter Bicyclists, MS 215-1.



Bullwinkle

I'M TRADING IT ALL IN ON
U.S. SAVINGS BONDS
THEY LET YOU SLEEP
EASIER-



Bicentennial tours

To celebrate our nation's bicentennial birthday, the Tour Office at the Center is organizing special group tours to emphasize the historical contributions and importance of Aeronautics, Astronautics and Life Sciences Research.

NASA/Ames Bicentennial Tours will include a visit to America's largest wind tunnel and to flight operations, the testing ground for experimental aircraft. Other sights will include flying observatories and exhibits and slides showing our latest discoveries about Jupiter, Man in Space, and the Viking search for life on Mars.

Each tour will last about 1-1/2 hours, and will accommodate groups of between 15 and 30 people. (Larger groups may be accommodated with sufficient advanced notice and special approval.)

Tours are scheduled Monday through Friday at 9:30, 10:00, 12:30, 1:00, and 2:45 p.m.

All tours must be pre-scheduled.

For additional information and scheduling please phone the Ames Tour Office, (415)965-6497.

NASA pamphlets

NASA Headquarters has issued another pamphlet in the "penny flyer" series. This one is entitled "Questions about Aeronautics and Space." Single or multiple copies may be requested, in writing, by dropping a note to: Audio-Visual Facility, c/o mail stop 204-12.

A sample of some of the questions and answers included in the pamphlet are:

Could NASA help solve the nation's energy problems?

NASA is active in a variety of energy research and development efforts where technology developed for space and aeronautics is finding important and promising applications. Specific projects included solar heating and cooling of homes and office buildings; windmill energy systems; improving energy efficiency of automobiles and trucks; identifying energy resources on Earth with spacecraft-borne instruments; fuel conservation in civil air transport; and general energy and environmental conservation techniques and alternatives.

What about the Space Shuttle?

The Space Shuttle is a transportation system designed to carry out various missions in Earth orbit at a fraction of the cost of earlier systems. It consists of a large external fuel tank and reusable booster rockets for launch from Earth and an airplane-like, manned reusable orbiter for conducting space missions. As each mission is completed, the orbiter will be piloted back to an airstrip and be refurbished to fly again.

The manned Space Shuttle will carry and launch into orbit new unmanned spacecraft including communications, weather, and Earth observation satellites, and military and scientific satellites. It will have the capability to retrieve orbiting spacecraft for replacing experiments, servicing and/or repairing, and returning them to Earth. Also, the orbiter, with Spacelab installed, will have a capability for conducting month-long experiments and operations in space. The Shuttle's easy and routine access to space with Spacelab will enable physically-fit scientists and engineers to personally supervise and check on their orbiting space experiments.

Space covers

Jack W. McMahan, author of "McMahan's Philatelic History of the Conquest of Space," has announced the completion of the 1972 and 1973 Supplements to his catalog, which is a chronology of United States Missile and Space Launches and Events. These supplements begin with number 4447 through 4991 and cover the miscellaneous space firings as well as the manned missions of Apollo 16 and 17. All activity of Skylab 1, 2, 3, and 4 are also included. These two years cover 50 pages and follow the same format as contained in his original work for the period 1944-1971.

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	100,000	30.00	100,000	65.00
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The Aircraft Operations Division and the Applications Division will position the aircraft; Lt. Cdr. Stew Robinson (966-5315) is the contact for aircraft positions. Both Divisions should provide for ground crewmen to remain in the vicinity of the aircraft.

Aircraft proposed for display are: C-8 Buffalo, C-141, CV-990, UH-6 (Army), Lear 705, Twin Otter, X-14, and U-2.

Physical security of the aircraft will be coordinated by Ralph Maines of the Ames Security Office.

Mars (Continued from Page 1)

Lander's parachute opens. A new set of temperature and pressure sensors being working. The second temperature sensor is on one of the Lander foot pads while the pressure sensor, inside the Lander, makes contact with the atmosphere through a tube extending out of the Lander.

Pressure studies will help scientists determine what gases besides carbon dioxide the Martian atmosphere holds. The presence of argon is now considered likely. If even a trace of nitrogen is found on Mars, the odds for existence of some life form will greatly improve.

Ames bond drive reaches 76% in '76

The recently completed U.S. savings bond drive saw an outstanding increase in payroll savings bond participation from 65% at the start of the drive to 76% at the finish. This was up by 4% from the finish of last year's campaign which also showed a spectacular improvement by boasting center participation from 53% to 72%.

An interesting feature of this year's campaign was the unusually large number of bond allotment increases. There were over 70 increases which is more than twice the previous year's number. This speaks well for bonds as a savings method as these individuals must have decided it is a very satisfactory program.

Unfortunately, the overall center participation did not quite reach the 80% expected to win the Treasury Department Minute Man Flag. However, it has just been learned that the Treasury Department has revised its requirements for Federal Establishment which are 1000 complement and will award the Minute Man flag for 76% participation on this bicentennial year. So if our figures stand up under a

cross check and we fulfill the technicality of 76% participating in the payroll deductions program as of June 30, 1976, the Minute Man flag will be awarded to Ames. Eleven of the 22 division units needed the 80%. Seven more were within striking distance at only 70%, and one of these failed to reach 60%. The increase in participation shows an important trend for next year's all-out effort. Particularly important was the record of the technical service division, Code RS, which is the largest division in the center and jumped from 57% to 71%. Another large division, Space Science Code SS, made a fine improvement from 50% to 61%. The greatest improvement rates were Applications Division, Code SE, from 52% to 92% and Biomedical Research, Code LR, from 29% to 54%.

Some remarkable participation percentages were achieved by several large branches as shown in the table below for branches over 14 members with 80% participation. Many other smaller organizational units surpassed 80% as indicated on the easel chart in the cafeteria and several were 100%.

Large branches with high participation

Code	Complement	Bond Buyers	Percent Participation	Branch
RSS	46	38	83	Metals Fabrication
RFS	39	31	80	Electro-System Engineering
STE	31	30	97	Experimental Fluid Dynamics
FSN	28	25	89	Aircraft Guidance & Navigation
FAOW	28	23	82	Wind Tunnels Section
FSV	26	23	88	Avionics Research
FAA	25	24	96	Aerodynamics
RFE	25	20	80	Research Equipment Engineering
FLI	24	20	83	Simulation Investigation
STT	22	18	82	Computational Fluid Dynamics
FAX	21	20	95	Experimental Investigations
SSO	20	16	80	Airborne Science Office
LTI	19	16	84	Man - Machine Integration
RSC	18	16	89	Model Development
FPT	17	14	82	Research Aircraft Technology
APM	17	14	82	Office of Personnel Managers
ASR	16	15	94	Research & Development Contracts
SAE	14	13	93	Experiment Systems Branch

Division percent participation

Code	Leader	Percent Finish	Participation Start	Complement	Organization
AF	Shawlee	92	75	40	Financial
SE	Knutson	92	52	38	Applications
AP	Hartman	89	58	36	Personnel
FP	Deckert	88	74	42	Flight Projects
D	Mark	87	78	46	Director
FS	Snyder	84	78	123	Flight Systems
SD	Hansen	81	75	36	Development
RF	Giovanetti	80	73	183	Res. Facilities & Inst.
ST	Peterson	80	76	140	Thermo & Gas Dynamics
AS	Walsh	80	70	54	Procurement
FL	Rathert	80	77	45	Simulation Sciences
SA	Hall	79	75	58	Pioneer
AA	Reynolds	77	62	35	Supply
FA	Petersen	76	73	124	Aeronautics
RR	Dines	73	63	65	Computation
LT	Sadoff	71	63	49	Biotechnology
RS	Stollar	71	57	194	Technical Services
AT	Bennett	71	68	38	Technical Information
SS	Compton	61	50	103	Space Science
LR	Sandler	54	29	37	Biomedical
LP	De Vincenzi	53	45	40	Planetary Biology
FO	Reese	51	45	62	Aircraft Operations

Safety corner

Management is asking these questions about OSHA (Occupational Safety and Health Act).

Q. Am I safe in relying on a reputable supplier to furnish me with equipment that complies with safety standards?

A. You'd better inspect the equipment when it arrives. A company bought scaffolding from a "reliable" firm and had it shipped directly to the jobsite.

An OSHA inspector discovered six violations on the one piece of equipment. Result: \$350 penalty against the trusting buyer.

Q. One of our employees was injured on the job. He now threatens to sue us, claiming he was hurt because we failed to comply with OSHA safety standards. Can he do this?

A. Not according to the federal courts - which dismissed three similar lawsuits. The Occupational Safety and Health Act gives Uncle Sam the right to impose penalties upon - and even bring criminal actions against - offending companies.

It does not authorize civil suits by employees injured because of violations of the safety laws.

Chances are the employee is only entitled to workmen's compensation.

Q. We understand all about employees' rights under the safety law - but does this include the right to refuse to work because of claimed hazardous conditions?

A. No. OSHA regulations specifically state that "there is no right afforded by the Act which would entitle employees to walk off the job because of potential unsafe conditions at the workplace." If employees feel conditions are hazardous, they should request an inspection by OSHA - or file a grievance.

There is one exception: If conditions are so hazardous "that there is a real danger of death or serious injury," and there isn't sufficient time to go through regular channels, and the employer refuses to correct the situation - employees have the right to refuse to work.

All Ames employees are to note that the Ames Health Unit is now open at 7:30 a.m. each morning. This is a new policy for the convenience of the early morning risers.

BATS - Do not pick up any dead bats you may find anywhere around the Center. They may be diseased and possibly have rabies. Just contact John Habermeyer, the Ames Safety Officer, at extension 5602 immediately.

NFFE

Your local Federal Employees Union holds a meeting on the third Monday of each month. Everyone is invited to attend. These meetings are held in building 213, room 261; from 12:00 to 12:30.

We hold exclusive representation rights for most WG and nonprofessional GS employees. This is a democratic Union. We need your help. What we do affects all of you. Come and join us and participate in this most important function.

Be it known ladies that you belong to the bargaining unit too. Where are you?

The Astrogram

Volume XVIII Number 16

April 22, 1976

Jupiter's tail believed enormous

Pioneer 10 sensors have indicated that Jupiter has an enormous magnetic tail, almost half a billion miles long, completely spanning the distance between the orbits of Jupiter and Saturn.

Pioneer 10 is on its way out of the solar system and crossed the orbit of Saturn in early February. Spacecraft sampling data shows that Pioneer was solidly in Jupiter's tail for at least 24 hr in mid-March. For 5-hr periods before and after the apparent encounter with the tail, the spacecraft was not programmed to return tracking data and may have been partially in the tail's influence, says Pioneer project scientist Dr. John Wolfe.

During the 24 hr in the tail, the spacecraft's solar wind instrument registered zero because the tail's magnetic envelope structure shut out the solar wind completely. Calculations show that Pioneer was in the proper position to intercept the tail, about 1 deg to the right of the Sun-Jupiter line. This bias is due to Jupiter's orbital velocity.

"It is just barely conceivable that the solar wind could have died completely for a whole day without our being in the tail, and we'll know more when we have complete tracking data," Dr. Wolfe said, "but we believe we've found that Jupiter has a very stretched-out magnetic envelope or tail" (see drawing).

Scientists had speculated that Pioneer might be in a "magnetic bubble" broken off from the tail, but Wolfe now believes that because of the long time of zero solar wind, Jupiter has an intact tail stretching all the way from Jupiter to Saturn.

"The cylindrical tail may expand as it goes out," Wolfe says. "It may be even larger than the nine-million-mile diameter of Jupiter's magnetic envelope at the planet because the solar wind density is down four times by the time you're out to Saturn's orbit," he says. (Continued on Page 5)

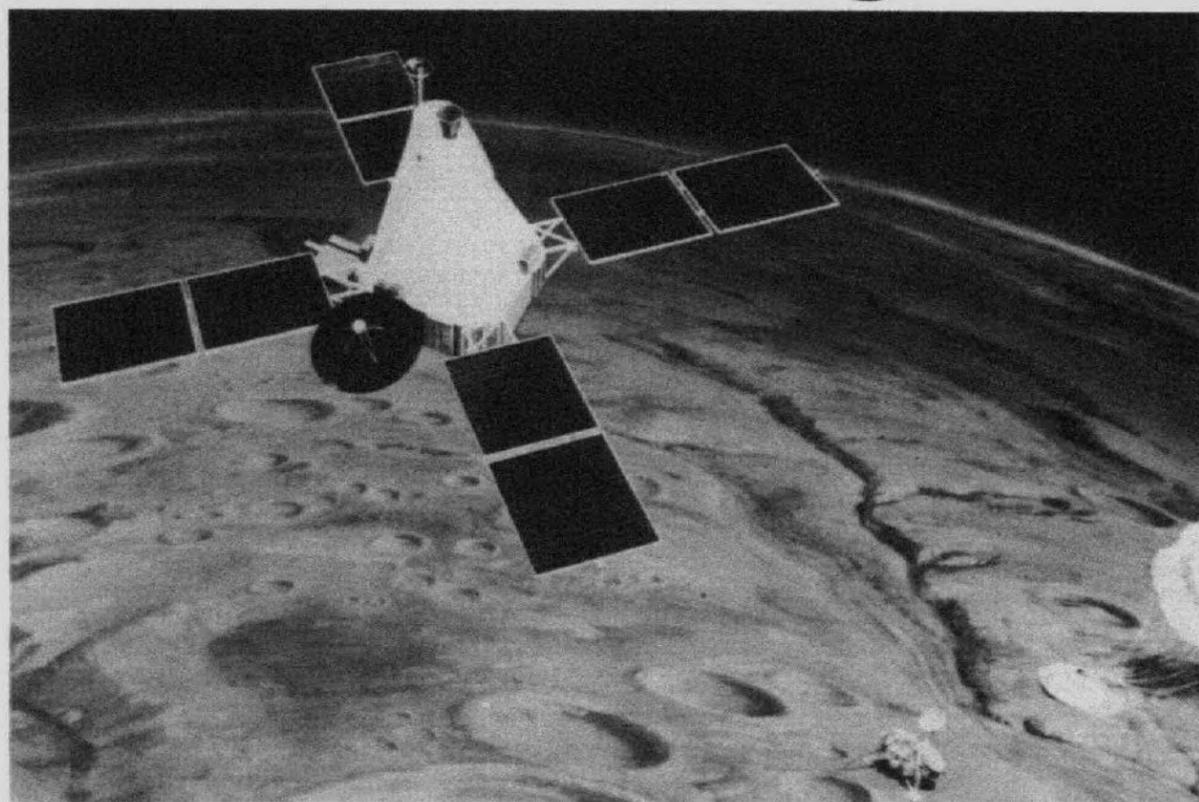
New EEO counselors

Center Director Dr. Hans Mark has selected the following personnel as new counselors: Bea Morales, Audrey Summers, Pat Kirk, and Henry Mack.

The new counselors will take over the counseling duties previously performed by Sheldon M. Smith, Lewis A. Turner, Dorothy M. Davenport, and Allison Ybarra.

Equal Employment Opportunity counselors serve as a bridge between employees and management and have the responsibility for establishing an open and sympathetic channel through which employees may raise questions, discuss grievances, obtain answers, and, on an informal basis, resolve problems connected with equal employment opportunity. The counselor's role is an integral part of the total EEO Program, and it is essential that the role of the counselor is understood and supported by all Center personnel at all levels.

Mars atmosphere study scheduled for Viking



After an 11-month journey through 736 million kilometers (460 million mi) of space, the Viking Lander will have just 5 minutes to profile and analyze the Martian lower atmosphere.

Developed at Ames Research Center, the Lower Atmosphere Structure Experiment will produce a profile of the temperature, pressure, and density of the last 100 km (60 mi) of the atmosphere as the Lander rapidly decelerates from about 4,500 m/sec (10,000 mph) to a gentle 3 m/sec (6 mph) touchdown on Mars, July 4 at 9:41 p.m. EDT.

The experiment is one of three separate investigations prepared by members of the Viking Entry Science Team. The other investigations will analyze the composition of the gases of the upper atmosphere and measure ion and electron energy during Mars entry to determine ion type and concentration.

Alvin Seiff, lead investigator of the Lower Atmosphere Structure Experiment, Ames Space Science Division, expects the study to solve some puzzles about Martian winds and atmospheric temperature and pressure.

Ninety m/s (200 mph) winds appear to cause periodic planet-wide dust storms on Mars, but present knowledge, based on numerical models rather than direct measurements, doesn't predict winds of that intensity. Horizontal wind velocity measurements and atmospheric temperature readings at different altitudes will help explain wind dynamics.

Seiff feels that besides answering basic questions about the Martian atmosphere, the investigation will broaden our view of our own atmosphere. After the Viking mission, scientists may better understand the

circulation of the Earth's atmosphere, which determines our weather and the behavior of our polar caps, which mark the coming and going of the ice ages with their growth and recession.

Mars' polar caps grow and recede seasonally as they condense and evaporate carbon dioxide.

An accelerometer on the Lander will measure the craft's rate of deceleration through the Martian atmosphere. Scientists can determine the density of the atmosphere from the Lander's size, shape and weight and its deceleration rate. Data from tests of Lander models fired through carbon dioxide atmospheres in Ames ballistic ranges are used to calibrate this measurement.

Atmospheric pressure and temperature can be derived mathematically from the density. During the descent from 100 km (60 mi) to 25 km (15 mi), the density, pressure, and temperature profiles will all be derived from the accelerometer measurements.

As the Lander falls to within 25 km (15 mi) of Mars, direct sensing of temperature and pressure will begin. The aeroshell stagnation pressure instrument and the recovery temperature instrument on the Lander's aeroshell continually sample the air as the Lander races down through the Martian atmosphere.

The pressure instrument contains a thin diaphragm that bends with increasing pressure. The movement converts the pressure into an electrical signal much like the function of a microphone diaphragm.

During the final 6 km (200,000 ft) of the Lander's descent, the aeroshell is cast off and the (Continued on Page 3)

Good news for commuter bicyclists!

The road to work along Moffett Blvd. is a little safer. There is now a way to get from Route 85 to the bridge over 101 without getting into traffic.

Here's how: (see the accompanying map for details)

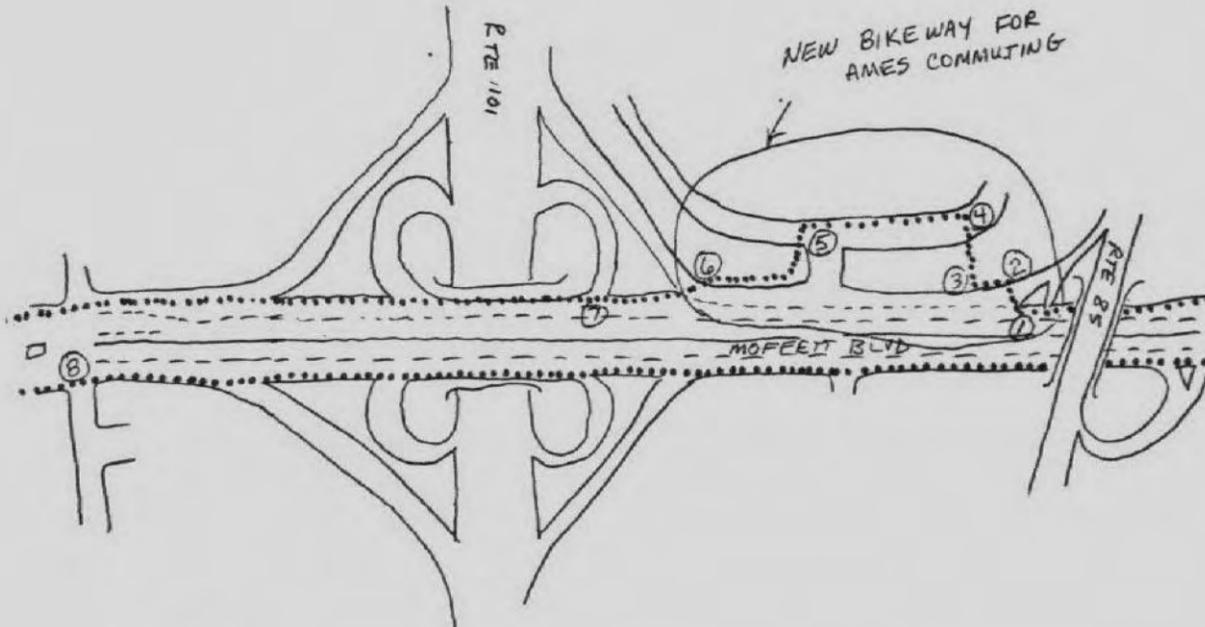
1. Travel north on Moffett Blvd. to the Rte. 85N exit. Stop.
2. When a break in traffic comes, cross the exit road, and get onto the sidewalk using the new sidewalk ramp.
3. Follow the sidewalk north to the cut in the fence - make a right turn. (This is a little tight, but we are working with the State of California to get a new, more direct path here, so bear with us.)
4. Cross Leong Dr. using the new sidewalk ramp, and turn left to head north on Leong Dr. toward Ames.
5. At the stop sign, cross Leong Drive and enter the new bike path located on the north-west corner. Be careful, because right-turning southbound cars do not yet have a stop sign on Leong Drive (we are working on this too).
6. Follow path to crossing of the 101S entrance road. Stop! (You are not required to stop, but you will find it a lot safer to do so until you are sure of a free space to cross.)

7. Cross the entrance ramp, and ride up the overpass.

8. The present section of the bikeway ends at the top of the bridge approach. Here you can either signal a lane change and continue on the road, or use the sidewalk to cross the bridge. (This section in the plan is being worked on with the State of Calif., but will take some time to complete.)

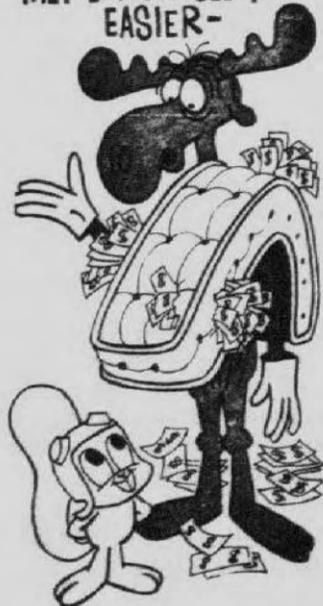
9. When you leave Ames in the afternoon, pick an off-peak time (e.g., 4:15, or 4:45) - it is a little easier when the traffic is lighter. I recommend a trial run during the weekend if you are unsure of the surroundings.

