

Ames recognized for energy conservation efforts

In an unusual role reversal, a local city has given NASA Ames a grant to support a pilot solar energy project.

While standing on the space sciences building roof (N-245) in front of electricity-making solar arrays, City of Palo Alto council member Jim Burch presented a \$20,000 grant check for the solar system to Steve

boring communities," said Ulrich. "Our grant program is part of a remote renewable demonstration project which shows the viability of photovoltaic systems in commercial and technical uses, schools and industry."

"The purpose of the solar-array system is to shave peak energy demand," said Ron

water heating systems on the cafeteria and on buildings 583A and 584B, old barracks that are now used to house visitors," Thompson said. "The old racking systems that support the solar water heating structures on the three buildings are sound, and can be used to mount new solar-electric panels, thereby saving funds," he said.

"On building N-245, we have a portable metering system that is much akin to a fancy electrical meter. It's like a photographic light meter that we use to monitor the operation of the array. But the system takes many more kinds of readings. It's run by a laptop computer meter in the mechanical room," Thompson said.

The plant could produce about 7,300 kilowatt-hours of electricity per year. "This system would be more than capable of running a typical residential house complete with all the major appliances and with four or five occupants," he said. Each of the 18 solar panels on Bldg. N-245 costs \$2,200 and has three modules that contain photovoltaic cells. A sheet of glass covers each module. Each panel can make 360 watt-hours of direct current (DC) electricity before inverters convert it to alternating current (AC). Solar (photovoltaic) cells generate electricity when light hits the junction between certain pairs of dissimilar substances.

The system includes three inverters that make AC, the standard form of electric current that generating plants transmit to users. "Each inverter was about \$3,000, but due to the California Energy Commission buy-down program, we received discounts on the price," Thompson said. Including labor, the system's total cost was about \$60,000. The frame on which the panels are mounted is heavy duty, much stronger than a typical homeowner would require, according to Thompson. "The components cost about \$44,000," said Thompson. "We did not opt to get a battery system, but rather, stuck with a direct grid-tie." Workers finished installing the system in May.

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photo by Dominic Hart

Solar-electric array of photovoltaic cells on the roof of the space sciences building, N-245.

Frankel, the energy 'czar' at Ames.

"We took advantage of a renewable energy program sponsored by the City of Palo Alto," said Frankel. "Palo Alto will refund \$4.00 per watt toward our system because solar is a renewable energy technology," he added. Frankel oversees Ames' effort that resulted in a 12-percent reduction of electricity use in June as compared to a year ago. The savings resulted from installation of motion-detector light switches and other conservation efforts, including an e-mail campaign encouraging Ames employees to save. John Ulrich, Palo Alto Utilities director, and Kirk Miller of the Utilities Division were also present during the ceremony.

"The City of Palo Alto Utilities supports the development of renewable energy technologies, both within Palo Alto and in neigh-

Thompson of the Ames Plant Engineering Branch. "Peak energy demand can be during a hot day, say, at the height of business hours when everybody is using computers, air conditioning and lab appliances."

When sunlight is bright, solar panels on the roof of Bldg. N-245 make about 5.5 kilowatts of electricity. That is enough to light more than 150 32-watt fluorescent bulbs. The solar-electric demonstration project has been operating since May.

Though the electric current generated is small compared to the total electricity that Ames uses, center engineers are closely looking at what it takes to make a solar-electric system successful. They hope for much bigger Ames systems in the future.

"We also are considering using lighter solar-cell panels to replace the old solar