This is only a small section of the overall bikeway to Ames, but it does permit passage past the worst danger points. Efforts are continuing to have the full length of Moffett Blvd. from Middlefield Rd. to the Navy gate marked and signed, but as you probably have observed, the process is a slow one. (The first request for a bikeway to Ames was submitted in Oct. 1973!) Even so, there is now a usable route available, so start using that bicycle - it is a good time of the year to try!! We welcome any comments or suggestions about the bikeway. . . direct these to Larry Carr, Assoc. of Ames Commuter Bicyclists, MS 215-1.



Bullwinkle

I'M TRADING IT ALL IN ON
U.S. SAVINGS BONDS
THEY LET YOU SLEEP
EASIER-



Bicentennial tours

To celebrate our nation's bicentennial birthday, the Tour Office at the Center is organizing special group tours to emphasize the historical contributions and importance of Aeronautics, Astronautics and Life Sciences Research.

NASA/Ames Bicentennial Tours will include a visit to America's largest wind tunnel and to flight operations, the testing ground for experimental aircraft. Other sights will include flying observatories and exhibits and slides showing our latest discoveries about Jupiter, Man in Space, and the Viking search for life on Mars.

Each tour will last about 1-1/2 hours, and will accommodate groups of between 15 and 30 people. (Larger groups may be accommodated with sufficient advanced notice and special approval.)

Tours are scheduled Monday through Friday at 9:30, 10:00, 12:30, 1:00, and 2:45 p.m.

All tours must be pre-scheduled.

For additional information and scheduling please phone the Ames Tour Office, (415)965-6497.

NASA pamphlets

NASA Headquarters has issued another pamphlet in the "penny flyer" series. This one is entitled "Questions about Aeronautics and Space." Single or multiple copies may be requested, in writing, by dropping a note to: Audio-Visual Facility, c/o mail stop 204-12.

A sample of some of the questions and answers included in the pamphlet are:

Could NASA help solve the nation's energy problems?

NASA is active in a variety of energy research and development efforts where technology developed for space and aeronautics is finding important and promising applications. Specific projects included solar heating and cooling of homes and office buildings; windmill energy systems; improving energy efficiency of automobiles and trucks; identifying energy resources on Earth with spacecraft-borne instruments; fuel conservation in civil air transport; and general energy and environmental conservation techniques and alternatives.

What about the Space Shuttle?

The Space Shuttle is a transportation system designed to carry out various missions in Earth orbit at a fraction of the cost of earlier systems. It consists of a large external fuel tank and reusable booster rockets for launch from Earth and an airplane-like, manned reusable orbiter for conducting space missions. As each mission is completed, the orbiter will be piloted back to an airstrip and be refurbished to fly again.

The manned Space Shuttle will carry and launch into orbit new unmanned spacecraft including communications, weather, and Earth observation satellites, and military and scientific satellites. It will have the capability to retrieve orbiting spacecraft for replacing experiments, servicing and/or repairing, and returning them to Earth. Also, the orbiter, with Spacelab installed, will have a capability for conducting month-long experiments and operations in space. The Shuttle's easy and routine access to space with Spacelab will enable physically-fit scientists and engineers to personally supervise and check on their orbiting space experiments.

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(Employee chooses the Plan and Amount of coverage he wants. Coverage for spouse is optional.)

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	100,000	30.00	100,000	65.00
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NAS open house

Confirming recent discussions, ARC will display research aircraft at the forthcoming NAS Moffett Field Open House on May 8 from 10 a.m. to 5 p.m. The aircraft will be positioned for static display on the Navy apron with posters or descriptive material describing the aircraft and its role in NASA research programs. The cognizant project office will be responsible for furnishing these materials to Cy Sewell who will position the aircraft and set up displays. There is no requirement for the aircraft to be manned with project personnel as spokesmen, but if individuals wish to so participate, their efforts would be welcome.

The Aircraft Operations Division and the Applications Division will position the aircraft; Lt. Cdr. Stew Robinson (966-5315) is the contact for aircraft positions. Both Divisions should provide for ground crewmen to remain in the vicinity of the aircraft.

Aircraft proposed for display are: C-8 Buffalo, C-141, CV-990, UH-6 (Army), Lear 705, Twin Otter, X-14, and U-2.

Physical security of the aircraft will be coordinated by Ralph Maines of the Ames Security Office.

Mars (Continued from Page 1)

Lander's parachute opens. A new set of temperature and pressure sensors being working. The second temperature sensor is on one of the Lander foot pads while the pressure sensor, inside the Lander, makes contact with the atmosphere through a tube extending out of the Lander.

Pressure studies will help scientists determine what gases besides carbon dioxide the Martian atmosphere holds. The presence of argon is now considered likely. If even a trace of nitrogen is found on Mars, the odds for existence of some life form will greatly improve.

Ames bond drive reaches 76% in '76

The recently completed U.S. savings bond drive saw an outstanding increase in payroll savings bond participation from 65% at the start of the drive to 76% at the finish. This was up by 4% from the finish of last year's campaign which also showed a spectacular improvement by boasting center participation from 53% to 72%.

An interesting feature of this year's campaign was the unusually large number of bond allotment increases. There were over 70 increases which is more than twice the previous year's number. This speaks well for bonds as a savings method as these individuals must have decided it is a very satisfactory program.

Unfortunately, the overall center participation did not quite reach the 80% expected to win the Treasury Department Minute Man Flag. However, it has just been learned that the Treasury Department has revised its requirements for Federal Establishment which are 1000 complement and will award the Minute Man flag for 76% participation on this bicentennial year. So if our figures stand up under a

cross check and we fulfill the technicality of 76% participating in the payroll deductions program as of June 30, 1976, the Minute Man flag will be awarded to Ames. Eleven of the 22 division units needed the 80%. Seven more were within striking distance at only 70%, and one of these failed to reach 60%. The increase in participation shows an important trend for next year's all-out effort. Particularly important was the record of the technical service division, Code RS, which is the largest division in the center and jumped from 57% to 71%. Another large division, Space Science Code SS, made a fine improvement from 50% to 61%. The greatest improvement rates were Applications Division, Code SE, from 52% to 92% and Biomedical Research, Code LR, from 29% to 54%.

Some remarkable participation percentages were achieved by several large branches as shown in the table below for branches over 14 members with 80% participation. Many other smaller organizational units surpassed 80% as indicated on the easel chart in the cafeteria and several were 100%.

Large branches with high participation

Code	Complement	Bond Buyers	Percent Participation	Branch
RSS	46	38	83	Metals Fabrication
RFS	39	31	80	Electro-System Engineering
STE	31	30	97	Experimental Fluid Dynamics
FSN	28	25	89	Aircraft Guidance & Navigation
FAOW	28	23	82	Wind Tunnels Section
FSV	26	23	88	Avionics Research
FAA	25	24	96	Aerodynamics
RFE	25	20	80	Research Equipment Engineering
FLI	24	20	83	Simulation Investigation
STT	22	18	82	Computational Fluid Dynamics
FAX	21	20	95	Experimental Investigations
SSO	20	16	80	Airborne Science Office
LTI	19	16	84	Man - Machine Integration
RSC	18	16	89	Model Development
FPT	17	14	82	Research Aircraft Technology
APM	17	14	82	Office of Personnel Managers
ASR	16	15	94	Research & Development Contracts
SAE	14	13	93	Experiment Systems Branch

Division percent participation

Code	Leader	Percent Finish	Participation Start	Complement	Organization
AF	Shawlee	92	75	40	Financial
SE	Knutson	92	52	38	Applications
AP	Hartman	89	58	36	Personnel
FP	Deckert	88	74	42	Flight Projects
D	Mark	87	78	46	Director
FS	Snyder	84	78	123	Flight Systems
SD	Hansen	81	75	36	Development
RF	Giovanetti	80	73	183	Res. Facilities & Inst.
ST	Peterson	80	76	140	Thermo & Gas Dynamics
AS	Walsh	80	70	54	Procurement
FL	Rathert	80	77	45	Simulation Sciences
SA	Hall	79	75	58	Pioneer
AA	Reynolds	77	62	35	Supply
FA	Petersen	76	73	124	Aeronautics
RR	Dines	73	63	65	Computation
LT	Sadoff	71	63	49	Biotechnology
RS	Stollar	71	57	194	Technical Services
AT	Bennett	71	68	38	Technical Information
SS	Compton	61	50	103	Space Science
LR	Sandler	54	29	37	Biomedical
LP	De Vincenzi	53	45	40	Planetary Biology
FO	Reese	51	45	62	Aircraft Operations

Safety corner

Management is asking these questions about OSHA (Occupational Safety and Health Act).

- Q. Am I safe in relying on a reputable supplier to furnish me with equipment that complies with safety standards?
- A. You'd better inspect the equipment when it arrives. A company bought scaffolding from a "reliable" firm and had it shipped directly to the jobsite.

An OSHA inspector discovered six violations on the one piece of equipment. Result: \$350 penalty against the trusting buyer.

- Q. One of our employees was injured on the job. He now threatens to sue us, claiming he was hurt because we failed to comply with OSHA safety standards. Can he do this?
- A. Not according to the federal courts - which dismissed three similar lawsuits. The Occupational Safety and Health Act gives Uncle Sam the right to impose penalties upon - and even bring criminal actions against - offending companies.

†It does not authorize civil suits by employees injured because of violations of the safety laws.

Chances are the employee is only entitled to workmen's compensation.

- Q. We understand all about employees' rights under the safety law - but does this include the right to refuse to work because of *claimed* hazardous conditions?
- A. No. OSHA regulations specifically state that "there is no right afforded by the Act which would entitle employees to walk off the job because of potential unsafe conditions at the workplace." If employees feel conditions are hazardous, they should request an inspection by OSHA - or file a grievance.

There is one exception: If conditions are so hazardous "that there is a real danger of death or serious injury," and there isn't sufficient time to go through regular channels, and the employer refuses to correct the situation - employees have the right to refuse to work.

All Ames employees are to note that the Ames Health Unit is now open at 7:30 a.m. each morning. This is a new policy for the convenience of the early morning risers.

BATS - Do not pick up any dead bats you may find anywhere around the Center. They may be diseased and possibly have rabies. Just contact John Habermeyer, the Ames Safety Officer, at extension 5602 immediately.

NFFE

Your local Federal Employees Union holds a meeting on the third Monday of each month. Everyone is invited to attend. These meetings are held in building 213, room 261; from 12:00 to 12:30.

We hold exclusive representation rights for most WG and nonprofessional GS employees. This is a democratic Union. We need your help. What we do affects all of you. Come and join us and participate in this most important function.

Be it known ladies that you belong to the bargaining unit too. Where are you?

Women's News and Views

by Susie V. Rydquist

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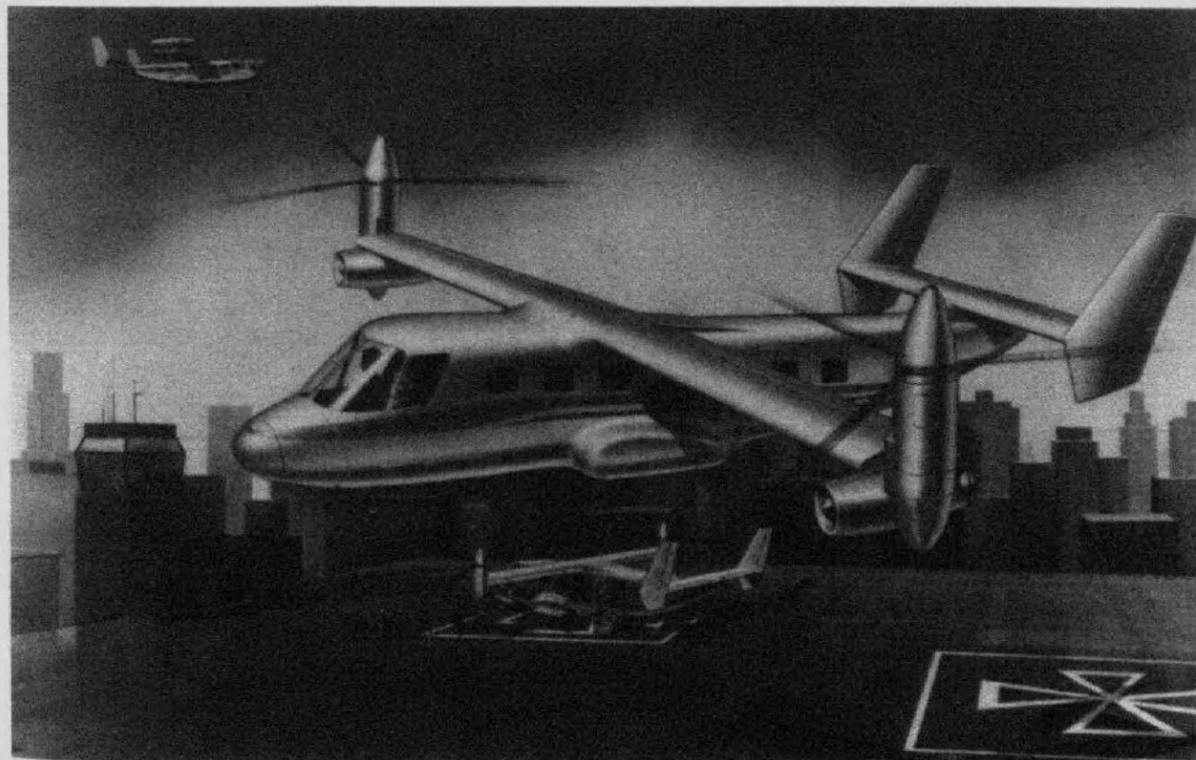
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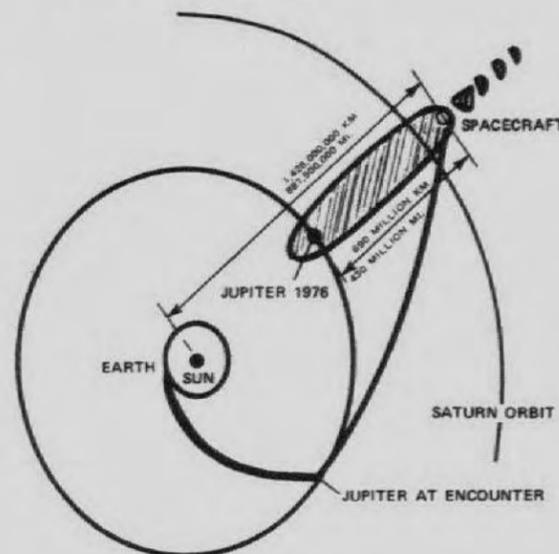
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Jupiter

(Continued from Page 1)

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MISSING: One 16mm Cine Special II motion picture camera. Serial no. 10773. Decal no. 15807. Anyone knowing the whereabouts of this camera, please call Frost, ext. 5024.

C. Frost
Photographic Technology Branch

Merit Promotion Plan

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76-107	Secretary (Stenography) or Secretary (Typing)	GS-4/5	RFA	Centerwide	4-30-76

TO APPLY: Call Extension 5599 or 5600

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Affectionately,
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FOR SALE: '72 VW Fastback, completely tuned type III engine with special oil cooler and filter, immaculate condition with 20,600 miles, lt. blue color, AM radio, excellent tires, no smog equipment required - EPA & DMV approved, \$1995. Roger Krause, till 11 p.m. - Mt. View, 967-5648.

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FOR SALE: 1970 Ford Maverick, 2-dr., auto trans., exc. cond., \$1175/offer. 263-7162 after 5 p.m.

Housing

FOR SALE: North Valley, 4 bdrm, 2 ba, fireplace, carpets, 2-car garage, sprinkling system, built-in bar-b-que, close to schools. Avail. on or before August 31, 1976. By Owner. Open House weekends 1-5 p.m. \$55,500. Call: 923-7298 (after 5 pm on weekdays).

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OAKLAND RAIDER Pre-Season Football Tickets - 2 tickets each - Dallas, Sat. July 31; Los Angeles, Sat. August 21; and Seattle, Sat. Sept. 4. All games start at 6 p.m. at the Oakland Coliseum. Sacrifice at \$9/ticket. Call Gino, 378-1924.

FOR SALE: Apache Solid Sided Folding Camping Trailer. Superior condition - \$1700. Evenings (408)243-5382.

Need ride to and from Ames. Corner of Meridian and Hillsdale, San Jose. Am unable to drive, but will share expenses. Please call Virginia at x5692 or 267-5192.

NASA

National Aeronautics and
Space Administration

Ames Research Center
Moffett Field, California 94035
AC 415 965-5091

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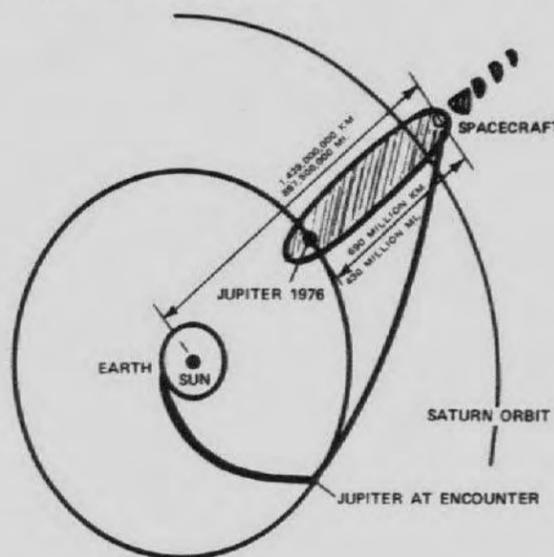
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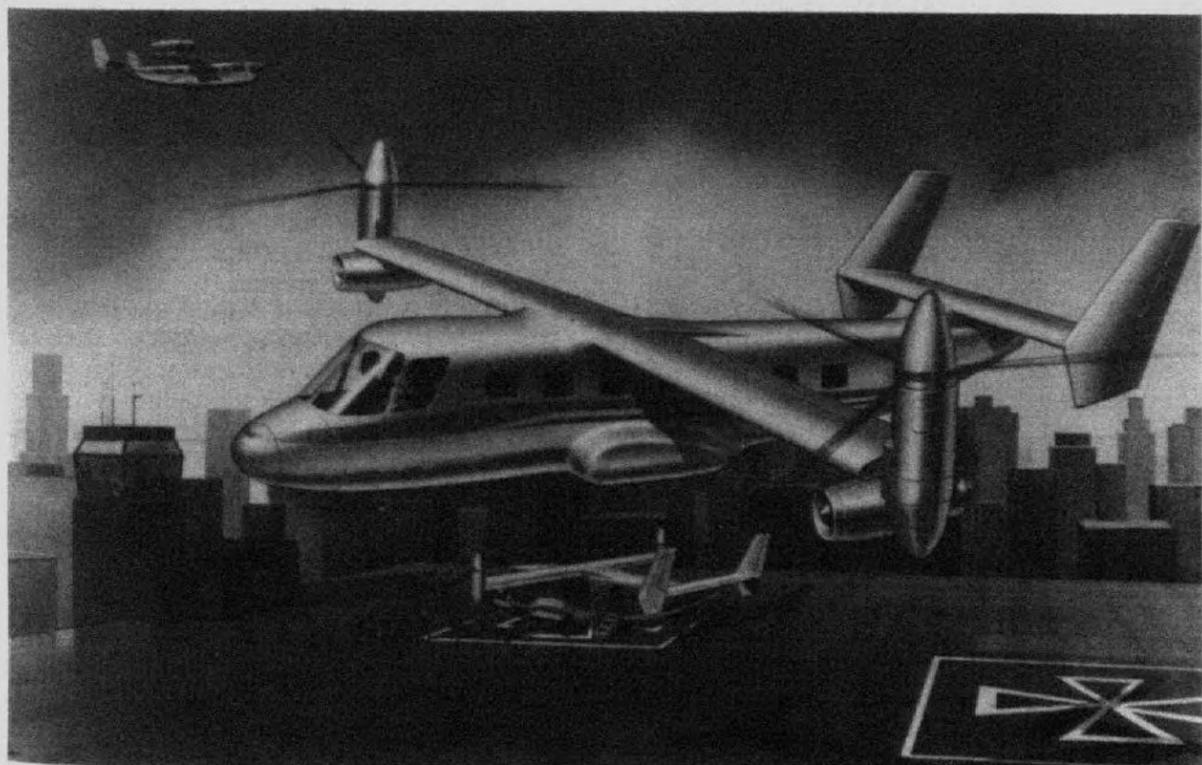
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FOR SALE: Bike - Men's 5-speed "Raleigh" with 21 in. frame, perfect condition with 26 in. x 1-3/8 in. tires, rear rack, and fenders - Green color - offer - Palo Alto - 494-7766.

OAKLAND RAIDER Pre-Season Football Tickets - 2 tickets each - Dallas, Sat. July 31; Los Angeles, Sat. August 21; and Seattle, Sat. Sept. 4. All games start at 6 p.m. at the Oakland Coliseum. Sacrifice at \$9/ticket. Call Gino, 378-1924.

FOR SALE: Apache Solid Sided Folding Camping Trailer. Superior condition - \$1700. Evenings (408)243-5382.

Need ride to and from Ames. Corner of Meridian and Hillsdale, San Jose. Am unable to drive, but will share expenses. Please call Virginia at x5692 or 267-5192.

NASA

National Aeronautics and Space Administration

Ames Research Center
Moffett Field, California 94035
AC 415 965-5091

AN EQUAL OPPORTUNITY EMPLOYER

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National Aeronautics and
Space Administration
NASA-451



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Manufactured by Hughes Helicopters, the OH-6A is a four place helicopter powered by a T63 Allison turboshaft engine. It has a maximum gross weight of 2400 pounds and it can fly 121 knots (139 miles per hour). A fuel capacity of 55 gallons gives the Cayuse an endurance of approximately 3 hours. It will be used for visual and photographic chase of various STOL and VTOL research aircraft at Ames as well as pilot proficiency and utility missions.



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A no-host social hour will begin at 6 p.m., followed by dinner at 7 p.m. Cost of the New York steak dinner is \$7.75 including tax and tip. For reservations, call Clara Johnson at ext. 5258 on or before Thursday, May 13. People are welcome to attend only the awards ceremony and Prof. Lederberg's lecture, beginning at 8 p.m.

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Nichelle Nichols, (Lt. Uhura on TV's *STARTREK* series) visited Ames to see some modern miracles. Jesco von Puttkamer of NASA-Headquarters Office of Manned Spaceflight, and Nichelle are shown with Dr. Kerry Joels of the Ames Tour Office. Nichelle also flew a mission with the crew of the Kuiper Observatory C-141, but no Klingons were sighted.

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Bicentennial Exposition scheduled at KSC

"... the prospects for a better life in 1976 and for the next 100 years thereafter," will be the emphasis of the U.S. Bicentennial Exposition on Science and Technology announced by President Gerald R. Ford recently.

The United States' only government sponsored exposition during the Bicentennial year is taking shape at Kennedy Space Center. Scheduled to be open May 30 through Labor Day the exposition will show the role science and technology are playing in improving the quality of life in America.

Sixteen Federal agencies and approximately a dozen industries are combining forces to give visitors a glimpse at "Third Century America." ARC's Public Affairs Office will be supporting the exposition with various exhibits from the Center. President Ford envisions the exposition as an opportunity for Americans to "see the best in America" not only from the past, but what is to come in the future. "It is a team effort that I think the American people will greatly respect and thoroughly enjoy," Ford said.

The Exposition will emphasize people and the future. "Freedom from Dependence" sponsored by the Department of Health, Education and Welfare is typical of the way exhibits are oriented. Better health and longer more active lives are resulting from the technological advances in diagnosis, instrumentation and treatment of disease combined with preventative medicine to be shown in the HEW dome. On-the-spot test for hypertension and other health problems will be administered by qualified medical personnel to those who are interested.

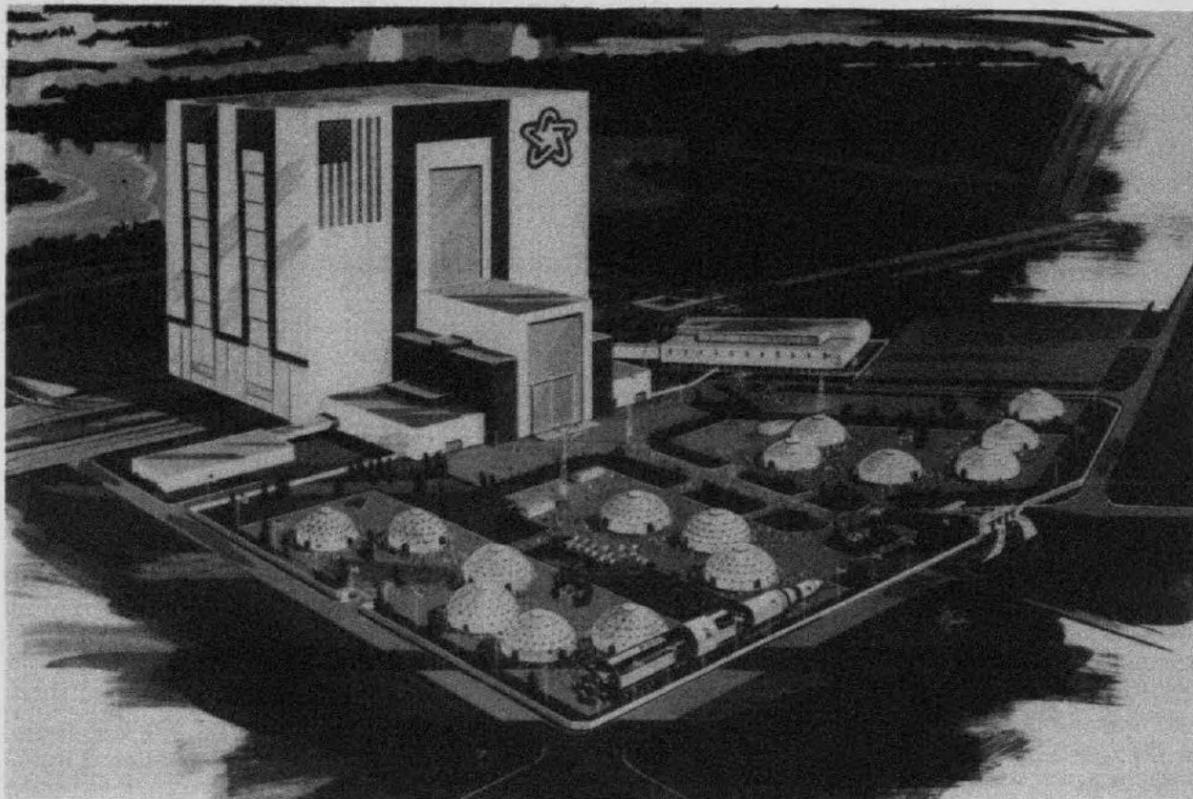
Art will be an important part of the exposition and in at least one case that art will integrate the still evolving science of lasers with one of the first technological advances, the ability to create fire, along with the life giving energy of the sun to create a living sculpture in space. Commissioned by the National Endowment for the Arts, the laser light, sun and fire sculpture by Rockne Krebs will occupy an entire dome. People will be able to move through the dome experiencing a constantly changing perspective of this new art form.

Large pieces of hardware such as the X-24B experimental lifting body and record-setting submersible vessels will make the Department of Defense dome visually exciting. The X-24B, a joint Air Force-NASA project, has just completed its flight tests to determine wingless vehicle handling qualities for near Earth flight and runway approach and landing. Both models and actual submersible vessels are expected to be on display, including unmanned craft for exploration of the deep ocean trenches and submarine rescue.

One of the least known of government agencies, the Community Services Administration, will present the agency's basic concept of self-help for low-income citizens and improvement of the quality of life of America's poor. In addition to its thematic presentations, CSA will feature retail sales areas for various Community Action Agency and Community Development Corporation products such as Appalachian crafts, Louisiana crafts, Indian products and Kentucky furniture. These retail efforts will be complimented by activities showing their construction and use and by special heritage demonstrations.

Although only a part of their exhibit, the sale of Bicentennial coin sets by the U.S. Treasury Department and stamp sets and special cachets by the U.S. Postal Service are expected to be popular with visitors from all over the world. The Treasury Department will also show the use of science and technology in advanced banking services and law enforcement.

Industrial exhibitors are preparing exciting looks at the future for their two domes. A one-third scale model of the Space Shuttle will be the centerpiece



for one dome. More than 30 feet long, the model will give visitors an idea of the next step in exploiting space for the benefit of mankind. The Shuttle will be launched like a rocket but land like an airplane and be capable of at least one hundred flights. Scheduled for launch starting in just three years, the facilities needed for supporting Shuttle can be seen taking shape all around the Space Center by the visitors.

The massive corridors and assembly bays of the world's third largest building will house additional

space exhibits ranging from an Apollo "play room" for youngsters to a full scale Viking lander, a replica of the one scheduled to touch down on Mars to search for life in July.

Visitors will also be able to tour the space center as part of their visit.

Speaking of the Exposition to the press recently, President Ford said, "We will show America what we've done and what we are going to do with our funds, the ingenuity of our scientists and the drive and foresight of our private sector."

ACE summer session

ASSOCIATION FOR CONTINUING EDUCATION
Summer Semester/Quarter, 1976

Course number	Course title	Day	Start and end dates	Time
GOLDEN GATE UNIVERSITY MBA PROGRAM				
EC 294	Current Economic Problems	MW	5/24-9/1	7:00-8:15 a.m.
FI 211	Investments	TTh	5/25-9/2	12:00-1:15 p.m.
MA 234	International Marketing	TTh	5/25-9/2	7:00-8:15 a.m.
COLLEGE OF NOTRE DAME MBA FOUNDATION PROGRAM (MANAGEMENT DEVELOPMENT course denoted by ●)				
BA C102.02	Accounting of Managers ●	M	6/21-8/30	5:00-6:45 p.m.
ECON C102	Economics for Managers	W	6/23-9/1	5:15-7:00 p.m.
MATH C104	Introduction to Computer Technology	T	6/22-8/31	5:00-6:45 p.m.
SUPERVISORY SKILLS PROGRAM				
BA C102.01	Introduction to Accounting	MW	6/21-9/1	12:00-1:00 p.m.
BA C135.01	Elements of Supervision	Th	6/24-9/2	5:05-6:50 p.m.
MATH C104	Introduction to Computer Technology	T	6/22-8/31	5:00-6:45 p.m.
GENERAL INTEREST PROGRAM				
MGT 105 *	Management of Research, Development, & Technology Based Innovation *	T	6/22-8/3	12:00-1:00 p.m.
MATH C20A *	Introduction to Calculus *	MW	6/21-8/25	12:00-1:00 p.m.
EE 835	Cost Effective Physical Design of Electronic Products	T	6/22-7/20	5:05-6:50 p.m.
EE 831 *	Cooling of Electronic Equipment *	TTh	6/22-7/8	12:00-1:00 p.m.
EE 834A *	Digital Troubleshooting Techniques I *	Th	6/24-9/2	12:00-12:45 p.m.
PR 830	Memory Improvement	TTh	6/22-9/2	12:00-1:00 p.m.
SR 850 *	Beginning Gregg Shorthand *	MWF	6/21-9/3	12:00-1:00 p.m.
PR 814 *	Effective Reading *	TTh	7/13-8/12	12:00-1:00 p.m.
PR 824 *	Communicating Successfully *	F	6/25-7/16	12:00-1:00 p.m.
PR 840 *	Personal Money Management *	MWF	6/21-7/19	12:00-1:00 p.m.
PR 841 *	Financial Planning for Retirement *	MWF	7/26-8/20	12:00-1:00 p.m.

* Video Tape Program

Any student wishing to apply courses taken for credit through the College of Notre Dame via ACE (those courses offered for 2 units of credit) towards the Business Administration Major at the College of Notre Dame should check with the Dean of Continuing Education at CND before enrolling.

Merit Promotion vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
76-108	Research Aircraft Inspector	WG-15	FOS	Centerwide	5-14-76
76-110	Voucher Examiner or Accounting Technician	GS-4/5	AFG	Centerwide and outside	5-14-76
76-111	Voucher Examiner or Accounting Technician	GS-4/5	AFG	Centerwide and outside	5-14-76

TO APPLY: Call Extension 5599 or 5600

MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-85	Aerospace Engineer	FPQ	Dennis Riddle
76-87	Clerk Typist	RKS	Verdis Milburn

ACE notice

The next noon-hour MBA ORIENTATION MEETING is scheduled for Friday, May 14. All employees of ACE member companies who are interested in learning more about the televised MBA PROGRAM are invited to attend.

Dr. James Umphrey from Golden Gate University and Mr. Chuck Davis from ACE will describe the overall program and answer questions concerning the requirements for admission and how you can enroll in courses which are scheduled on television.

Remember:

Date: Friday, May 14
Time: 12 to 1 pm

Channel: 10 (Room 264, Engineering Corner for those who will be attending on the Stanford campus).

Jetsetter news

Retraction: An error was made in the April 22, 1976 issue of the Astrogram in stating that the Ames Jetsetters sponsored the Hong Kong trip from 22 October to 7 November, 1976. This trip is not sponsored by the Ames Jetsetters.

Jetsetters-sponsored trips:

- 21-23 May - Southshore, Lake Tahoe
- 19-20 June - Mendocino and the Skunk Train
- 2-7 July - Bicentennial (Boston, New York, Philadelphia, Washington, D.C.)

Want ads

Transportation

FOR SALE: '75 Honda CVCC hatchback, auto trans, thrifty and penny-pinching gas-saver, has a lot of pep, 50,000/5 yr warranty. \$300 and take over payments. Call (408)251-0375 after 4:30.

Ford LTD 1969, excellent. \$800. A. Brosh, 964-7060.

FOR SALE: 1970 Ford Pickup Camper Special with Open Road Self-Contained 8' camper. Many extras, as new. Less than 25,000 miles. Automatic transmission. 964-7062 eves.

FOR SALE: '70 Honda CB350. Exc. cond., with extras. Best offer. Call 996-0944 after 6:00 pm.

FOR SALE: 1973 Super Beetle, VW sdn, 20,000 mi., call Jim Taleghani, 321-9007 after 6 p.m.

MOTORCYCLE: 1974 BMW R75/6 with large tank and Vetter fairing. Five-speed transmission. Excellent condition. 967-1580 (days).

4 White spoke rims and J60/15 tires to fit 6 bolt Chevy or GMC, \$150. Call Pat Atchison, 259-1426.

Housing

No. Tahoe-Sunnyside 4 BR chalet w/beach access. \$220 week. Reserve now for summer, 736-6805.

Attractive house for rent at very reasonable price. 3 bedrooms, 2 baths, fireplace, electric kitchen, 2-car garage, many extras, on Mary in Sunnyvale, well located. Call 269-8035.

FOR RENT: Beach house at Pajaro Dunes, completely furnished, 3 bdrms, 2 ba., sleeps 6, view of Monterey Bay, tennis courts, and other recreation facilities. Call John Lundell, 252-7260.

Vacation in fully furnished home in Sierra near Big Trees State Park and gold towns, lg. deck, rec. area avail. with swim. and tennis cts. Sleeps 10. Phone 867-4465.

Visiting professor with family (wife and 2 daughters, 14 and 12) need fully furnished and equipped 2-3 bdrm house or apt. June 15 to Sept. 15, 1976. Call A. Seginer, ext. 5655, or 968-7950 evenings.

Miscellaneous

FOR SALE: Beaulieu R16-16 mm movie camera, 200' mag., battery charger, 12-120 Angenieux zoom lens, case, \$1000/offer. Geo. Olczak, ext. 5021.

Beautiful dining room or entry hall table, all wood, with two (2) 12-inch dropleaf sides, 66 inches long, med. pecan finish. Exc. cond., \$275 or best offer. Phone 578-5472.

Panasonic Cassette Recorder, xlnt cond. with 9 TDK 90-min tapes, \$80. Call Fritz, 371-1428 eves.

FOR SALE: Girl's 3-speed bicycle. 26"x1 1/4" tires. Phone 244-0399.

Sears 9'x9' umbrella tent, 2 yrs old, exc. cond., light green color. Complete, \$30. 268-6910.

FOR SALE: (Moving) Zenith 21" Color Console, \$125. 6-ft multicolor Early American Sofa (exc cond), \$200. Occasional chair, \$60. 2 birch tables, \$60 ea. Leather chair and ottoman, \$375 (new). Phone 268-3393 after 5 p.m.

Two (2) dining room chairs, pecan finish, \$35 each. Exc. cond., 578-5472.

Karastan rug, size 9x15, green shag. Good cond., \$145 or best offer. 578-5472.

Singer cabinet sewing machine, with attachments. Works good, \$135. 578-5472.

Dining or game table combination, 48 inches wide, octagon. Exc. cond., center pedestal, \$150. 578-5472.

FOR SALE: Pioneer SX-110 stereo amp-tuner, 50 watts/CH, \$125. Neat turntable TP6816D, \$50. Sony 521 stereo tape recorder (reel to reel), \$170. 7" tapes, \$1.25 each. 248-1281.

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Bicentennial Exposition scheduled at KSC

"... the prospects for a better life in 1976 and for the next 100 years thereafter," will be the emphasis of the U.S. Bicentennial Exposition on Science and Technology announced by President Gerald R. Ford recently.

The United States' only government sponsored exposition during the Bicentennial year is taking shape at Kennedy Space Center. Scheduled to be open May 30 through Labor Day the exposition will show the role science and technology are playing in improving the quality of life in America.

Sixteen Federal agencies and approximately a dozen industries are combining forces to give visitors a glimpse at "Third Century America." ARC's Public Affairs Office will be supporting the exposition with various exhibits from the Center. President Ford envisions the exposition as an opportunity for Americans to "see the best in America" not only from the past, but what is to come in the future. "It is a team effort that I think the American people will greatly respect and thoroughly enjoy," Ford said.

The Exposition will emphasize people and the future. "Freedom from Dependence" sponsored by the Department of Health, Education and Welfare is typical of the way exhibits are oriented. Better health and longer more active lives are resulting from the technological advances in diagnosis, instrumentation and treatment of disease combined with preventative medicine to be shown in the HEW dome. On-the-spot test for hypertension and other health problems will be administered by qualified medical personnel to those who are interested.

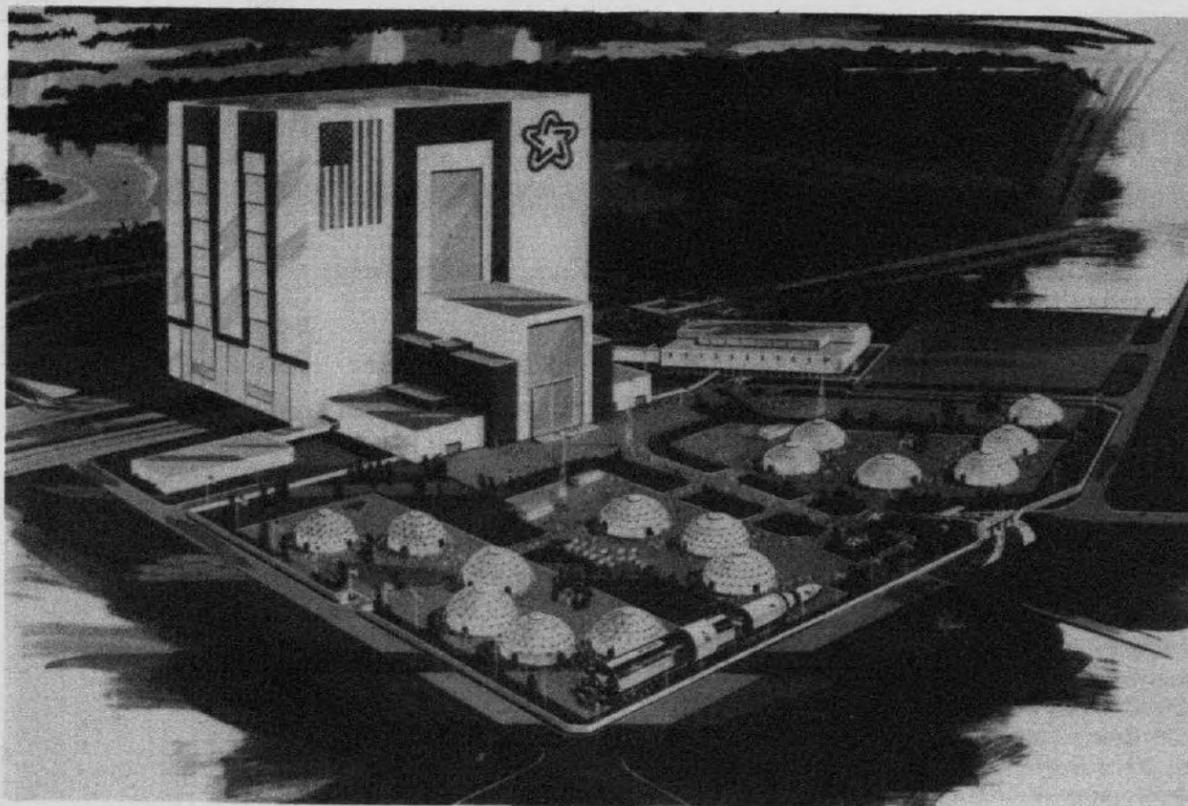
Art will be an important part of the exposition and in at least one case that art will integrate the still evolving science of lasers with one of the first technological advances, the ability to create fire, along with the life giving energy of the sun to create a living sculpture in space. Commissioned by the National Endowment for the Arts, the laser light, sun and fire sculpture by Rockne Krebs will occupy an entire dome. People will be able to move through the dome experiencing a constantly changing perspective of this new art form.

Large pieces of hardware such as the X-24B experimental lifting body and record-setting submersible vessels will make the Department of Defense dome visually exciting. The X-24B, a joint Air Force-NASA project, has just completed its flight tests to determine wingless vehicle handling qualities for near Earth flight and runway approach and landing. Both models and actual submersible vessels are expected to be on display, including unmanned craft for exploration of the deep ocean trenches and submarine rescue.

One of the least known of government agencies, the Community Services Administration, will present the agency's basic concept of self-help for low-income citizens and improvement of the quality of life of America's poor. In addition to its thematic presentations, CSA will feature retail sales areas for various Community Action Agency and Community Development Corporation products such as Appalachian crafts, Louisiana crafts, Indian products and Kentucky furniture. These retail efforts will be complimented by activities showing their construction and use and by special heritage demonstrations.

Although only a part of their exhibit, the sale of Bicentennial coin sets by the U.S. Treasury Department and stamp sets and special cachets by the U.S. Postal Service are expected to be popular with visitors from all over the world. The Treasury Department will also show the use of science and technology in advanced banking services and law enforcement.

Industrial exhibitors are preparing exciting looks at the future for their two domes. A one-third scale model of the Space Shuttle will be the centerpiece



for one dome. More than 30 feet long, the model will give visitors an idea of the next step in exploiting space for the benefit of mankind. The Shuttle will be launched like a rocket but land like an airplane and be capable of at least one hundred flights. Scheduled for launch starting in just three years, the facilities needed for supporting Shuttle can be seen taking shape all around the Space Center by the visitors.

The massive corridors and assembly bays of the world's third largest building will house additional

space exhibits ranging from an Apollo "play room" for youngsters to a full scale Viking lander, a replica of the one scheduled to touch down on Mars to search for life in July.

Visitors will also be able to tour the space center as part of their visit.

Speaking of the Exposition to the press recently, President Ford said, "We will show America what we've done and what we are going to do with our funds, the ingenuity of our scientists and the drive and foresight of our private sector."

ACE summer session

ASSOCIATION FOR CONTINUING EDUCATION
Summer Semester/Quarter, 1976

Course number	Course title	Day	Start and end dates	Time
GOLDEN GATE UNIVERSITY MBA PROGRAM				
EC 294	Current Economic Problems	MW	5/24-9/1	7:00-8:15 a.m.
FI 211	Investments	TTh	5/25-9/2	12:00-1:15 p.m.
MA 234	International Marketing	TTh	5/25-9/2	7:00-8:15 a.m.
COLLEGE OF NOTRE DAME MBA FOUNDATION PROGRAM (MANAGEMENT DEVELOPMENT course denoted by •)				
BA C102.02	Accounting of Managers •	M	6/21-8/30	5:00-6:45 p.m.
ECON C102	Economics for Managers	W	6/23-9/1	5:15-7:00 p.m.
MATH C104	Introduction to Computer Technology	T	6/22-8/31	5:00-6:45 p.m.
SUPERVISORY SKILLS PROGRAM				
BA C102.01	Introduction to Accounting	MW	6/21-9/1	12:00-1:00 p.m.
BA C135.01	Elements of Supervision	Th	6/24-9/2	5:05-6:50 p.m.
MATH C104	Introduction to Computer Technology	T	6/22-8/31	5:00-6:45 p.m.
GENERAL INTEREST PROGRAM				
MGT 105 *	Management of Research, Development, & Technology Based Innovation *	T	6/22-8/3	12:00-1:00 p.m.
MATH C20A *	Introduction to Calculus *	MW	6/21-8/25	12:00-1:00 p.m.
EE 835	Cost Effective Physical Design of Electronic Products	T	6/22-7/20	5:05-6:50 p.m.
EE 831 *	Cooling of Electronic Equipment *	TTh	6/22-7/8	12:00-1:00 p.m.
EE 834A *	Digital Troubleshooting Techniques I *	Th	6/24-9/2	12:00-12:45 p.m.
PR 830	Memory Improvement	TTh	6/22-9/2	12:00-1:00 p.m.
SR 850 *	Beginning Gregg Shorthand *	MWF	6/21-9/3	12:00-1:00 p.m.
PR 814 *	Effective Reading *	TTh	7/13-8/12	12:00-1:00 p.m.
PR 824 *	Communicating Successfully *	F	6/25-7/16	12:00-1:00 p.m.
PR 840 *	Personal Money Management *	MWF	6/21-7/19	12:00-1:00 p.m.
PR 841 *	Financial Planning for Retirement *	MWF	7/26-8/20	12:00-1:00 p.m.