Smithsonian IMAX film being shot at Ames

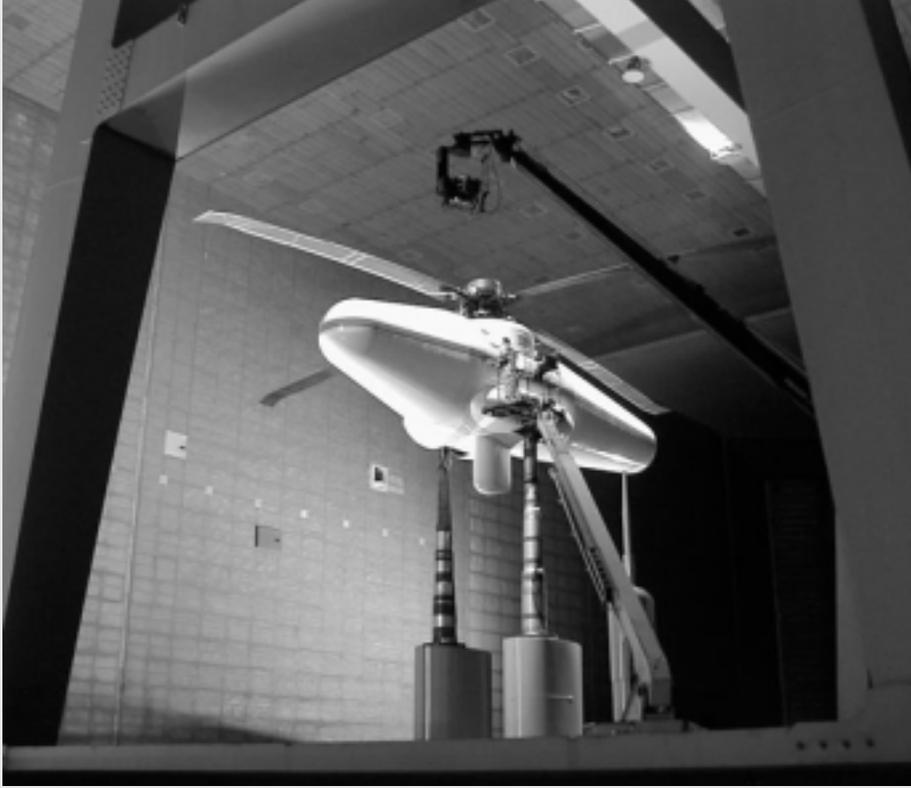


photo by Eric James

SK Films of Toronto, Canada, recently completed four days of filming in Ames' National Full-Scale Aerodynamics Complex. Shooting was done in the 80- by 120-foot wind tunnel test section, the drive system and a couple of other areas around the 40- by 80-foot wind tunnel circuit. They also filmed in the 7- by 10-foot wind tunnel.

SK Films will use this footage in an upcoming 15/70mm film production entitled "Straight Up." The film will take visitors on a journey through the world of vertical flight and will showcase the most advanced technology operating today. The film will be the ninth IMAX film production by the Smithsonian Institutions' National Air and Space Museum.

It is anticipated that the film crew will return prior to the end of the year to conduct more filming, including the tilt rotor aeroacoustic model, the RMAX unmanned helicopter and the martian rotorcraft.

Ames exhibit draws crowds to 'technology pavilion'

Ames participated in the 17-day long Alameda County fair held in Pleasanton from June 20 to July 8.

The NASA exhibit was the central display in the Technology Pavilion, along with exhibits from The Tech Museum, Space Camp, the Lawrence Livermore Lab and Pac Bell. A high school computer art competition was also featured in the building.

The topics presented in the Ames exhibit included: astrobiology, bioinformatics, nanotechnology, aviation systems capacity, Lunar Prospector, information technology, tiltrotor and the Space Station Biological Research Project.

Daily presentations were scheduled on the topics of biotechnology, space science and, a particular crowd pleaser, Pioneers: Past, Present and Future.

Despite the intense heat that suffocated the Bay Area during the fair, attendance exceeded 350,000.

BY JEFFREY CROSS 



photo by Tom Trower

The NASA Ames exhibit was featured in the Alameda County fair's 'Technology Pavilion.' Salinas Valley Memorial Hospital, a partner with Ames on several projects, shared the space with the NASA exhibit.

Native-American teachers attend Ames workshop



photo by Tom Trower

Teachers from rural schools with a large population of Native American students visited Ames recently to attend a two-week NASA educational workshop.

Ames recognized for energy conservation efforts

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NASA is paying the balance of the cost to construct and operate the pilot plant. NASA and the Department of Energy designed the system. More information about solar-electric projects is available on the Internet at: <http://www.eren.doe.gov/millionroofs/>

Ames engineers are studying wind power, as well. A small windmill (wind turbine) is powering a bilge pump that removes water from a storm water basin. The windmill replaced a one-horsepower electric pump. The windmill's total operations and maintenance cost savings is about \$1,970 per year. In addition, Thompson is investigating other systems to generate electricity, including solar-panel roof tiles. Ames engineers also are considering shut-down of some facilities on weekends in order to receive additional power company discounts.

BY JOHN BLUCK



environmental
SERVICES

Visit the new Code QE web site -----> <http://q.arc.nasa.gov/qe/>

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VPP STAR Tip

"What will happen if the team sees a violation of OSHA standards? Any hazards they may observe will serve as indicators that some aspect of your program may need improvement. While they won't issue citations, safety and health professionals will not ignore hazards. They will work with you to determine how and when to correct any hazards they see."

U.S. Department of Labor

Carnegie Mellon students enlighten fellow 'Education Associates'

As we move into the next millennium, the information revolution is gaining momentum. At the core of this revolution is how people create, interact, disseminate and share information. Carnegie Mellon University's Human-Computer Interaction Institute (HCII) is helping to shape that revolution.

On July 2, the Ames Education Associates Program (EdAP) hosted a brown-bag lunch at which four of the five visiting masters students from Carnegie Mellon University were present to discuss their current NASA projects in the field of human-computer interaction (HCI). Some 20 associates were in attendance, while the Carnegie students provided a brief overview of general HCI concepts and current project objectives.

"We are very excited to have Professor Bonnie John and her students here from CMU," said Dr. Patricia M. Jones, Deputy Chief of the Human Factors Research and Technology Division. "There is great synergy between the long and excellent history of aerospace human-factors research at Ames and the high-quality HCI program at CMU. We are also very grateful to the Education Associates Program for helping to facilitate this interaction," she said.