* Video Tape Program

Any student wishing to apply courses taken for credit through the College of Notre Dame via ACE (those courses offered for 2 units of credit) towards the Business Administration Major at the College of Notre Dame should check with the Dean of Continuing Education at CND before enrolling.

Merit Promotion vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
76-108	Research Aircraft Inspector	WG-15	FDS	Centerwide	5-14-76
76-110	Voucher Examiner or Accounting Technician	GS-4/5	AFG	Centerwide and outside	5-14-76
76-111	Voucher Examiner or Accounting Technician	GS-4/5	AFG	Centerwide and outside	5-14-76

TO APPLY: Call Extension 5599 or 5600

MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-85	Aerospace Engineer	FPQ	Dennis Riddle
76-87	Clerk Typist	RKS	Verdis Milburn

ACE notice

The next noon-hour MBA ORIENTATION MEETING is scheduled for Friday, May 14. All employees of ACE member companies who are interested in learning more about the televised MBA PROGRAM are invited to attend.

Dr. James Umphrey from Golden Gate University and Mr. Chuck Davis from ACE will describe the overall program and answer questions concerning the requirements for admission and how you can enroll in courses which are scheduled on television.

Remember:

Date: Friday, May 14

Time: 12 to 1 pm

Channel: 10 (Room 264, Engineering Corner for those who will be attending on the Stanford campus).

Jetsetter news

Retraction: An error was made in the April 22, 1976 issue of the Astrogram in stating that the Ames Jetsetters sponsored the Hong Kong trip from 22 October to 7 November, 1976. This trip is not sponsored by the Ames Jetsetters.

Jetsetters-sponsored trips:

21-23 May - Southshore, Lake Tahoe

19-20 June - Mendocino and the Skunk Train

2-7 July - Bicentennial (Boston, New York, Philadelphia, Washington, D.C.)

Want ads

Transportation

FOR SALE: '75 Honda CVCC hatchback, auto trans, thrifty and penny-pinching gas-saver, has a lot of pep, 50,000/5 yr warranty. \$300 and take over payments. Call (408)251-0375 after 4:30.

Ford LTD 1969, excellent. \$800. A. Brosh, 964-7060.

FOR SALE: 1970 Ford Pickup Camper Special with Open Road Self-Contained 8' camper. Many extras, as new. Less than 25,000 miles. Automatic transmission. 964-7062 eves.

FOR SALE: '70 Honda CB350. Exc. cond., with extras. Best offer. Call 996-0944 after 6:00 pm.

FOR SALE: 1973 Super Beetle, VW sdn, 20,000 mi., call Jim Taleghani, 321-9007 after 6 p.m.

MOTORCYCLE: 1974 BMW R75/6 with large tank and Vetter fairing. Five-speed transmission. Excellent condition. 967-1580 (days).

4 White spoke rims and J60/15 tires to fit 6 bolt Chevy or GMC, \$150. Call Pat Atchison, 259-1426.

Housing

No. Tahoe-Sunnyside 4 BR chalet w/beach access. \$220 week. Reserve now for summer, 736-6805.

Attractive house for rent at very reasonable price. 3 bedrooms, 2 baths, fireplace, electric kitchen, 2-car garage, many extras, on Mary in Sunnyvale, well located. Call 269-8035.

FOR RENT: Beach house at Pajaro Dunes, completely furnished, 3 bdrms, 2 ba., sleeps 6, view of Monterey Bay, tennis courts, and other recreation facilities. Call John Lundell, 252-7260.

Vacation in fully furnished home in Sierra near Big Trees State Park and gold towns, lg. deck, rec. area avail. with swim. and tennis cts. Sleeps 10. Phone 867-4465.

Visiting professor with family (wife and 2 daughters, 14 and 12) need fully furnished and equipped 2-3 bdrm house or apt. June 15 to Sept. 15, 1976. Call A. Seginer, ext. 5655, or 968-7950 evenings.

Miscellaneous

FOR SALE: Beaulieu R16-16 mm movie camera, 200' mag., battery charger, 12-120 Angenieux zoom lens, case, \$1000/offer. Geo. Olczak, ext. 5021.

Beautiful dining room or entry hall table, all wood, with two (2) 12-inch dropleaf sides, 66 inches long, med. pecan finish. Exc. cond., \$275 or best offer. Phone 578-5472.

Panasonic Cassette Recorder, xint cond. with 9 TDK 90-min tapes, \$80. Call Fritz, 371-1428 eves.

FOR SALE: Girl's 3-speed bicycle. 26"x1 1/4" tires. Phone 244-0399.

Sears 9'x9' umbrella tent, 2 yrs old, exc. cond., light green color. Complete, \$30. 268-6910.

FOR SALE: (Moving) Zenith 21" Color Console, \$125. 6-ft multicolor Early American Sofa (exc cond), \$200. Occasional chair, \$60. 2 birch tables, \$60 ea. Leather chair and ottoman, \$375 (new). Phone 268-3393 after 5 p.m.

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The Astrogram

VOLUME XVIII NUMBER 18

May 20, 1976

Unique new Shuttle suit announced

Space travelers of the 1980s who will fly aboard NASA's Space Shuttle Orbiter will be furnished with a unique space suit and rescue system.

Engineers at Johnson Space Center are currently developing a new space suit concept and rescue system for use by astronauts and scientists aboard the Shuttle.

Design for the Shuttle suit features an "adjustable fit" concept, a departure from the Apollo program in which suits were customized for each astronaut, a long and costly process. It is anticipated that the Shuttle suit, a two-piece combination of upper and lower torso, will be manufactured in small, medium and large sizes to accommodate all astronaut candidates or crews, including females. Each size can then be individually adjusted for astronaut preference.

When the Shuttle becomes operational in 1980 with the capability to conduct as many as 60 missions a year, the Pilot and Mission Specialist will be outfitted with the space suit while the Commander and Payload Specialists will each be provided with a personal rescue system.

In the event an orbiter becomes disabled and is unable to return to Earth, a rescue orbiter will be launched to transfer astronauts and passengers from the marooned craft.

Use of the new, strong and durable Kevlar fabric has permitted technicians to fabricate joints (elbow, wrist, knee, etc.) from the flat fabric rather than following the Apollo and Skylab suit pattern where joints were constructed of molded neoprene rubber convolutes with cables. The fabric joints provide better mobility and, more importantly, reduce the cost and weight of each suit.

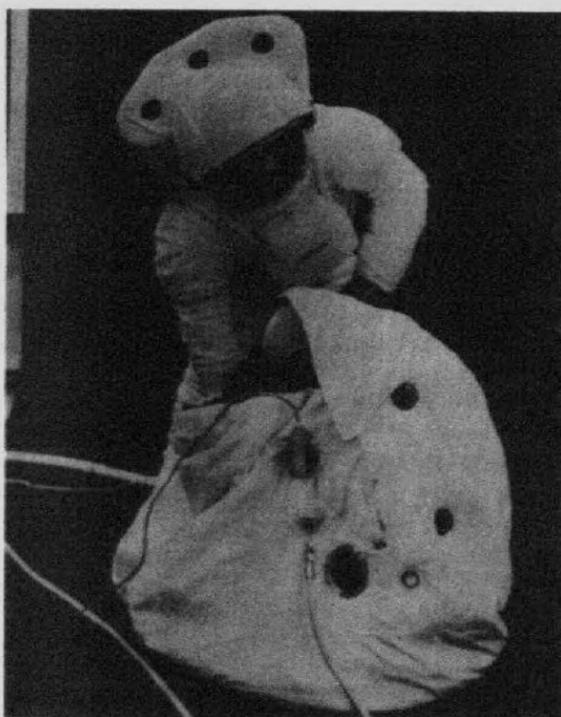
Another feature of the Shuttle suit is the integral portable life support system. When Apollo astronauts walked on the Moon they had to first remove a bulky 75-pound life support system from its storage location and then connect it to the suit. The Shuttle suit contains a life support system which is an integral part of the rigid upper torso.

ARE YOU A COLLECTOR? If so could you share your collection?

Flatwear and dishes have been disappearing from the cafeteria at an increasing rate. Please check your offices and work areas and return them to the cafeteria.

Insurance seminar

An informational seminar on "Trends in the Automobile Insurance Industry" will be presented at Ames on Tuesday, May 25 by California Casualty in cooperation with the Training and Special Programs Branch. The meeting will be at noon (11:30 a.m.) in room 147 of building 241. Reservations are not necessary.



Ames exhibits displayed at Pier 2

A major science and industry exposition, delineating two centuries of American genius, will be offered at Fort Mason on the Marina waterfront from May 27 through June 6 as a crowning event of San Francisco's Twin Bicentennial celebration.

Admission will be free.

Six organizations revealed that they have combined to sponsor the spectacular showing of scientific and industrial achievement, to be held in the huge Pier 2 of the former Army transport facility at the foot of Laguna Street at Marina Boulevard, now part of the Golden Gate National Recreation Area.

Joining in the undertaking are the San Francisco Twin Bicentennial Commission, chaired by Mayor George Moscone will be ARC, the Greater San Francisco Chamber of Commerce, the Junior League of San Francisco, Inc., the ARCS Foundation, Inc. (Achievement Rewards for College Scientists) and the G.G.N.R.A.

Ames' Public Affairs Office will send over a dozen exhibits to the exposition. Examples of the exhibits are the Command Module from Skylab, an Apollo Suit, U-2 Infrared Pictures, Origin of Life Exhibit and Stonehenge "Moon Rock."

Jetsetters trips

19-20 June - MENDOCINO AND THE SKUNK TRAIN. RESERVE EARLY. Trip is filling up.

2-7 July - BICENTENNIAL (Boston, New York, Philadelphia, Washington, D.C.)

"Leave" to vote

Federal employees may be given a reasonable amount of excused leave, where necessary, to vote in elections or register.

The Federal executive policy on leave for registration and voting provides:

1. As a general rule, where the polls are not open at least three hours either before or after an employee's regular hours of work he may be granted an amount of excused leave which will permit him to report for work three hours after the polls open or leave work three hours before the polls close, whichever requires the lesser amount of time off.

2. Under exceptional circumstances where the general rule does not permit sufficient time, an employee may be excused for such additional time as may be needed to enable him to vote, depending upon the particular circumstances in his individual case, but not to exceed a full day.

3. If an employee's voting place is beyond normal commuting distance and vote by absentee ballot is not permitted, the employee may be granted sufficient time off in order to be able to make the trip to the voting place to cast his ballot.

4. Where more than one day is required to make the trip to the voting place, agencies shall observe a liberal policy in granting the necessary leave for this purpose. Time off in excess of one day shall be charged to annual leave or if annual leave is exhausted, then to leave without pay.

5. For employees who vote in jurisdictions which require registration in person, time off to register may be granted on substantially the same basis as for voting, except that no such time shall be granted if registration can be accomplished on a nonwork day and the place of registration is within reasonable one-day, round-trip travel distance of the employee's place of residence.

WARNING TO LIFE SCIENCE LIBRARY PATRONS!

For the next few weeks, the Life Sciences Library, 239-13, will be in the throes of renovation. You may have trouble finding books, journals, and the library staff. Please bear with us. Hopefully we will be rearranged and available for better services before or by the end of June.

Hatch Act bill vetoed

President Ford has vetoed a bill that would have made major changes in the Hatch Act. The veto came after the bill had passed both houses.

The bill, the Federal Employees' Political Activities Act of 1975, would have restored to Federal civilian and Postal employees the right to engage in partisan political activities. It also contains provisions to protect employees from improper political solicitations or coercion by superiors.

Political activity on the job or in government offices and buildings would have been prohibited.

The bill passed the Senate by a vote of 47 to 32; it passed the House 288 to 119.

Bicentennial woman

Federal Women's Week, a first for Ames, was held November 10-14, 1975. The results of a survey taken in December have finally accumulated into this report. It should be noted that of the 230 questionnaires sent out, there were 65 responses.

The overall impression of the programs ranged from between good (32) and excellent (23). There were only three responses in the fair category and no one responding to the questionnaire (65), felt the Federal Women's Week Program was poor. The question regarding the relevance of the program to the job was overwhelmingly positive. Fifty-five out of the 60 responses were yes; however, they ranged from "very relevant and helpful" to less than definite statements such as "partially" and "these sessions are always helpful." Almost everyone, 55 out of the 57 responses, felt they learned something from the sessions. Many of the comments centered around the fact that the program made them more aware of the problems facing women in the work environment.

Question No. 4 requested feedback on specific programs offered during the week. Alex Methven's and Aileen Hernandez's presentations received the most responses and were almost all highly favorable. Of the 33 comments on Methven, 19 were "excellent" and 13 were "good." Methven and Hernandez both seemed to excite those who attended their sessions. Those who commented further on Methven stated "great, thought-provoking session" and many reflected this person's sentiment, "Great! Wish my boss had been made to attend." Aileen Hernandez drew comments such as "very good, she's brilliant" and "very educational." The play was well received and many thought it was the best part of the program.

For next year's program, the prevailing comment was that more supervisors and men should be encouraged to attend. Others felt that the program should be spread over a period of a few weeks since holding all the events in one week makes it extremely difficult for some to attend all the sessions.

With regards to the question of what this program can contribute to the realization of equal opportunity for all employees, most felt its greatest success would come in its ability to generate information about the problems women have here at Ames and the availability of in-house advancement opportunities.

There were many general suggestions as to what types of programs should be offered to women to advance their career objectives. However, the most frequent comment centered around the "dead-end" nature of the secretarial positions.

Scuba club

The Ames Scuba Club will meet on 12 May 1976 in the Ames Cafeteria dining room. The meeting will begin at 12:45 and be over by 1:30. The program for this meeting is a discussion of diver rescue techniques by Mr. Jack Witt.

Outstanding award

Dr. Ingeborg Harding-Barlow has recently been selected as the outstanding example of woman achievement in science for 1976 by the California State Division of the American Association of University Women. She is one of seven AAUW members who have achieved outstandingly in the additional areas of education, community service, public life, creative arts, business and the environment. The award was presented at the AAUW State Convention at Sacramento on May 1. Dr. Harding-Barlow has previously been a NASA contractor in the Planetary Science and Applications Branch, and is currently Senior Research Associate at the Institute for Chemical Biology, University of San Francisco. She is also an Ames Associate, and is a lecturer for the Health and Safety Office's course in toxicology at Ames.

NASA tests fuel reactor

The Los Alamos Scientific Laboratory in New Mexico has begun testing a model of a nuclear reactor being developed under a NASA-sponsored research program for applications in space. The reactor would use a gaseous rather than a solid nuclear fuel.

A gaseous fuel reactor capable of producing power for Earth as well as for space applications could operate at temperatures at which solid fuel rods would melt. This higher operating temperature would make the gaseous fuel reactor potentially more efficient than conventional solid core reactors.

The gaseous fuel permits continuous fuel reprocessing, eliminating the need for a separate nuclear fuel reprocessing plant required for solid fuel. Predicted fuel efficiency in space power applications, would translate into economy and reduced specific mass and weight.

Recent success in nuclear energized laser research conducted under NASA direction indicates that part of the power from a gaseous fuel reactor could be generated directly as laser light beams, offering the prospect of a new generation of space technology. Using this concept, energy from a nuclear power station in space might be transmitted by laser beam over large distances to users on space platforms, lunar bases or to spaceships for propulsion.

Besides its predicted advantages for space application, a gaseous fuel reactor would have several advantages if used on Earth. Loss-of-cooling and melt-down problems common to solid fuel reactors might be largely eliminated. Gaseous reactors would be able to burn up a portion of their own long-lived nuclear waste products.

The work at Los Alamos is supplemented by theoretical and experimental research under NASA grants with five universities and an industrial laboratory.

Summer Olympics notice

The American Consulate General in Montreal advises the general public that tickets and accommodation assistance for the Olympic Games which will be held in Montreal this July will not be available through the Consulate General or the American Embassy in Ottawa.

Residual tickets for events at the Olympic Games have now been recalled from other countries for direct sale by the organizing committee (COJO) in Montreal. Few, if any, tickets are available for final events but the organizing committee says there are substantial blocks available for field hockey, soccer, track and field, equestrian, canoeing, judo, handball, archery, shooting, modern pentathlon, some preliminaries in boxing and basketball and perhaps a few gymnastic events.

In addition, the games' housing authority has reported a substantial number of room reservation cancellations recently by travel agents who had evidently been overly-optimistic in their projections of ticket-rooms package sales, and it is possible that even better seats and rooms may be available from such a source.

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ASTP Group Achievement award



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Receiving the awards were: Stewart Colpitts; Robert Cullum; Wallace Light; Robert Mason; Frank Matamoros and Glen Stinnett. Pictured are (l. to r.) R. Cullum, W. Light, D. Arabian, G. Stinnett and R. Mason.

The Astrogram

VOLUME XVIII NUMBER 18

May 20, 1976

Unique new Shuttle suit announced

Space travelers of the 1980s who will fly aboard NASA's Space Shuttle Orbiter will be furnished with a unique space suit and rescue system.

Engineers at Johnson Space Center are currently developing a new space suit concept and rescue system for use by astronauts and scientists aboard the Shuttle.

Design for the Shuttle suit features an "adjustable fit" concept, a departure from the Apollo program in which suits were customized for each astronaut, a long and costly process. It is anticipated that the Shuttle suit, a two-piece combination of upper and lower torso, will be manufactured in small, medium and large sizes to accommodate all astronaut candidates or crews, including females. Each size can then be individually adjusted for astronaut preference.

When the Shuttle becomes operational in 1980 with the capability to conduct as many as 60 missions a year, the Pilot and Mission Specialist will be outfitted with the space suit while the Commander and Payload Specialists will each be provided with a personal rescue system.

In the event an orbiter becomes disabled and is unable to return to Earth, a rescue orbiter will be launched to transfer astronauts and passengers from the marooned craft.

Use of the new, strong and durable Kevlar fabric has permitted technicians to fabricate joints (elbow, wrist, knee, etc.) from the flat fabric rather than following the Apollo and Skylab suit pattern where joints were constructed of molded neoprene rubber convolutes with cables. The fabric joints provide better mobility and, more importantly, reduce the cost and weight of each suit.

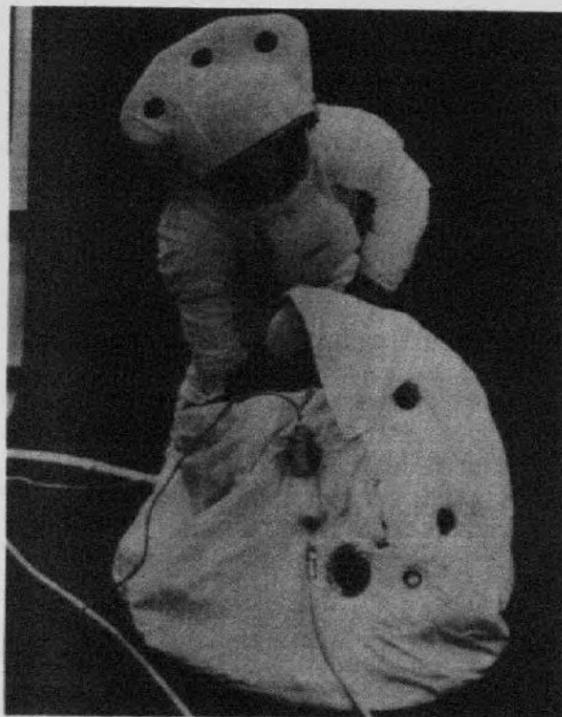
Another feature of the Shuttle suit is the integral portable life support system. When Apollo astronauts walked on the Moon they had to first remove a bulky 75-pound life support system from its storage location and then connect it to the suit. The Shuttle suit contains a life support system which is an integral part of the rigid upper torso.

ARE YOU A COLLECTOR? If so could you share your collection?

Flatware and dishes have been disappearing from the cafeteria at an increasing rate. Please check your offices and work areas and return them to the cafeteria.

Insurance seminar

An informational seminar on "Trends in the Automobile Insurance Industry" will be presented at Ames on Tuesday, May 25 by California Casualty in cooperation with the Training and Special Programs Branch. The meeting will be at noon (11:30 a.m.) in room 147 of building 241. Reservations are not necessary.



Ames exhibits displayed at Pier 2

A major science and industry exposition, delineating two centuries of American genius, will be offered at Fort Mason on the Marina waterfront from May 27 through June 6 as a crowning event of San Francisco's Twin Bicentennial celebration.

Admission will be free.

Six organizations revealed that they have combined to sponsor the spectacular showing of scientific and industrial achievement, to be held in the huge Pier 2 of the former Army transport facility at the foot of Laguna Street at Marina Boulevard, now part of the Golden Gate National Recreation Area.

Joining in the undertaking are the San Francisco Twin Bicentennial Commission, chaired by Mayor George Moscone will be ARC, the Greater San Francisco Chamber of Commerce, the Junior League of San Francisco, Inc., the ARCS Foundation, Inc. (Achievement Rewards for College Scientists) and the G.G.N.R.A.

Ames' Public Affairs Office will send over a dozen exhibits to the exposition. Examples of the exhibits are the Command Module from Skylab, an Apollo Suit, U-2 Infrared Pictures, Origin of Life Exhibit and Stonehenge "Moon Rock."

Jetsetters trips

19-20 June - MENDOCINO AND THE SKUNK TRAIN. RESERVE EARLY. Trip is filling up.

2-7 July - BICENTENNIAL (Boston, New York, Philadelphia, Washington, D.C.)

"Leave" to vote

Federal employees may be given a reasonable amount of excused leave, where necessary, to vote in elections or register.

The Federal executive policy on leave for registration and voting provides:

1. As a general rule, where the polls are not open at least three hours either before or after an employee's regular hours of work he may be granted an amount of excused leave which will permit him to report for work three hours after the polls open or leave work three hours before the polls close, whichever requires the lesser amount of time off.

2. Under exceptional circumstances where the general rule does not permit sufficient time, an employee may be excused for such additional time as may be needed to enable him to vote, depending upon the particular circumstances in his individual case, but not to exceed a full day.

3. If an employee's voting place is beyond normal commuting distance and vote by absentee ballot is not permitted, the employee may be granted sufficient time off in order to be able to make the trip to the voting place to cast his ballot.

4. Where more than one day is required to make the trip to the voting place, agencies shall observe a liberal policy in granting the necessary leave for this purpose. Time off in excess of one day shall be charged to annual leave or if annual leave is exhausted, then to leave without pay.

5. For employees who vote in jurisdictions which require registration in person, time off to register may be granted on substantially the same basis as for voting, except that no such time shall be granted if registration can be accomplished on a nonwork day and the place of registration is within reasonable one-day, round-trip travel distance of the employee's place of residence.

WARNING TO LIFE SCIENCE LIBRARY PATRONS!

For the next few weeks, the Life Sciences Library, 239-13, will be in the throes of renovation. You may have trouble finding books, journals, and the library staff. Please bear with us. Hopefully we will be rearranged and available for better services before or by the end of June.

Hatch Act bill vetoed

President Ford has vetoed a bill that would have made major changes in the Hatch Act. The veto came after the bill had passed both houses.

The bill, the Federal Employees' Political Activities Act of 1975, would have restored to Federal civilian and Postal employees the right to engage in partisan political activities. It also contains provisions to protect employees from improper political solicitations or coercion by superiors.

Political activity on the job or in government offices and buildings would have been prohibited.

The bill passed the Senate by a vote of 47 to 32; it passed the House 288 to 119.

Bicentennial woman

Federal Women's Week, a first for Ames, was held November 10-14, 1975. The results of a survey taken in December have finally accumulated into this report. It should be noted that of the 230 questionnaires sent out, there were 65 responses.

The overall impression of the programs ranged from between good (32) and excellent (23). There were only three responses in the fair category and no one responding to the questionnaire (65), felt the Federal Women's Week Program was poor. The question regarding the relevance of the program to the job was overwhelmingly positive. Fifty-five out of the 60 responses were yes; however, they ranged from "very relevant and helpful" to less than definite statements such as "partially" and "these sessions are always helpful." Almost everyone, 55 out of the 57 responses, felt they learned something from the sessions. Many of the comments centered around the fact that the program made them more aware of the problems facing women in the work environment.

Question No. 4 requested feedback on specific programs offered during the week. Alex Methven's and Aileen Hernandez's presentations received the most responses and were almost all highly favorable. Of the 33 comments on Methven, 19 were "excellent" and 13 were "good." Methven and Hernandez both seemed to excite those who attended their sessions. Those who commented further on Methven stated "great, thought-provoking session" and many reflected this person's sentiment, "Great! Wish my boss had been made to attend." Aileen Hernandez drew comments such as "very good, she's brilliant" and "very educational." The play was well received and many thought it was the best part of the program.

For next year's program, the prevailing comment was that more supervisors and men should be encouraged to attend. Others felt that the program should be spread over a period of a few weeks since holding all the events in one week makes it extremely difficult for some to attend all the sessions.

With regards to the question of what this program can contribute to the realization of equal opportunity for all employees, most felt its greatest success would come in its ability to generate information about the problems women have here at Ames and the availability of in-house advancement opportunities.

There were many general suggestions as to what types of programs should be offered to women to advance their career objectives. However, the most frequent comment centered around the "dead-end" nature of the secretarial positions.

Scuba club

The Ames Scuba Club will meet on 12 May 1976 in the Ames Cafeteria dining room. The meeting will begin at 12:45 and be over by 1:30. The program for this meeting is a discussion of diver rescue techniques by Mr. Jack Witt.

Outstanding award

Dr. Ingeborg Harding-Barlow has recently been selected as the outstanding example of woman achievement in science for 1976 by the California State Division of the American Association of University Women. She is one of seven AAUW members who have achieved outstandingly in the additional areas of education, community service, public life, creative arts, business and the environment. The award was presented at the AAUW State Convention at Sacramento on May 1. Dr. Harding-Barlow has previously been a NASA contractor in the Planetary Science and Applications Branch, and is currently Senior Research Associate at the Institute for Chemical Biology, University of San Francisco. She is also an Ames Associate, and is a lecturer for the Health and Safety Office's course in toxicology at Ames.

NASA tests fuel reactor

The Los Alamos Scientific Laboratory in New Mexico has begun testing a model of a nuclear reactor being developed under a NASA-sponsored research program for applications in space. The reactor would use a gaseous rather than a solid nuclear fuel.

A gaseous fuel reactor capable of producing power for Earth as well as for space applications could operate at temperatures at which solid fuel rods would melt. This higher operating temperature would make the gaseous fuel reactor potentially more efficient than conventional solid core reactors.

The gaseous fuel permits continuous fuel reprocessing, eliminating the need for a separate nuclear fuel reprocessing plant required for solid fuel. Predicted fuel efficiency in space power applications, would translate into economy and reduced specific mass and weight.

Recent success in nuclear energized laser research conducted under NASA direction indicates that part of the power from a gaseous fuel reactor could be generated directly as laser light beams, offering the prospect of a new generation of space technology. Using this concept, energy from a nuclear power station in space might be transmitted by laser beam over large distances to users on space platforms, lunar bases or to spaceships for propulsion.

Besides its predicted advantages for space application, a gaseous fuel reactor would have several advantages if used on Earth. Loss-of-cooling and melt-down problems common to solid fuel reactors might be largely eliminated. Gaseous reactors would be able to burn up a portion of their own long-lived nuclear waste products.

The work at Los Alamos is supplemented by theoretical and experimental research under NASA grants with five universities and an industrial laboratory.

Summer Olympics notice

The American Consulate General in Montreal advises the general public that tickets and accommodation assistance for the Olympic Games which will be held in Montreal this July will not be available through the Consulate General or the American Embassy in Ottawa.

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Ames' Dr. Charles E. Billings is the ASRS project manager for NASA and Dr. John Lauber is the project scientist. Larry Youngren at FAA Headquarters in Washington is the FAA Liaison Officer and Gene Lyman at NASA Headquarters is the NASA Liaison Officer.

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Tournament chairmen Mitch Radovich and Gary Lazzeroni report the following winners for the Best-Ball Twosome Ames Golf Tournament at Riverside on May 1:

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3rd Flight: 1-A. Joly/J. Wyers, 2-J. McCloy/R. Shaeffer, 3-3 way tie, B. Page/B. Gray, E. Hampel/S. Brovarney, F. Merriweather/E. Tischler.

4th Flight: 1-E. Levin/R. Barrow, 2-R. Oyama/J. Gaspar, 3-R. Dowell/T. Polek.

Jogging competition

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The next Happy Hour is June 4th. Come and say hello to your ARA Board (usually behind the bar) and give us your ideas on how the ARA can best serve you.

Five more complete MBA TV program



After nearly three years of early morning instructional TV classes and weekend study, five Ames employees have earned their Masters in Business Administration via the Golden Gate University TV program. The classmates, pictured above, are shown with John E. Leveen (far left), Chief of the sponsoring Training and Special Programs branch. Leveen met with the group last week to celebrate the occasion. The students are (left to right) Bill Cameron, Bob Barnett, Wayne Mosher, Karl Talarico and Dave Brocker (seated).

When asked what they planned to do with their newly acquired MBA, the individuals had many comments; but a common thread ran throughout their remarks and it was that their exposure to the extensive business courses had already helped them in stepping into supervisory and/or administrative positions. Each one highly recommended the program to any one who might wish to obtain an MBA but dread the idea of the driving and travel time required to attend a local university.

Though many of the courses these five gentlemen took were offered during off duty hours, the Training Branch paid for the education with the exception of books.

The only other Ames graduate of this new Golden Gate University TV MBA program is Dennis Cunningham, a Personnel Manager here at the Center. Cunningham appeared at the function last week as a representative (and "president") of the "Golden Gate University/ARC MBA Alumni Association." After congratulating his former classmates for a job well done, he commented "Does this mean I'm going to have competition in campaigning for next year's Alumni Association presidency?"

POOR RICHARD'S ELECTRIC ALMANAC . . . THE SEARCH FOR NEW LIFE STYLES

1776 TODAY FUTURE NASA

WESTERN MOVEMENT AND SETTLEMENT OF WEST NEW TERRITORIES

EXPLORATION AND COLONIZATION OF THE OCEAN

SPACE COLONIZATION

The accompanying cartoon feature, designed by Chris Chizanskos, is in commemoration of the United States' 200th birthday. NASA hopes to secure this as a syndicated column across the country.

Merit Promotion vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
76-109	AST, Experimental Facility Techniques	GS-13/14	FLI	NASA-wide & Outside	5-28-76
76-111	Patent Attorney (Chemistry)	GS-13/14	DP	NASA-wide & Outside	6-4-76
76-112	Wind Tunnel Mech. Shift Leader	WG-13	FSA	Centerwide	5-28-76
76-113	Accounting Technician	GS-5/6/7	AFC	Centerwide	5-28-76
76-114	Crew Chief	WG-14	FOS	Centerwide & Outside	5-28-76
76-115 thru 118	Asst. Planner & Estimators (7 vacancies)	WD-4/5/6	RFT	Centerwide	5-28-76

TO APPLY: Call Extension 5599 or 5600

MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-98	Secretary (Stenography)	DM	Fran O'Leary
76-99	Procurement Clerk or Clerk Typist	AS	June Stokes Rosemary Buchanan
76-101	Secretary (Stenography)	RI	Yolanda Ogle
76-102	Contract Specialist	ASF	Joseph Rokovich Margaret Roszell
76-103	Contract Specialist	ASG	William Florida
76-106	Voucher Examiner	AFP	Kathy Foskett

Want ads Transportation

FOR SALE: Honda 350-4 cylinder, 1973 with 7,000 miles. Great mechanical condition. \$700. Contact Walt Kimberling at 262-5980.

FOR SALE: MOTORCYCLE BSA-750 Rocket 3 1971 - Saddle bags. Excellent condition, \$1200. 245-8746.

FOR SALE: 73 Honda 500-4. New tires, carrier, back rest, new pipes \$1000/best offer. Maj. Mitchell, 966-5296/97.

FOR SALE: 73 VW Super Beetle, 40,000 mi. Excellent condition; radial tires. \$2400. 968-6033 4:30 p.m. to 7:00 p.m.

FOR SALE: 1963 Pontiac Catalina, runs well, a good work car. \$350. Call after 6 p.m. Clint, Ph. 265-7018.

FOR SALE: 1968 Toyota Corona, 4 dr sedan, A/T, R&H. A nice small car, clean and in good condition. \$825 or offer. 968-5682, evenings.

Housing

FOR SALE: 1.24 acres Hwy. 88, 25 mi. above Jackson. Spectacular view. Building pad in, water, electricity and telephone lines already at building site. All roads in. Last private land before Nat. Park and Kirkwood Meadows. \$9,500. After 5 p.m., 243-4413.

TAHOE CITY TOWNHOUSE: Pool, tennis, sauna, fireplace, color TV, all electric kitchen, snack bar. Sleeps 6-7. Reserve now for summer. Paul, 415-685-1220 eves.

FOR RENT: South Tahoe Cabin - 2 bath, sleeps 8, fireplace, telephone, TV. Phone 225-8043.

FOR SALE: Home, 2 bdrm, dbl. garage, 1 ba, fruit trees, quiet neighborhood, 5 mi. from Ames in Sunnyside, 245-6866, \$40,500.

SO. LAKE TAHOE VACATION RENTAL. Deluxe townhouse, 2 bdrm, 2 ba, completely furnished. Private boat slip. One block to private beach. Renter has all club privileges. Available May 9 by week or month. S. Benbow, 969-1494.

Miscellaneous

Please Help, Housing is needed for summer interns. Interns will pay up to \$90 a month. Anyone who can provide housing is asked to call Tom in the Training Branch, ext. 5622.

FOR SALE: Good Buy - 1/2 carat solitaire diamond engagement and wedding ring set - white gold. Appraised at \$1,000. Will sell for \$500. Call 266-8362 after 5:30.

FOR SALE: Black tweed nylon rug, 10'8"x11'8" with waffle iron pad; Matching end tables (2) coffee table and 3 pc. sect. bookcase - solid Phillipine mahogany; 10 decorator bottles. 325-6945.

FOR SALE: 10" Sears table saw; 1 H.P. with accessories, \$200; 4" Sears joiner, \$50; 1 H.P. twin piston air compressor regulator, hoses - paint gun, etc., \$185. Phone 578-5472.

Ski Boat, 72 Tahiti 16' Johnson 125 h.p. 3 gas cans, power tilt, boat and motor cover. Coast Guard package, AM custom trailer, \$3100. Call 265-7340 aft. 6 p.m.

FOR SALE: Bike - Men's 10 Speed "Raleigh" with 23 in. Frame, Great Condition. 27"x1-1/4" tires, light wt, green color - offer. Palo Alto/494-7766.

One Baby Crib - Used with mattress and spring; offer. 494-7766.

FOR SALE: Leeds rigid frame ladies suitcase. Holds 10 dresses. Used once. \$20. Call Jean after 6 (969-4240).

For Sale: 6 month old St. Bernard female pups. With papers, AKC. Asking \$50 each. Call 657-4247 after 6 p.m. or weekend.

FOR SALE: 8" F4.0 Richest field telescope with the following accessories: guaranteed Coulter optics, Jaegers clock drive, etc. Excellent condition. Call for more info. 739-3063 after 5 p.m. \$400 or best offer.

FOR SALE: BIKE, Men's 21 in., 3 speed, good condition. \$25. 494-2363.

4 National Sur Tracks Special 10-15 LT, 4 ply rating, 5,000 mi. good condition, \$35 each. Call Tom Worsham, 964-3677 after 4.

FOR SALE: Passenger Auto Rims & Tires: 2-LR 70x15 Used Dayton Radial w.w. tubeless tires; 2-MG 15" rims; 2-Ford Mavrick 14" rims; 1-Ford Pinto 13" rim. - Offer - Palo Alto - 494-7766.

Auto & Truck Parts: 2-Hayden Transmission oil cooler no. 1315 & 1359; Calif. App'd - Quartz type seal beam fog lights; 2-pair "Per-Lux" fog/driving lights - Calif. App'd. 7" and 5-3/4" 12 v. seal beams - Offer - Palo Alto - 494-7766.

FOR SALE: Charmglow portable Bar-be-que (unused) gas grill. 28' Aluminum extension ladder. Toastmaster automatic electric heater. Portable B&W TV Airline Nineteen. 2 New 8" RCA box speakers. Braided oval rug (avocado) 8'x11'. 325-6945.

BENEFIT CHAMPAGNE CONCERT FOR THE SANTA CLARA CHORALE. May 21st, \$5 donation. See Earl Menefee, Bldg. 213, rm 227, Ph. 6315 for tickets.

FOR SALE: Airline shipping crate for large dog, \$15; Gold area rug 8'x8' with pad, \$15; Sailboat, 14' British design sloop, new condition, \$1200. Call 255-7910.

FOR SALE, Electronic Test Instrument Kits, new in boxes: Knight model KG-640 20,000 ohms/volt VOM with 4-1/2" taugt band meter, \$30; RCA type WV-98C senior volt ohmyst VTVM, \$75; phone 379-4120.

WANTED: Pair of oars for boat, 578-5472.

WANTED: Storage space for 16 ft. trailer anywhere in Palo Alto to San Jose area. Will pay \$100 annually. 732-7384.

WANTED TO PURCHASE: Datsun, Toyota or VW Dasher wagon in good condition. A. J. Wilhelm, ext. 5913.

FOUND: One pair of prescription safety glasses. Call R. Christian, ext. 5864.

NASA

National Aeronautics and Space Administration

Ames Research Center
Moffett Field, California 94035
AC 415 965-5091

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Five more complete MBA TV program



After nearly three years of early morning instructional TV classes and weekend study, five Ames employees have earned their Masters in Business Administration via the Golden Gate University TV program. The classmates, pictured above, are shown with John E. Leveen (far left), Chief of the sponsoring Training and Special Programs branch. Leveen met with the group last week to celebrate the occasion. The students are (left to right) Bill Cameron, Bob Barnett, Wayne Mosher, Karl Talarico and Dave Brocker (seated).

When asked what they planned to do with their newly acquired MBA, the individuals had many comments; but a common thread ran throughout their remarks and it was that their exposure to the extensive business courses had already helped them in stepping into supervisory and/or administrative positions. Each one highly recommended the program to any one who might wish to obtain an MBA but dread the idea of the driving and travel time required to attend a local university.

Though many of the courses these five gentlemen took were offered during off duty hours, the Training Branch paid for the education with the exception of books.

The only other Ames graduate of this new Golden Gate University TV MBA program is Dennis Cunningham, a Personnel Manager here at the Center. Cunningham appeared at the function last week as a representative (and "president") of the "Golden Gate University/ARC MBA Alumni Association." After congratulating his former classmates for a job well done, he commented "Does this mean I'm going to have competition in campaigning for next year's Alumni Association presidency?"

POOR RICHARD'S ELECTRIC ALMANAC ... THE SEARCH FOR NEW LIFE STYLES

1776 TODAY FUTURE NASA

WESTERN MOVEMENT AND SETTLEMENT OF WEST NEW TERRITORIES

EXPLORATION AND COLONIZATION OF THE OCEAN

SPACE COLONIZATION

The accompanying cartoon feature, designed by Chris Chizanskos, is in commemoration of the United States' 200th birthday. NASA hopes to secure this as a syndicated column across the country.

Merit Promotion vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
76-109	AST, Experimental Facility Techniques	GS-13/14	FLI	NASA-wide & Outside	5-28-76
76-111	Patent Attorney (Chemistry)	GS-13/14	DP	NASA-wide & Outside	6-4-76
76-112	Wind Tunnel Mech. Shift Leader	WG-13	FSA	Centerwide	5-28-76
76-113	Accounting Technician	GS-5/6/7	AFC	Centerwide	5-28-76
76-114	Crew Chief	WG-14	FOS	Centerwide & Outside	5-28-76
76-115 thru 118	Asst. Planner & Estimators (7 vacancies)	WD-4/5/6	RFT	Centerwide	5-28-76

TO APPLY: Call Extension 5599 or 5600

MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-98	Secretary (Stenography)	DM	Fran O'Leary
76-99	Procurement Clerk or Clerk Typist	AS	June Stokes Rosemary Buchanan
76-101	Secretary (Stenography)	RI	Yolanda Ogle
76-102	Contract Specialist	ASF	Joseph Rokovich Margaret Roszell
76-103	Contract Specialist	ASG	William Florida
76-106	Voucher Examiner	AFP	Kathy Foskett

Want ads Transportation

FOR SALE: Honda 350-4 cylinder, 1973 with 7,000 miles. Great mechanical condition. \$700. Contact Walt Kimberling at 262-5980.

FOR SALE: MOTORCYCLE BSA-750 Rocket 3 1971 - Saddle bags. Excellent condition, \$1200. 245-8746.

FOR SALE: 73 Honda 500-4. New tires, carrier, back rest, new pipes \$1000/best offer. Maj. Mitchell, 966-5296/97.

FOR SALE: 73 VW Super Beetle, 40,000 mi. Excellent condition; radial tires. \$2400. 968-6033 4:30 p.m. to 7:00 p.m.

FOR SALE: 1963 Pontiac Catalina, runs well, a good work car. \$350. Call after 6 p.m. Clint, Ph. 265-7018.

FOR SALE: 1968 Toyota Corona, 4 dr sedan, A/T, R&H. A nice small car, clean and in good condition. \$825 or offer. 968-5682, evenings.

Housing

FOR SALE: 1.24 acres Hwy. 88, 25 mi. above Jackson. Spectacular view. Building pad in, water, electricity and telephone lines already at building site. All roads in. Last private land before Nat. Park and Kirkwood Meadows. \$9,500. After 5 p.m., 243-4413.

TAHOE CITY TOWNHOUSE: Pool, tennis, sauna, fireplace, color TV, all electric kitchen, snack bar. Sleeps 6-7. Reserve now for summer. Paul, 415-685-1220 eves.

FOR RENT: South Tahoe Cabin - 2 bath, sleeps 8, fireplace, telephone, TV. Phone 225-8043.

FOR SALE: Home, 2 bdrm, dbl. garage, 1 ba, fruit trees, quiet neighborhood, 5 mi. from Ames in Sunnyside, 245-6866, \$40,500.

SO. LAKE TAHOE VACATION RENTAL. Deluxe townhouse, 2 bdrm, 2 ba, completely furnished. Private boat slip. One block to private beach. Renter has all club privileges. Available May 9 by week or month. S. Benbow, 969-1494.

Miscellaneous

Please Help, Housing is needed for summer interns. Interns will pay up to \$90 a month. Anyone who can provide housing is asked to call Tom in the Training Branch, ext. 5622.

FOR SALE: Good Buy - 1/2 carat solitaire diamond engagement and wedding ring set - white gold. Appraised at \$1,000. Will sell for \$500. Call 266-8362 after 5:30.

FOR SALE: Black tweed nylon rug, 10'8"x11'8" with waffle iron pad; Matching end tables (2) coffee table and 3 pc. sect. bookcase - solid Phillipine mahogany; 10 decorator bottles. 325-6945.

FOR SALE: 10" Sears table saw; 1 H.P. with accessories, \$200; 4" Sears joiner, \$50; 1 H.P. twin piston air compressor regulator, hoses - paint gun, etc., \$185. Phone 578-5472.

Ski Boat, 72 Tahiti 16' Johnson 125 h.p. 3 gas cans, power tilt, boat and motor cover. Coast Guard package, AM custom trailer, \$3100. Call 265-7340 aft. 6 p.m.

FOR SALE: Bike - Men's 10 Speed "Raleigh" with 23 in. Frame, Great Condition. 27"x1-1/4" tires, light wt, green color - offer. Palo Alto/494-7766.

One Baby Crib - Used with mattress and spring; offer. 494-7766.

FOR SALE: Leeds rigid frame ladies suitcase. Holds 10 dresses. Used once. \$20. Call Jean after 6 (969-4240).

For Sale: 6 month old St. Bernard female pups. With papers, AKC. Asking \$50 each. Call 657-4247 after 6 p.m. or weekend.

FOR SALE: 8" F4.0 Richest field telescope with the following accessories: guaranteed Coulter optics, Jaegers clock drive, etc. Excellent condition. Call for more info. 739-3063 after 5 p.m. \$400 or best offer.

FOR SALE: BIKE, Men's 21 in., 3 speed, good condition. \$25. 494-2363.

4 National Sur Tracks Special 10-15 LT, 4 ply rating, 5,000 mi. good condition, \$35 each. Call Tom Worsham, 964-3677 after 4.

FOR SALE: Passenger Auto Rims & Tires: 2-LR 70x15 Used Dayton Radial w.w. tubeless tires; 2-MG 15" rims; 2-Ford Mavrick 14" rims; 1-Ford Pinto 13" rim. - Offer - Palo Alto - 494-7766.

Auto & Truck Parts: 2-Hayden Transmission oil cooler no. 1315 & 1359; Calif. App'd - Quartz type seal beam fog lights; 2-pair "Per-Lux" fog/driving lights - Calif. App'd. 7" and 5-3/4" 12 v. seal beams - Offer - Palo Alto - 494-7766.

FOR SALE: Charmglow portable Bar-be-que (unused) gas grill. 28' Aluminum extension ladder. Toastmaster automatic electric heater. Portable B&W TV Airline Nineteen. 2 New 8" RCA box speakers. Braided oval rug (avocado) 8'x11'. 325-6945.

BENEFIT CHAMPAGNE CONCERT FOR THE SANTA CLARA CHORALE. May 21st, \$5 donation. See Earl Menefee, Bldg. 213, rm 227, Ph. 6315 for tickets.

FOR SALE: Airline shipping crate for large dog, \$15; Gold area rug 8'x8' with pad, \$15; Sailboat, 14' British design sloop, new condition, \$1200. Call 255-7910.

FOR SALE, Electronic Test Instrument Kits, new in boxes: Knight model KG-640 20,000 ohms/volt VOM with 4-1/2" taugt band meter, \$30; RCA type WV-98C senior volt ohmyst VTVM, \$75; phone 379-4120.

WANTED: Pair of oars for boat, 578-5472.

WANTED: Storage space for 16 ft. trailer anywhere in Palo Alto to San Jose area. Will pay \$100 annually. 732-7384.

WANTED TO PURCHASE: Datsun, Toyota or VW Dasher wagon in good condition. A. J. Wilhelm, ext. 5913.

FOUND: One pair of prescription safety glasses. Call R. Christian, ext. 5864.

NASA

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Ames Research Center
Moffett Field, California 94035
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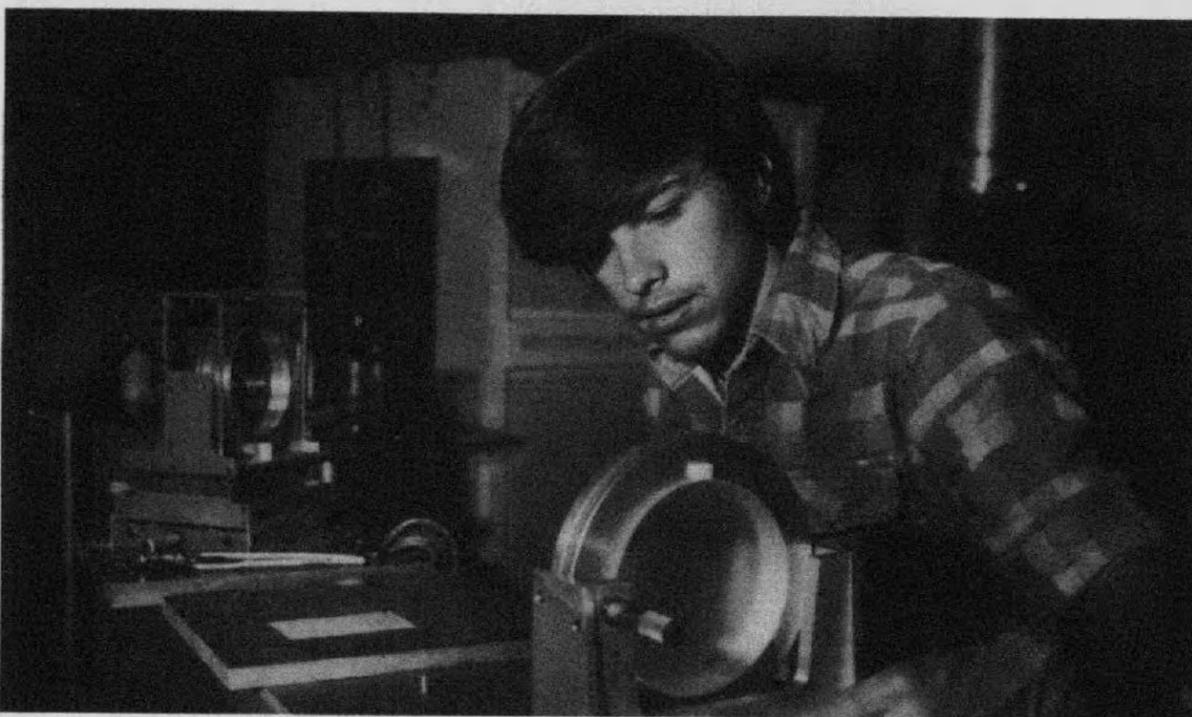
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(Continued on Page 4)

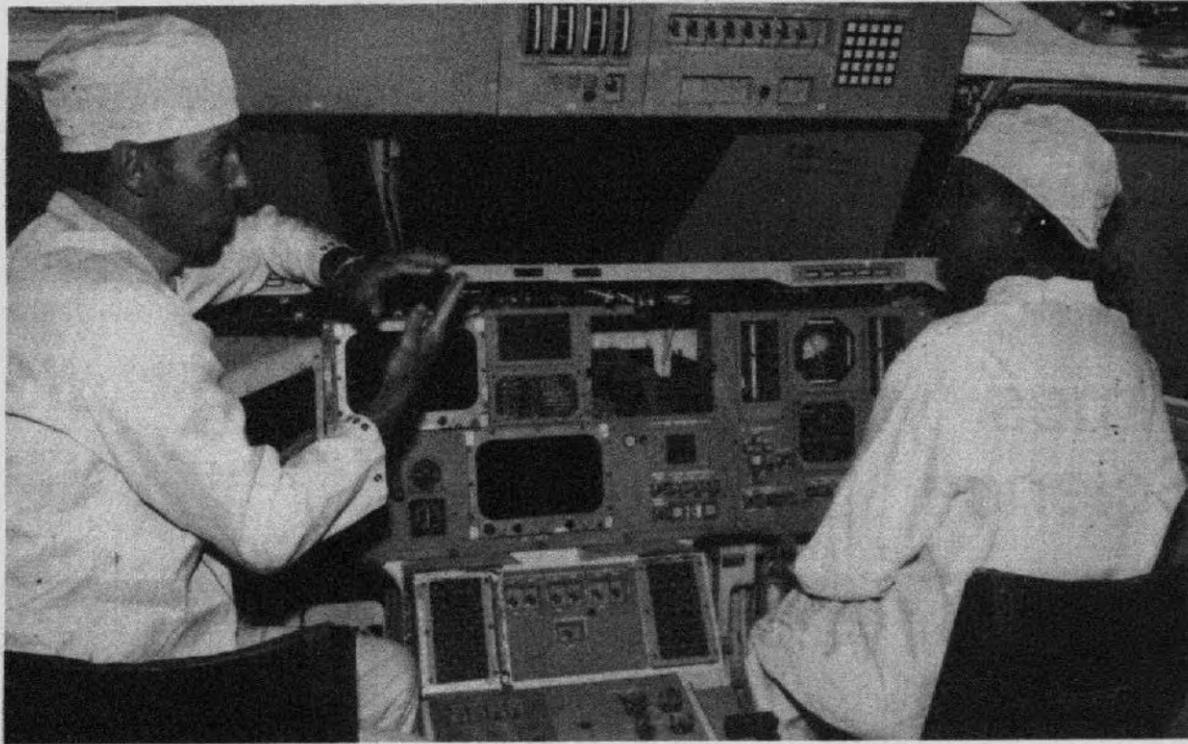
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- Technical Drafting
- Safety Courses
- Physics
- Chemistry
- Layout and Design Drafting
- Graphic Arts (Applied to Engineering Technology)
- Electronics Drafting
- Courses in Communications & Microwave Technology Thermodynamics
- Statistics
- Computer Programming
- Technical Problems (Use of Electronic calculators; procedures for computation; data presentation, etc.)
- Engineering Economics
- Welding Technology
- Metric System

NAME _____

Ames Telephone Number _____ Mail Stop _____

Engr. Tech. Program: ELECTRONICS

MECHANICAL

CIVIL/STRUCTURAL

SAFETY/FIRE

Return to Training Office, Mail Stop 241-3, or Cogswell College, Attn.: Jim Baylor, 600 Stocklin Street, San Francisco, CA 94108.

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is human,
to save
is divine.**

We all know how hard it is to fight temptation and save our money.

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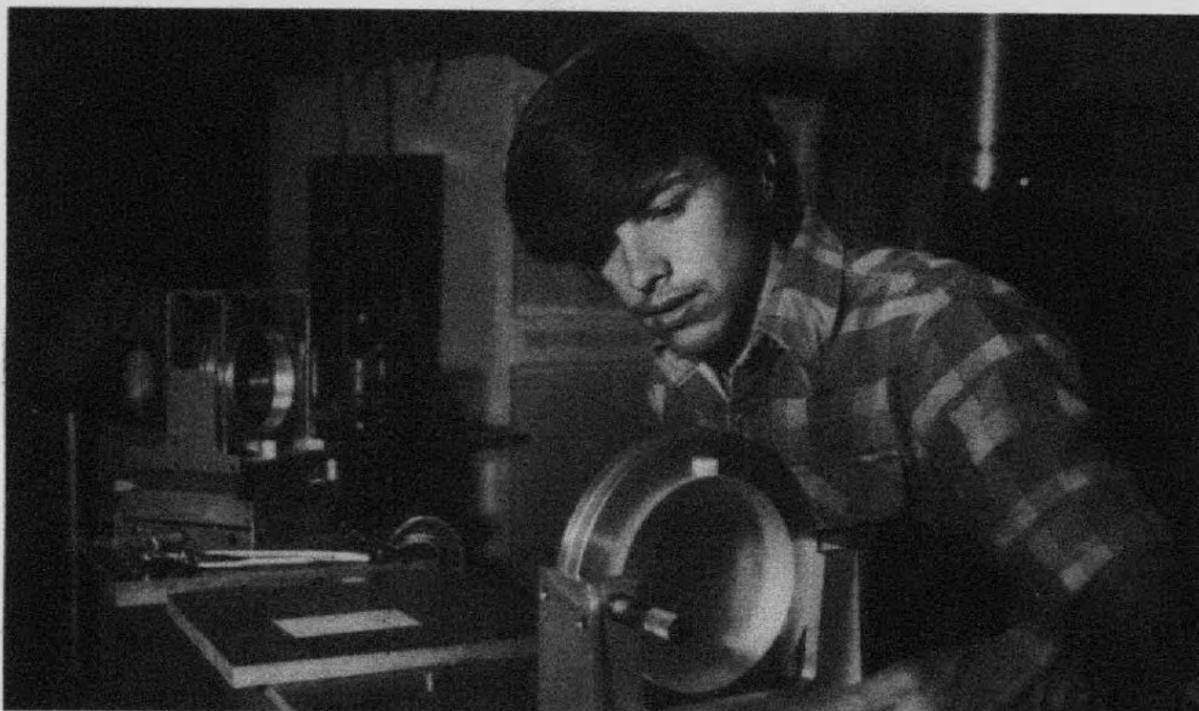
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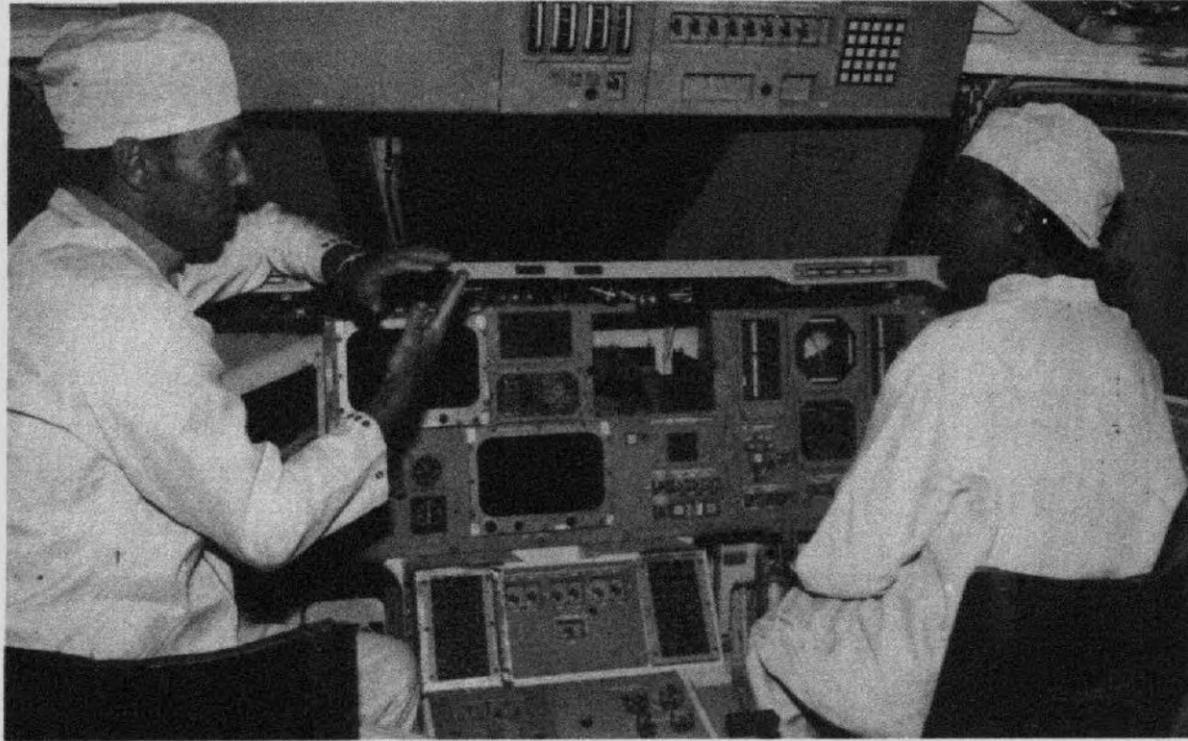
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- Engineering Economics
- Welding Technology
- Metric System

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Ames Telephone Number _____ Mail Stop _____

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Every payday, a little something is taken out to buy Bonds. What could be easier?

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Now U.S. Bonds pay 8% interest when held to maturity of 5 years or 4% the first year. Low, stable or deferred Bonds can be replaced if needs are provided. When needed, Bonds can be cashed at your bank. Interest is not subject to state or local income taxes, and federal tax may be deferred until redemption.



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Golf

Tournament chairmen Paul Kutler and Denny Chaussee report the following winners for the Ames Golf Club tournament at Del Monte Golf Course on May 22nd:

First Flight: 1-Owen Koontz, 2-tie between T. Almojuela, C. Eddy, and J. Lee.

Second Flight: 1-D. Chaussee, 2-E. Menefee, 3-C. Lombard VIII, 4-L. Hockstein.

Third Flight: 1-R. Oyama, 2-B. Quattrone, 3-C. McCloskey, 4-E. Levin.

Bowling team

The ARA's sponsored Ames Tournament Bowling Team competed recently in the California State Women's Championship at Fresno. (Left to right) Jeanne Clemson, AAP; Joan Clements (Harold Clements, SSG); Ina Rathert (George Rathert, FL); Janet Konrath, RKM; Pauline Polaski (Lou Polaski, SAE); Judy Long, FAX.

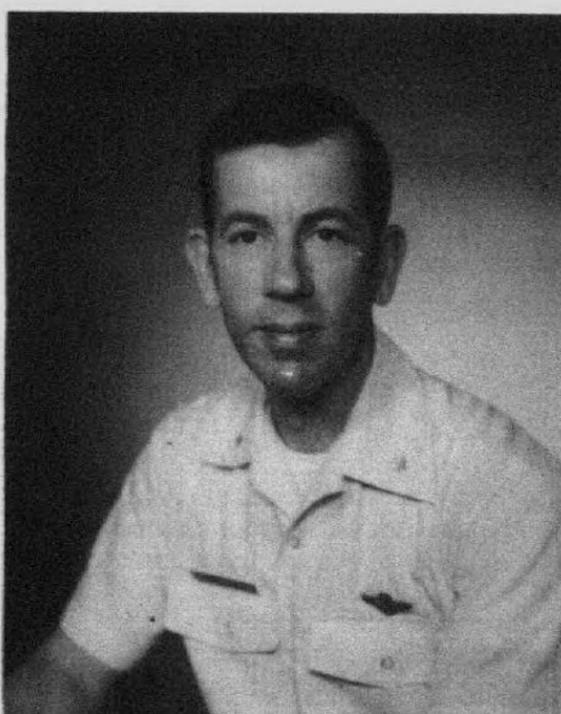
Jetsetter news

NASA-Ames Jetsetters announces its Fall travel program - Vienna! Nine days for only \$699. The departure will be September 11, 1976.

As an added plus, optional excursions are available to Budapest, Innsbruck, Prague, and Salzburg. If you want to do your own thing in Austria, air fare is available from only \$525.

A presentation will be held in Bldg. 245 on June 9, 1976 at 7:30 p.m. Everyone is welcome. Please contact Bill Ross at extension 5152.

Tavenner replaces Andrada



Lt. Colonel Michael S. Tavenner will report in as the new AFSC Liaison Officer early this summer. He will replace Lt. Colonel Ted Andrada who leaves on 18 June for his next assignment at the Air Force Geophysics Laboratory, L. G. Hanscom AFB, Mass., near Boston. A special no-host Happy Hour will be held in the Ames Cafeteria on 11 June (Friday) for all those interested in meeting Lt. Colonel Tavenner and saying "adios" to Lt. Colonel Andrada.

Lt. Colonel Tavenner received a M.S. degree in Physics from the University of Utah in 1961. He has written eight technical publications, three technical reports, and seven papers on the subjects of optical diffraction, atmospheric refraction, geodetic instrumentation, and lunar and satellite reflections of laser signals. His present assignment is Chief, Laboratory Plans Division at Hqs. Air Force Systems Command, Andrews AFB, Washington, D.C.

ARA activities

New summer hours for the ARA Store beginning June 7th to accommodate summer visitors will be Mondays, Wednesdays, and Fridays, 12 to 12:45 p.m.

The Apollo glasses have arrived and are available as a set of 12 (one for each Apollo flight) for \$31. Apollo-Soyuz glasses are available either in a set of 6 for \$15 or individually for \$2.50.

A Patio Sale of close-out items is planned for later this month. Watch for an announcement soon.

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Associate Editor Marcia Kadota
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GTO 1968 - Green with black vinyl roof. ORIGINAL OWNER. 76,000 miles. Hurst transmission. Super mechanical condition. \$1000 - Phone 345-0422.

FOR SALE: Travel Trailer - 28 foot. Self contained Kenskill. \$3000, Carl Gillespie, 493-8677.

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FOR SALE: Motorcycle - 1973 BMW R75/5 with Roadrunner fairing, new tires, rack. \$1750, W. Vorbau, 739-7208.

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1964 Chev. Impala 2-DR HT, auto trans, pwr. str., 327 CID, only 80,000 miles, excellent condition. Selling to settle estate. \$650. 325-6370.

Housing

FOR RENT: Lovely roses surround this 3 bedroom, 1 ba, 2 car garage, fireplace, large backyard with patio and barbecue pit, lots of fruit trees, 3 miles to NASA. \$350 per mo. Call 248-9733.

HOUSE FOR RENT: 2 Bedroom, 1 bath, sep. dining room, large yard (Palo Alto), \$355. Family only - no pets. Available July 3. 494-7438.

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Miscellaneous

Mirror blank and tool for 8" telescope. Pyrex, parabola \$10. Shock absorbers for Chrysler product cars. Monroe extra heavy duty, new \$5 each. 738-2948.

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Schick PRO Blower Hair Dryer (1200 watt), \$15. Call Grace, 968-0697.

BICYCLE, Girl's 3-speed Schwinn with basket, exc. cond. Also old model Singer portable electric sewing machine. \$35 takes either. 738-4166.

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Moffett Field, California 94035
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Golf

Tournament chairmen Paul Kutler and Denny Chaussee report the following winners for the Ames Golf Club tournament at Del Monte Golf Course on May 22nd:

First Flight: 1-Owen Koontz, 2-tie between T. Almojuela, C. Eddy, and J. Lee.

Second Flight: 1-D. Chaussee, 2-E. Menefee, 3-C. Lombard VIII, 4-L. Hockstein.

Third Flight: 1-R. Oyama, 2-B. Quattrone, 3-C. McCloskey, 4-E. Levin.

Bowling team

The ARA's sponsored Ames Tournament Bowling Team competed recently in the California State Women's Championship at Fresno. (Left to right) Jeanne Clemson, AAP; Joan Clements (Harold Clements, SSG); Ina Rathert (George Rather, FL); Janet Konrath, RKM; Pauline Polaski (Lou Polaski, SAE); Judy Long, FAX.

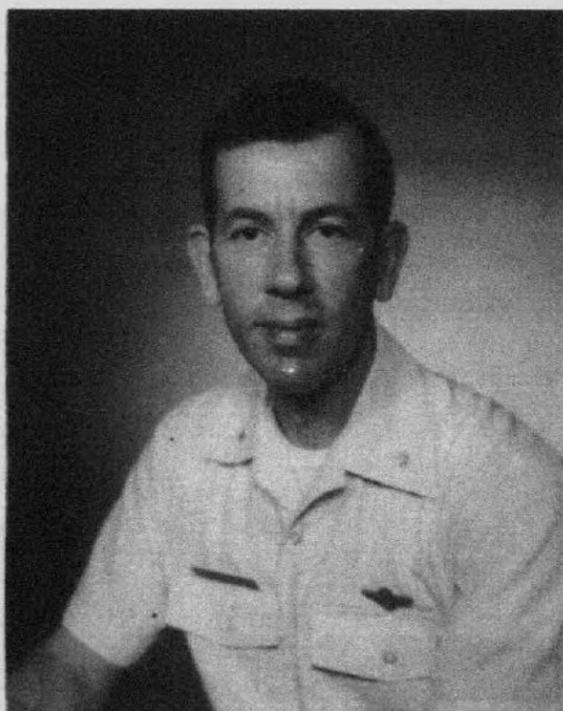
Jetsetter news

NASA-Ames Jetsetters announces its Fall travel program - Vienna! Nine days for only \$699. The departure will be September 11, 1976.

As an added plus, optional excursions are available to Budapest, Innsbruck, Prague, and Salzburg. If you want to do your own thing in Austria, air fare is available from only \$525.

A presentation will be held in Bldg. 245 on June 9, 1976 at 7:30 p.m. Everyone is welcome. Please contact Bill Ross at extension 5152.

Tavenner replaces Andrada



Lt. Colonel Michael S. Tavenner will report in as the new AFSC Liaison Officer early this summer. He will replace Lt. Colonel Ted Andrada who leaves on 18 June for his next assignment at the Air Force Geophysics Laboratory, L. G. Hanscom AFB, Mass., near Boston. A special no-host Happy Hour will be held in the Ames Cafeteria on 11 June (Friday) for all those interested in meeting Lt. Colonel Tavenner and saying "adios" to Lt. Colonel Andrada.

Lt. Colonel Tavenner received a M.S. degree in Physics from the University of Utah in 1961. He has written eight technical publications, three technical reports, and seven papers on the subjects of optical diffraction, atmospheric refraction, geodetic instrumentation, and lunar and satellite reflections of laser signals. His present assignment is Chief, Laboratory Plans Division at Hqs. Air Force Systems Command, Andrews AFB, Washington, D.C.

ARA activities

New summer hours for the ARA Store beginning June 7th to accommodate summer visitors will be Mondays, Wednesdays, and Fridays, 12 to 12:45 p.m.

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The Astrogram

VOLUME XVIII NUMBER 20

June 17, 1976

P.E. deadline July 12

Engineers wishing to take the November Professional Engineering (P.E.) License exams are reminded that their applications must be received by the State Board of Registration in Sacramento by July 12. Engineers still have until August 16 to file for the Engineer-In-Training (EIT) examination, which will be given on November 6, along with P.E. exams in Electrical, Mechanical, and Industrial Engineering.

The State Board of Registration decided last year that P.E. exams will be given only once a year – the aforementioned branches in November, and Civil Engineering in April, 1977. The EIT examination will continue to be given each April and November.

The Peninsula Chapter of the California Society of Professional Engineers is offering EIT and P.E. reviews starting in August for all four of the upcoming November exams. The reviews feature 40 hours of instruction in the specific topics needed to pass the first time, and are held one night each week in the Menlo Park area. This examination is more important than ever to Ames engineers, since the Board of Registration recently opened up the category of "Aeronautical Engineer."

For more information, please contact Michael R. Lindeburg, P.E., Director, Professional Engineering Registration Program, P.O. Box 911, San Carlos, CA 94070, (415) 593-9731.

Fly-in June 9th

The San Francisco Bay Area Chapter of the American Helicopter Society (AHS) has scheduled its third annual helicopter fly-in for Saturday, June 19, from 9 a.m. to 5 p.m. at the Palo Alto Airport.

An estimated 25 helicopters will be on display at the event, which is open to the public free of charge. Military, police, Coast Guard, commercial and general aviation helicopters will be featured in ground displays and flight demonstrations.

Activities for the day include contests and games for all ages, door and game prizes, and a chicken and fixins lunch including beer and beverages. Advance reservations for the picnic lunch are \$4 for adults and \$2 for children, at the door \$5 for adults and \$2.50 for children. Reservations may be made by sending your check to James C. Biggers, 4 Oak Court, Sunnyvale, CA 94086.

The summer fly-in is the highlight of the local AHS chapter's yearly schedule.

Bloodmobile visit

The American Red Cross Blood Mobile will visit Ames Research Center on June 24, 1976, between the hours of 9 a.m. and 11:30 a.m. in Bldg. N-239, Life Sciences Research Lab, Room 39 (Basement).

Mendenhall named director of FWP at CSC

Janice Kay Mendenhall, national president of Federally Employed Women, has been named by the Civil Service Commission as Director of the Federal Women's Program. In that position she will assume leadership of the Government-wide program, which is designed to broaden opportunities for women in all aspects of employment.

Announcing her selection, CSC Chairman Robert E. Hampton said: "Janice Mendenhall is an outstanding person in many respects, and we are most fortunate to acquire her leadership of this important program. As head of FEW she has been a most effective advocate, and has created constructive tensions which have helped to move the Federal Women's Program forward. Her official working career – from management intern in 1969 to director of a national program in 1976 – has been a model for others to emulate."

Ms. Mendenhall has been serving in the International Women's Year secretariat of the Department of State since last September, on loan from her regular position as Assistant Director of the Equal Employment Opportunity program in the General Services Administration.

Ms. Mendenhall was graduated with honors and received her master's degree in political science and public administration from the University of Kansas where she remained to serve briefly as assistant to the Dean of Women. (Continued on Page 3)



In addition to the offices she had held in FEW (national president, board of directors, national vice president, chapter offices), she had been an active member of the Women's Equity Action League, the National Organization for Women, the American Society for Public Administration, the American Political Science Association, Incorporated Spanish-Speaking Government Employees, and the Urban League.

Ames named lead helicopter center

Center Director Dr. Hans Mark announced last week that Ames has been named the lead center for helicopter research and development. In a memo to center personnel, he quoted a Headquarters statement:

"In a move to strengthen helicopter research and development and to provide a focal point for industry participation and program management, NASA Administrator Dr. James C. Fletcher has named Ames Research Center as lead center for the program.

"The announcement came following presentation to the Administrator May 28 of a review of research needs by an especially appointed NASA Helicopter Management Advisory Group. Pointing to an industry projection of growth in the world helicopter market, NASA stressed the need for significant technical improvements in helicopters if the U.S. industry is to realize its fair share of the market for both civil and military vehicles.

"Ames, supported by the Lewis and Langley centers, will provide overall direction to the program and conduct research in aeromechanics, which includes technology integration and large-scale testing and simulation. Langley Research Center will perform research in structures and materials, avionics, and noise. Lewis Research will conduct research into propulsion, which includes engines, gearing and helicopter transmissions, and shafting. A detailed plan to put this decision into operation will be worked out over the next few weeks.

"These assignments of responsibility will best utilize the capabilities of NASA's centers. Fletcher noted that naming Ames as the lead center will also preserve the close working relationship and effective cooperation that exists between NASA and the Army's Air Mobility Research and Development Laboratory.

"These moves place NASA in a strong position to support the Army and the anticipated increased helicopter R&D activities to meet the threat of foreign competition for both civil and military sales."

Jetsetters news

By popular demand on the "expression of interest questionnaires," a dinner cruise is planned for August. Further details will be forthcoming in the next Astrogram, and on the bulletin boards.

19-20 June – MENDOCINO AND THE SKUNK TRAIN

2-7 July – BICENTENNIAL (Boston, New York, Philadelphia, Washington, D.C.)

Women's news and views

by Susie V. Rydquist

Woman of the Year Award

Dr. Nancy G. Roman, Chief, Astronomy/Relativity Branch, Astrophysics Programs, Office of Space Science, NASA, was one of the outstanding leaders in science nominated for the prestigious awards made by the Ladies Home Journal.

Hispanic Woman of Note

Sor Juana Ines de la Cruz (secular name — Juana Ines de Asbaje, born 1651, San Miguel Nepantla, Mexico; died 1695, Mexico City) was an outstanding lyric poet of Mexico's colonial period. An intellectual prodigy, she begged her parents to disguise her as a boy in order to be able to attend the University of Mexico, but had to be content with reading her grandfather's books. At age 9, she went to live in Mexico City where she studied Latin, mastering the language in 20 lessons. The fame of her learning reached the Viceroy, who invited her to court where her wit and magnetic personality won her great popularity. In an oral examination arranged by the Viceroy, Juana Ines (then 17) astonished 40 professors with her knowledge. The three volumes of her work were printed in Spain. She died the victim of an epidemic, while nursing her sister nuns. (From La Mesa Redonda, Civil Service Commission.)

Credit Information

"Borrowing Basics for Women" is a free booklet from the First National City Bank, Public Affairs Dept., 339 Park Ave., New York, New York 10022. This booklet serves as a guide for women in building credit history, getting loans, obtaining credit rating, and answering typical questions that confront women such as: Can a divorced woman list alimony as income when applying for a loan; is a married woman liable for her husband's debts; or can a pregnant woman or homemaker get credit...?

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(Continued next issue)

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The Astrogram

VOLUME XVIII NUMBER 20

June 17, 1976

P.E. deadline July 12

Engineers wishing to take the November Professional Engineering (P.E.) License exams are reminded that their applications must be received by the State Board of Registration in Sacramento by July 12. Engineers still have until August 16 to file for the Engineer-In-Training (EIT) examination, which will be given on November 6, along with P.E. exams in Electrical, Mechanical, and Industrial Engineering.

The State Board of Registration decided last year that P.E. exams will be given only once a year - the aforementioned branches in November, and Civil Engineering in April, 1977. The EIT examination will continue to be given each April and November.

The Peninsula Chapter of the California Society of Professional Engineers is offering EIT and P.E. reviews starting in August for all four of the upcoming November exams. The reviews feature 40 hours of instruction in the specific topics needed to pass the first time, and are held one night each week in the Menlo Park area. This examination is more important than ever to Ames engineers, since the Board of Registration recently opened up the category of "Aeronautical Engineer."

For more information, please contact Michael R. Lindeburg, P.E., Director, Professional Engineering Registration Program, P.O. Box 911, San Carlos, CA 94070, (415) 593-9731.

Fly-in June 9th

The San Francisco Bay Area Chapter of the American Helicopter Society (AHS) has scheduled its third annual helicopter fly-in for Saturday, June 19, from 9 a.m. to 5 p.m. at the Palo Alto Airport.

An estimated 25 helicopters will be on display at the event, which is open to the public free of charge. Military, police, Coast Guard, commercial and general aviation helicopters will be featured in ground displays and flight demonstrations.

Activities for the day include contests and games for all ages, door and game prizes, and a chicken and fixins lunch including beer and beverages. Advance reservations for the picnic lunch are \$4 for adults and \$2 for children, at the door \$5 for adults and \$2.50 for children. Reservations may be made by sending your check to James C. Biggers, 4 Oak Court, Sunnyvale, CA 94086.

The summer fly-in is the highlight of the local AHS chapter's yearly schedule.

Bloodmobile visit

The American Red Cross Blood Mobile will visit Ames Research Center on June 24, 1976, between the hours of 9 a.m. and 11:30 a.m. in Bldg. N-239, Life Sciences Research Lab, Room 39 (Basement).

Mendenhall named director of FWP at CSC

Janice Kay Mendenhall, national president of Federally Employed Women, has been named by the Civil Service Commission as Director of the Federal Women's Program. In that position she will assume leadership of the Government-wide program, which is designed to broaden opportunities for women in all aspects of employment.

Announcing her selection, CSC Chairman Robert E. Hampton said: "Janice Mendenhall is an outstanding person in many respects, and we are most fortunate to acquire her leadership of this important program. As head of FEW she has been a most effective advocate, and has created constructive tensions which have helped to move the Federal Women's Program forward. Her official working career - from management intern in 1969 to director of a national program in 1976 - has been a model for others to emulate."

Ms. Mendenhall has been serving in the International Women's Year secretariat of the Department of State since last September, on loan from her regular position as Assistant Director of the Equal Employment Opportunity program in the General Services Administration.

Ms. Mendenhall was graduated with honors and received her master's degree in political science and public administration from the University of Kansas where she remained to serve briefly as assistant to the Dean of Women. (Continued on Page 3)



In addition to the offices she had held in FEW (national president, board of directors, national vice president, chapter offices), she had been an active member of the Women's Equity Action League, the National Organization for Women, the American Society for Public Administration, the American Political Science Association, Incorporated Spanish-Speaking Government Employees, and the Urban League.

Ames named lead helicopter center

Center Director Dr. Hans Mark announced last week that Ames has been named the lead center for helicopter research and development. In a memo to center personnel, he quoted a Headquarters statement:

"In a move to strengthen helicopter research and development and to provide a focal point for industry participation and program management, NASA Administrator Dr. James C. Fletcher has named Ames Research Center as lead center for the program.

"The announcement came following presentation to the Administrator May 28 of a review of research needs by an especially appointed NASA Helicopter Management Advisory Group. Pointing to an industry projection of growth in the world helicopter market, NASA stressed the need for significant technical improvements in helicopters if the U.S. industry is to realize its fair share of the market for both civil and military vehicles.

"Ames, supported by the Lewis and Langley centers, will provide overall direction to the program and conduct research in aeromechanics, which includes technology integration and large-scale testing and simulation. Langley Research Center will perform research in structures and materials, avionics, and noise. Lewis Research will conduct research into propulsion, which includes engines, gearing and helicopter transmissions, and shafting. A detailed plan to put this decision into operation will be worked out over the next few weeks.

"These assignments of responsibility will best utilize the capabilities of NASA's centers. Fletcher noted that naming Ames as the lead center will also preserve the close working relationship and effective cooperation that exists between NASA and the Army's Air Mobility Research and Development Laboratory.

"These moves place NASA in a strong position to support the Army and the anticipated increased helicopter R&D activities to meet the threat of foreign competition for both civil and military sales."

Jetsetters news

By popular demand on the "expression of interest questionnaires," a dinner cruise is planned for August. Further details will be forthcoming in the next Astrogram, and on the bulletin boards.

19-20 June - MENDOCINO AND THE SKUNK TRAIN

2-7 July - BICENTENNIAL (Boston, New York, Philadelphia, Washington, D.C.)

Women's news and views

by Susie V. Rydquist

Woman of the Year Award

Dr. Nancy G. Roman, Chief, Astronomy/Relativity Branch, Astrophysics Programs, Office of Space Science, NASA, was one of the outstanding leaders in science nominated for the prestigious awards made by the Ladies Home Journal.

Hispanic Woman of Note

Sor Juana Ines de la Cruz (secular name - Juana Ines de Asbaje, born 1651, San Miguel Nepantla, Mexico; died 1695, Mexico City) was an outstanding lyric poet of Mexico's colonial period. An intellectual prodigy, she begged her parents to disguise her as a boy in order to be able to attend the University of Mexico, but had to be content with reading her grandfather's books. At age 9, she went to live in Mexico City where she studied Latin, mastering the language in 20 lessons. The fame of her learning reached the Viceroy, who invited her to court where her wit and magnetic personality won her great popularity. In an oral examination arranged by the Viceroy, Juana Ines (then 17) astonished 40 professors with her knowledge. The three volumes of her work were printed in Spain. She died the victim of an epidemic, while nursing her sister nuns. (From La Mesa Redonda, Civil Service Commission.)

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SPARCS program leaves Ames

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The SPARCS Project Office at Ames successfully launched its last solar pointing experiment on a sounding rocket from White Sands Missile Range on May 11, 1976. This was the 61st SPARCS system flown and supported by the Ames Project Office.

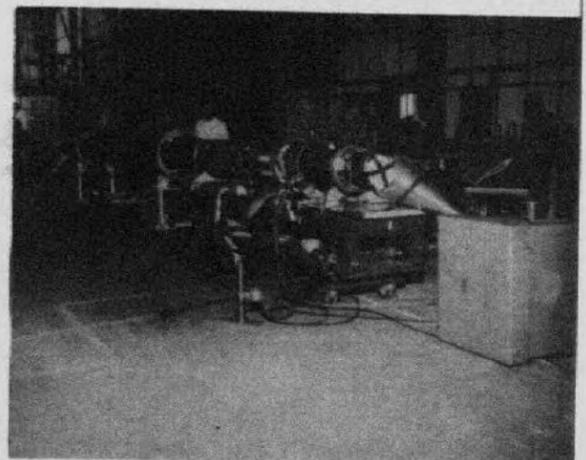
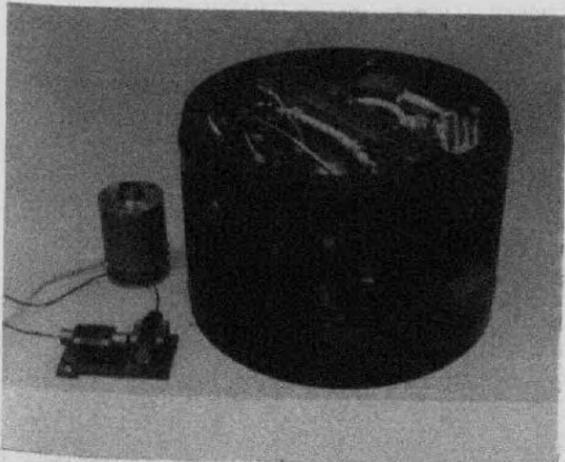
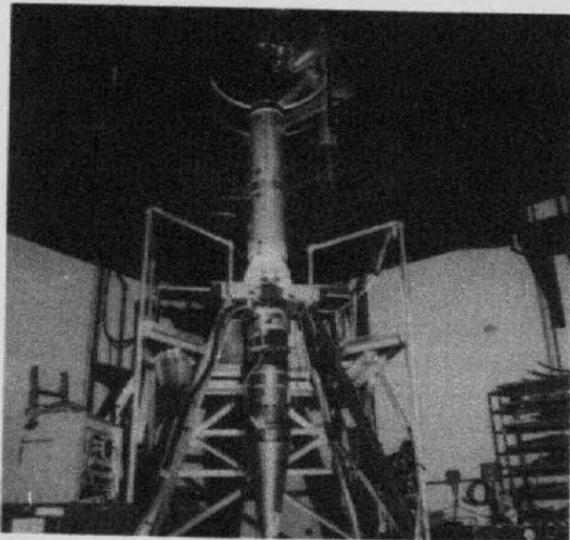
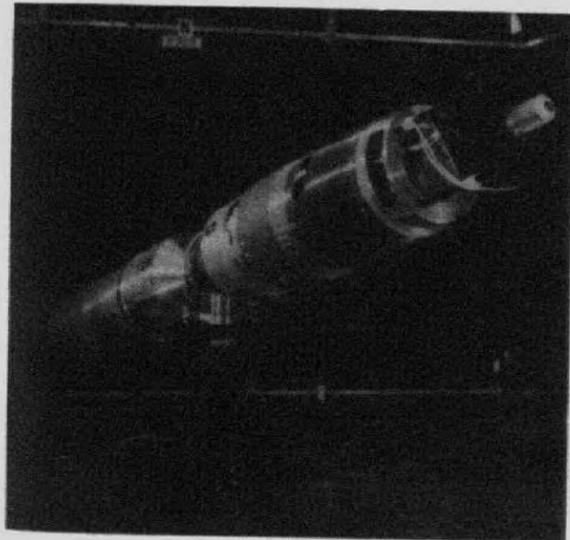
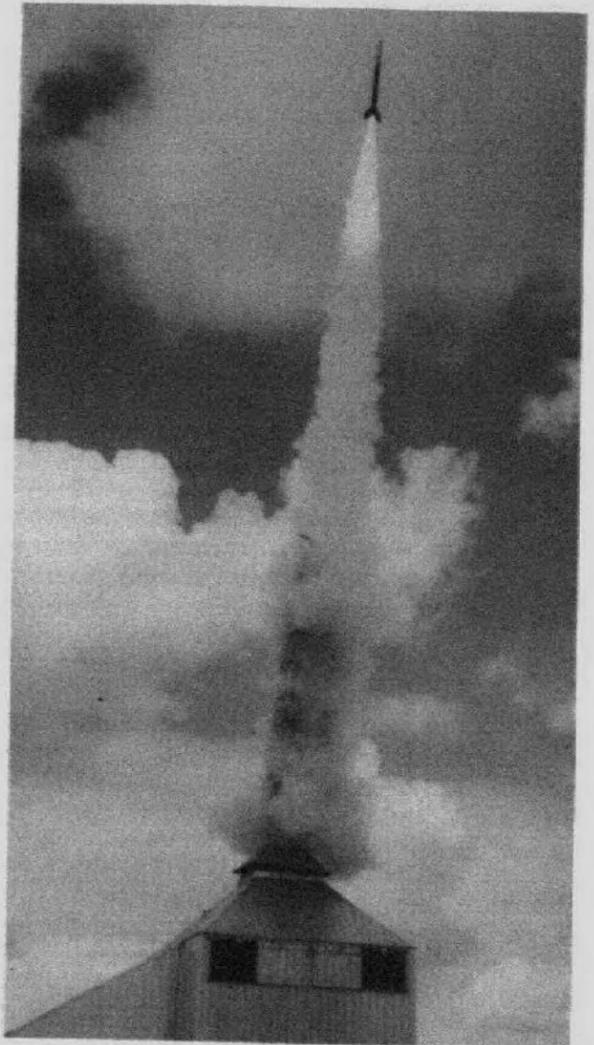
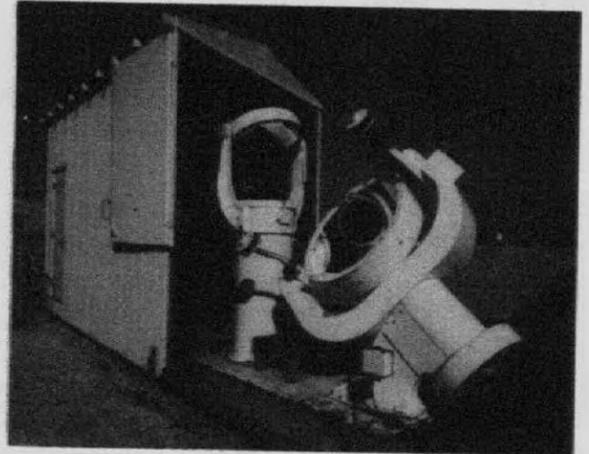
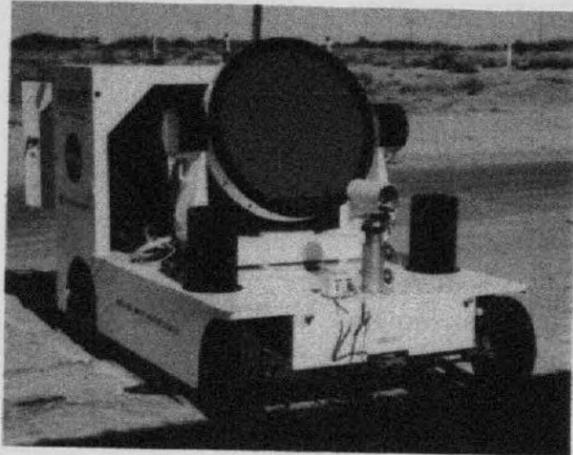
Transfer of the project will be officially completed July 1, 1976. Transfer of the SPARCS support equipment will start June 15, 1976. Part of the equipment will be transferred to the support contractor, Lockheed Missile and Space Corporation, some to Goddard and the rest, including the heliostat, will be housed in the new 1/4 million dollar

SPARCS facility that Goddard is having constructed at White Sands Missile Range in anticipation of the transfer.

SPARCS project personnel at Ames say they are going to miss the program, especially since they have another streak of launch successes going for them. All 12 of the solar experiments integrated with SPARCS at Ames over the past 2 years have been launched successfully. Included in this group was

the new computer controlled SPARCS system developed by the project. Project personnel are encouraged, however, by the knowledge that SPARCS will be replaced by bigger and better programs to challenge their engineering and scientific skills.

Ames personnel connected with this unique project include the following: Dean Chisel, SPARCS Project Manager; Jim Van Ess; Norm Yetka; Mort Bradski; Robert Lavond; and Bill Van Ark.



Merit Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
76-111	Patent Attorney (Chemistry)	GS-13/14	DP	NASA-wide	7-2-76
76-120	Supervisory Contract Specialist	GS-13/14	ASR	NASA-wide	7-2-76
76-121	Research Assistant to the Director	GS-14/15	D	NASA-wide	7-2-76
76-122	Exhibits Specialist	GS-5/7	ATG	Centerwide & Outside	6-25-76
76-123	Secretary (Typing or Stenography)	GS-5/6	LB	Centerwide	6-25-76
76-124	Secretary (Typing or Stenography)	GS-5/6	LC	Centerwide	6-25-76

TO APPLY: Call Extension 5599 or 5600

MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-108	Research Aircraft Inspector	FOI	David Walton
76-113	Accounting Technician	AFC	Mildred Tamayo
76-118	Assistant Planner & Estimator (Electronic Mechanic)	WD-2614-6	RFTC Cancelled

Want Ads Transportation

1968 Ford Fairlane wagon, 289 V8, 4 dr, AT PS, good condition, \$675/offer. 245-8325.

'75 Honda CVCC hatchback, auto trans, thrifty and penny-pinching gas-saver, lots of pep, 50,000/5 yr. warranty, take over payments. 251-0375, after 4:30.

1970 Cougar, good cond., PS, AT, new tires, starter, battery brakes, etc. White w/blk vinyl top. \$1700. (415)964-0852 after 6 p.m.

FOR SALE: 1973 Capri Sport Coupe in exc. cond. with 2600 CC-V6 engine and 4-speed manual transmission, 29 K miles, bucket seats with center console, tan vinyl upholstery, radio/heater, beautiful dark metallic green. Roger Krause, Mt. View, 967-5648.

Thank you note and poem

My recent retirement from Ames and the Thermal Protection Branch occasioned a most inviting luncheon and the most exciting retirement ceremony I have ever attended. We have replayed the tape recording of that event several times: it is still hilarious.

I wish to thank those who made the arrangements. I want to thank those who vocally participated during the "formalities." We also appreciate the "commemorative" tape presented to us with its prior recordings of Branch sounds and the stories, comments, and expressions of good wishes by people of the Branch (some of the stories had to be edited), and finally the sounds of "Attention To Colors." The gifts were just super, with the Gift Certificate being used for new filters and film for our camera.

My wife Marcia (I call her Lucille) was, of course, present. During that morning she had written some verse to be read at the luncheon; but decided not to interrupt the flow of jollity and merriment. I would like, however, to share this verse with you through

Housing

FOR RENT: 3 bdrm, 2 bath home within 20 minutes of Moffett Field, near Hwy 17 and 680, 1 yr lease, avail Aug. 1976, partially furnished, first/last month rent + deposit, \$250/month, references. Call Cheryl after 6 p.m. at 263-5983.

Apt., unfurnished, ground level, 3 br, 2 bath, AEK, downtown Palo Alto. Available 7-1-76. Quiet area. 325-6945.

FOR RENT: 3 bdrm, 2 bath home in a nice neighborhood in Los Gatos. Patio, fireplace, large family room, convenient to shopping and freeways. Available July 1, \$475. R. Munoz, 941-3589.

HOUSE for rent: 3 bdrm, 1½ bath, 2-car paneled garage, nice yard. Easy walking to schools, library, shopping, park, tennis, Sunnyvale. \$365. Call 443-8554.

the Astrogram. It is so pertinent! How better could it be said.

"What does one do, what does one say?
When finally comes this one great day!
You're to retire to-day they say —
You joke and say that you've waited long
For this big day to come along.
The years roll by as they always do,
And before we know it your day is due.
What does one do, what does one say?
More time to lend a helping hand,
More time to look across the Land."

and

"This is a time of shifting the harness, adjusting it for greater effectiveness in a second career that we are anticipating. We are not yet ready for what is called that 'well deserved rest'."

Roger G. Morgan

Miscellaneous

14 ft fishing boat — complete motor, trailer and accessories, lift preservers, etc. 327-0259.

HP-21, 1 yr old, complete, \$65; RCA 19" all channel TV, good picture, \$40; call Martin at X5283 and leave message if out.

FOR SALE: Baby crib and mattress, stroller, baby swing, Danish teak couch. Call 736-6947 after 5:30 p.m.

FOR SALE: English springer spaniel puppies, 8 wks, liver & white, field & show, AKC. Call 374-0930, Roy E. Lopossa, 13106 Heath St., Saratoga 95070.

WANTED: Car pool to Middlefield and University in Palo Alto, hrs are flexible, unable to drive, will share expenses, ext. 5249, Jim Stevenson.

FOR SALE: Passenger auto rims & tires, 2-LR 70x15 used Dayton Radial w.w. tubeless tires; VW Radial tires — 165SR15, 155SR15, & 185SR14 for bus; 2-MG 15" rims; 2-Ford Maverick 14" rims; 1-Ford Pinto 13" rim. Offer. Palo Alto, 494-7766.

One baby crib, used, with mattress and spring; offer. 494-7766.

Auto & truck parts, quartz type seal beam fog lights; 2-pair "Per-Lux" fog/driving lights — Calif. App'd. 7" and 5½" 12 v. seal beams — Offer, Palo Alto, 494-7766.

FOR SALE: Bike parts: 3/32" chains for 10-speed, "Suntour" Derailleurs — shifters — freewheel cluster, generator-lights, alloy handlebars, alloy & steel 27" wheels, seats, tires & tubes — high & standard pressure, coil cable for locking, etc. 494-7766.

FOR SALE: J. Lansing walnut speaker enclosure 24x14x12 in., takes 10 or 12 in. speaker, \$25; guitar and case, \$15; ski boots, 2 pr. 8½ and 9D, \$10 ea., 2 pr. both 10½, \$15 ea.; intercom system, \$15; vegetable juicer (brand new) cost \$40, sell \$20. 493-9406.

FOR SALE: Sailboat, 24' Venture 224, outboard motor, Genoa & other extras. Santa Clara, 243-1593.

FOR SALE: Shelled walnuts \$1.50 per pound. Fred Bear, Los Gatos, 354-2769.

Hauling, tree removal, all garden clean up, moving. \$10 a load. Call Hans, 493-9406.

Bumper pool table, hexagonal, 3 mos. old, dark-wood finish, green top, \$165. Call 733-7876 days only.

FOR SALE: Chev. Blazer tire carrier w/Geri can holder, rear seat and tow hitch. Best offer. 734-2041, Shirley.

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Room 142, Admin. Mgt. Building, Phone 965-5422

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Editor Meredith Moore
Associate Editor Marcia Kadota
Reporters NASA Employees

Deadline for contributions: Thursday between publication dates

NASA

National Aeronautics and
Space Administration

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AC 415 965-5091

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NASA-451



SPARCS program leaves Ames

The SPARCS program, which had its beginning at Ames in 1966, is being transferred to Goddard. The SPARCS (Solar Pointing Aerobee Rocket Control System) program includes responsibility for the attitude control, the command system, separation systems; plus integration, test and flight support of the solar experiments. The SPARCS system is used to point rocket-boosted solar experiments that can weigh several hundred pounds at targets on the Sun. There are two ways of using SPARCS: it can be programmed before the launch to point at selected targets on the Sun or, using a recently developed command system, the experimenter can control the attitude of the rocket from the ground as it travels in a ballistic trajectory reaching altitudes of 180 statute miles above the Earth.

The SPARCS Project Office at Ames successfully launched its last solar pointing experiment on a sounding rocket from White Sands Missile Range on May 11, 1976. This was the 61st SPARCS system flown and supported by the Ames Project Office.

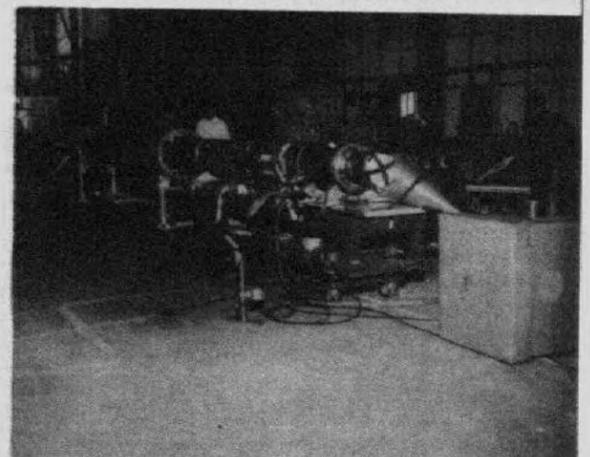
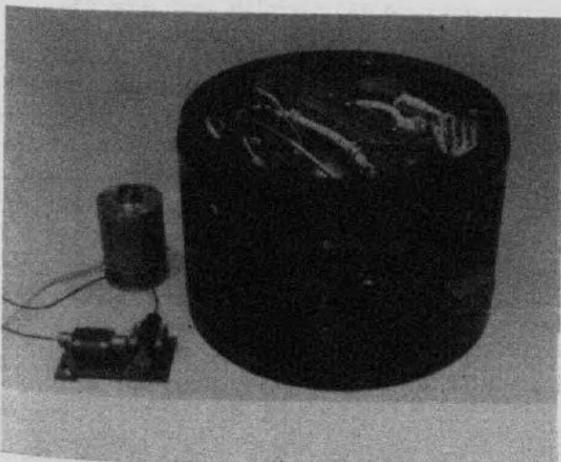
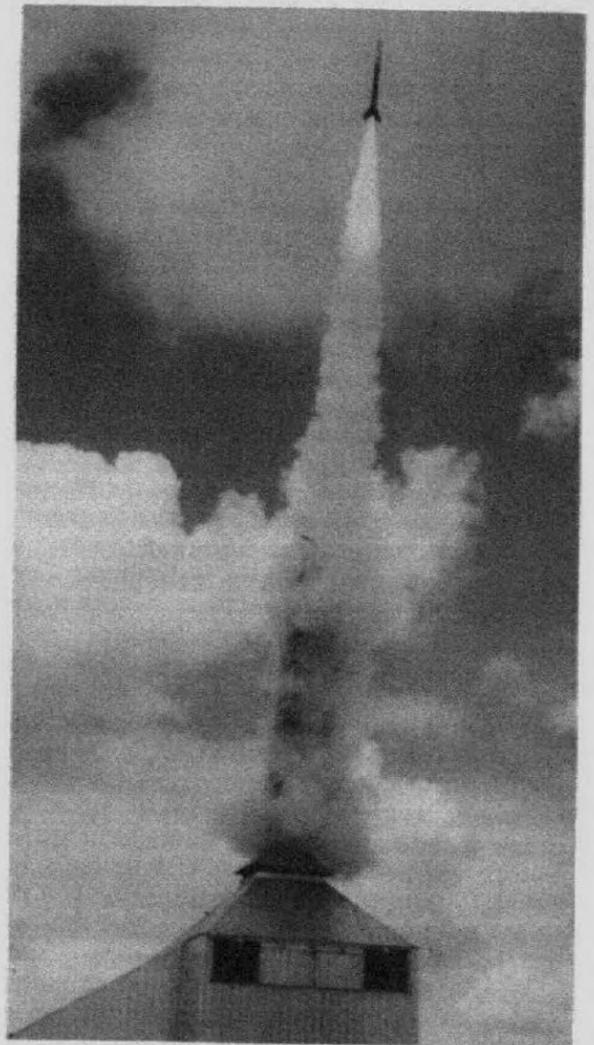
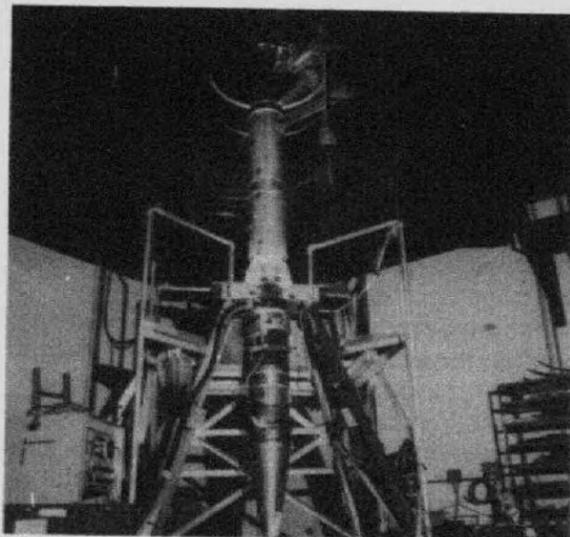
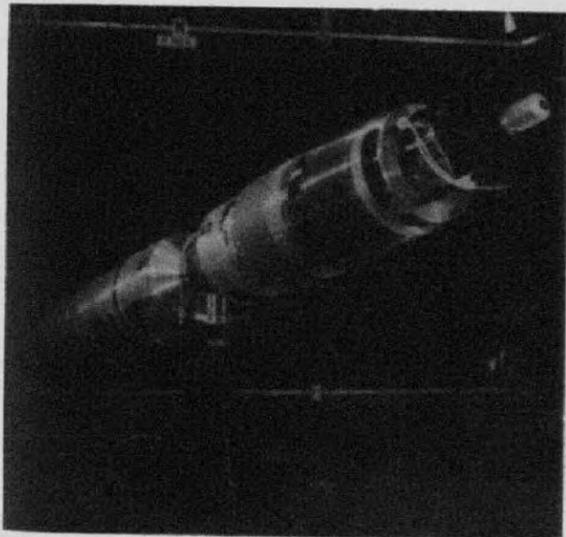
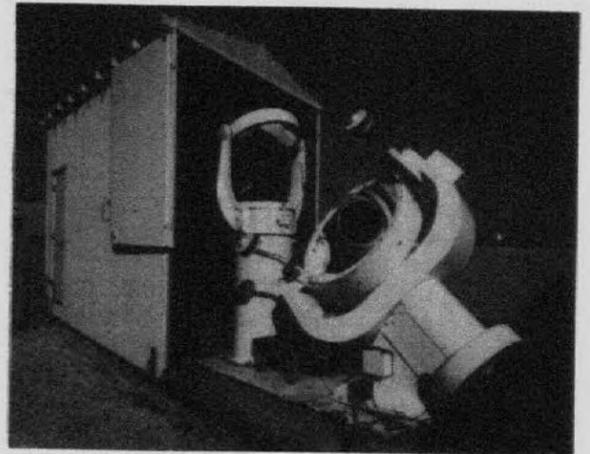
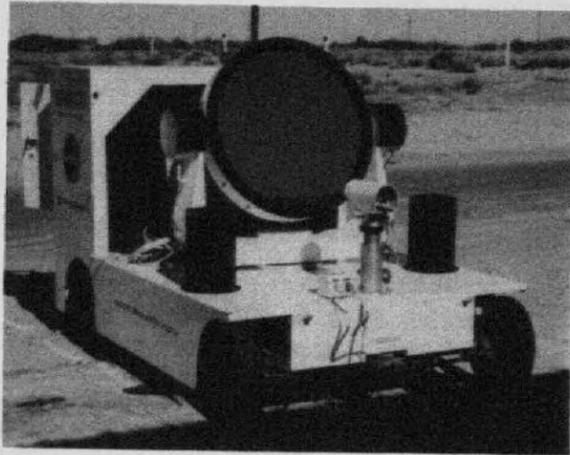
Transfer of the project will be officially completed July 1, 1976. Transfer of the SPARCS support equipment will start June 15, 1976. Part of the equipment will be transferred to the support contractor, Lockheed Missile and Space Corporation, some to Goddard and the rest, including the heliostat, will be housed in the new 1/4 million dollar

SPARCS facility that Goddard is having constructed at White Sands Missile Range in anticipation of the transfer.

SPARCS project personnel at Ames say they are going to miss the program, especially since they have another streak of launch successes going for them. All 12 of the solar experiments integrated with SPARCS at Ames over the past 2 years have been launched successfully. Included in this group was

the new computer controlled SPARCS system developed by the project. Project personnel are encouraged, however, by the knowledge that SPARCS will be replaced by bigger and better programs to challenge their engineering and scientific skills.

Ames personnel connected with this unique project include the following: Dean Chisel, SPARCS Project Manager; Jim Van Ess; Norm Yetka; Mort Bradski; Robert Lavond; and Bill Van Ark.



Merit Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
76-111	Patent Attorney (Chemistry)	GS-13/14	DP	NASA-wide	7-2-76
76-120	Supervisory Contract Specialist	GS-13/14	ASR	NASA-wide	7-2-76
76-121	Research Assistant to the Director	GS-14/15	D	NASA-wide	7-2-76
76-122	Exhibits Specialist	GS-5/7	ATG	Centerwide & Outside	6-25-76
76-123	Secretary (Typing or Stenography)	GS-5/6	LB	Centerwide	6-25-76
76-124	Secretary (Typing or Stenography)	GS-5/6	LC	Centerwide	6-25-76

TO APPLY: Call Extension 5599 or 5600

MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-108	Research Aircraft Inspector	F01	David Walton
76-113	Accounting Technician	AFC	Mildred Tamayo
76-118	Assistant Planner & Estimator (Electronic Mechanic)	WD-2614-6	RFTC Cancelled

Want Ads Transportation

1968 Ford Fairlane wagon, 289 V8, 4 dr, AT PS, good condition, \$675/offer. 245-8325.

'75 Honda CVCC hatchback, auto trans, thrifty and penny-pinching gas-saver, lots of pep, 50,000/5 yr. warranty, take over payments. 251-0375, after 4:30.

1970 Cougar, good cond., PS, AT, new tires, starter, battery brakes, etc. White w/blk vinyl top. \$1700. (415)964-0852 after 6 p.m.

FOR SALE: 1973 Capri Sport Coupe in exc. cond. with 2600 CC-V6 engine and 4-speed manual transmission, 29 K miles, bucket seats with center console, tan vinyl upholstery, radio/heater, beautiful dark metallic green. Roger Krause, Mt. View, 967-5648.

Thank you note and poem

My recent retirement from Ames and the Thermal Protection Branch occasioned a most inviting luncheon and the most exciting retirement ceremony I have ever attended. We have replayed the tape recording of that event several times: it is still hilarious.

I wish to thank those who made the arrangements. I want to thank those who vocally participated during the "formalities." We also appreciate the "commemorative" tape presented to us with its prior recordings of Branch sounds and the stories, comments, and expressions of good wishes by people of the Branch (some of the stories had to be edited), and finally the sounds of "Attention To Colors." The gifts were just super, with the Gift Certificate being used for new filters and film for our camera.

My wife Marcia (I call her Lucille) was, of course, present. During that morning she had written some verse to be read at the luncheon; but decided not to interrupt the flow of jollity and merriment. I would like, however, to share this verse with you through

Housing

FOR RENT: 3 bdrm, 2 bath home within 20 minutes of Moffett Field, near Hwy 17 and 680, 1 yr lease, avail Aug. 1976, partially furnished, first/last month rent + deposit, \$250/month, references. Call Cheryl after 6 p.m. at 263-5983.

Apt., unfurnished, ground level, 3 br, 2 bath, AEK, downtown Palo Alto. Available 7-1-76. Quiet area. 325-6945.

FOR RENT: 3 bdrm, 2 bath home in a nice neighborhood in Los Gatos. Patio, fireplace, large family room, convenient to shopping and freeways. Available July 1, \$475. R. Munoz, 941-3589.

HOUSE for rent: 3 bdrm, 1½ bath, 2-car paneled garage, nice yard. Easy walking to schools, library, shopping, park, tennis, Sunnyvale. \$365. Call 443-8554.

the Astrogram. It is so pertinent! How better could it be said.

"What does one do, what does one say?
When finally comes this one great day!
You're to retire to-day they say -
You joke and say that you've waited long
For this big day to come along.
The years roll by as they always do,
And before we know it your day is due.
What does one do, what does one say?
More time to lend a helping hand,
More time to look across the Land."

and

"This is a time of shifting the harness, adjusting it for greater effectiveness in a second career that we are anticipating. We are not yet ready for what is called that 'well deserved rest'."

Roger G. Morgan

Miscellaneous

14 ft fishing boat - complete motor, trailer and accessories, lift preservers, etc. 327-0259.

HP-21, 1 yr old, complete, \$65; RCA 19" all channel TV, good picture, \$40; call Martin at X5283 and leave message if out.

FOR SALE: Baby crib and mattress, stroller, baby swing, Danish teak couch. Call 736-6947 after 5:30 p.m.

FOR SALE: English springer spaniel puppies, 8 wks, liver & white, field & show, AKC. Call 374-0930, Roy E. Lopossa, 13106 Heath St., Saratoga 95070.

WANTED: Car pool to Middlefield and University in Palo Alto, hrs are flexible, unable to drive, will share expenses, ext. 5249, Jim Stevenson.

FOR SALE: Passenger auto rims & tires, 2-LR 70x15 used Dayton Radial w.w. tubeless tires; VW Radial tires - 165SR15, 155SR15, & 185SR14 for bus; 2-MG 15" rims; 2-Ford Maverick 14" rims; 1-Ford Pinto 13" rim. Offer. Palo Alto, 494-7766.

One baby crib, used, with mattress and spring; offer. 494-7766.

Auto & truck parts, quartz type seal beam fog lights; 2-pair "Per-Lux" fog/driving lights - Calif. App'd. 7" and 5¼" 12 v. seal beams - Offer, Palo Alto, 494-7766.

FOR SALE: Bike parts: 3/32" chains for 10-speed, "Suntour" Derailleurs - shifters - freewheel cluster, generator-lights, alloy handlebars, alloy & steel 27" wheels, seats, tires & tubes - high & standard pressure, coil cable for locking, etc. 494-7766.

FOR SALE: J. Lansing walnut speaker enclosure 24x14x12 in., takes 10 or 12 in. speaker, \$25; guitar and case, \$15; ski boots, 2 pr. 8½ and 9D, \$10 ea., 2 pr. both 10½, \$15 ea.; intercom system, \$15; vegetable juicer (brand new) cost \$40, sell \$20. 493-9406.

FOR SALE: Sailboat, 24' Venture 224, outboard motor, Genoa & other extras. Santa Clara, 243-1593.

FOR SALE: Shelled walnuts \$1.50 per pound. Fred Bear, Los Gatos, 354-2769.

Hauling, tree removal, all garden clean up, moving. \$10 a load. Call Hans, 493-9406.

Bumper pool table, hexagonal, 3 mos. old, dark-wood finish, green top, \$165. Call 733-7876 days only.

FOR SALE: Chev. Blazer tire carrier w/Geri can holder, rear seat and tow hitch. Best offer. 734-2041, Shirley.

The Astrogram

Room 142, Admin. Mgt. Building, Phone 965-5422

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