The Carnegie students are visiting Ames as part of an on-going effort to integrate Carnegie Mellon's internationally renowned technological expertise into NASA projects, providing tremendous mutual benefits. Carnegie Mellon has a long history of successful research in areas relevant to human-computer interaction, including user-interface software tools, cognitive models, speech recognition, the organizational and social impact of technology and more. According to Carnegie's HCI Institute vision, computer science includes the study of the phenomena arising around computers as well as the theory and design of computers themselves. The purpose of HCI, the speakers said, is designing software that is functional, facile and, most importantly, based on direct feedback from the consumer, an important trend in designing interfaces. "Human factors is about designing systems for human use, and of course HCI is part of that," said Jones.

Specifically, the Carnegie group is working at Ames in the cognition laboratory led by Dr. Roger Remington, which is part of the Human-Automation Integration Branch of the Human Factors Research and Technology Division (Code IH). The cognition laboratory is developing a new research tool called Apex, intended to facilitate cognitive psychology basic research and human factors engineering projects, such as the design of complicated consoles like the instrument display of a jet airplane. The students' role is designing and prototyping

graphical information displays, and the application to manage those displays, for Apex. They are employing a user-centered, iterative prototyping process that includes a weekly design, build and user-test cycle; the user-test sessions show if the designs are understandable, usable and meet the targeted need. One of the goals is to have a prototype ready for the annual Cognitive Science Society meeting in August.

One interesting observation in meeting the Carnegie Mellon group is how diverse their backgrounds are. The HCI field benefits from a number of different background disciplines, including English (Marianne Berkovich and Jack Zaiantz), computer science (Andy Yang and Elaine Kwong) and mechanical engineering (Anne Zahn). HCI is very interdisciplinary, and the group works together drawing on each other's strengths. Beginning with the fundamental understanding of how people work, play, interact and learn, HCI moves on to create and employ technologies and tools to support such activities and finally evaluates them in the field. It is the diversity of these functions that requires the variety of expertise within the project group. "This is exactly like the Human Factors Division here at Ames as well," added Jones. "We have psychologists, computer scientists and engineers working together to integrate fundamental research on human capabilities and limitations with more applied work on training, procedures and display and automation design that is relevant to NASA missions."

Yet another highlight was a question raised after the presentation: If artificial intelligence is the "Holy Grail" for computer sciences, what does HCI ultimately hope to attain? According to Berkovich, the ultimate goal in the HCI discipline is to strive for intuitiveness. It is from that point that an ongoing controversy emerges; do we really want computers to out-anticipate the users? "Questions like these are debated here at Ames as well," said Jones, "especially in the interaction between the Computational Sciences Division and the Human Factors Division. There are very complicated questions about information

technologies being autonomous yet also human-centered." Related efforts at Ames include the human-centered computing part of the intelligent systems program and collaborative and assistant systems group in the Computational Sciences Division.

For more information about human factors and HCI work at Ames, see the Human Factors Research and Technology Division's home page at: <http://humanfactors.arc.nasa.gov/>.

The Education Associates Program (EdAP) is the workforce development program that facilitated the Carnegie Mellon



photo by Julia Kochuev

The Carnegie Mellon group (from left to right, facing camera): Marianne Berkovich, Andy Yang, Jack Zaiantz and Anne Zahn. (Elaine Kwong, the fifth member, was unable to attend the meeting due to work commitments).

students' visit to Ames. It is a cooperative space grant education program, sponsored by NASA Ames and administered by the University of California Extension, Santa Cruz. The program's objectives are simply to link students and faculty from any accredited college or university in the United States with various projects at Ames. The Carnegie group is another excellent example of the benefits of the program. Jones enthusiastically endorses the program, stating "This program really helped us by providing an easy-to-use mechanism to get the students out here. It's great and I am definitely going to use Education Associates in the future."

For more information about EdAP and its available contributions and resources, visit EdAP's website at: <http://edassoc.arc.nasa.gov>. The onsite (Building 555) UCSC coordinator, Carol Roland, is also available to provide assistance and discuss special circumstances with interested parties. She can be reached at ext. 4-2987 or via email at: edaprogram@mail.arc.nasa.gov.

BY JULIA KOCHUEV



NASA engineer honored for achievements in computational fluid dynamics

NASA aerospace engineer Stuart Rogers has been awarded the prestigious Arthur S. Flemming award for his contributions to the field of computational fluid dynamics (CFD). Rogers' development and application of CFD tools have resulted in significant strides in solving real-world fluid dynamics problems, including analysis and design of complex aircraft, spacecraft and submarines.

Rogers' work has had far-reaching benefits to NASA and the aerospace industry by providing tools that reduce the cost and design-cycle time of aerospace vehicles and components.

"Stu has expertise not only in algorithms for computational flow simulation and in computer science for developing software, but he also has deep understanding of flow physics," said Dochan Kwak, Applications Branch Chief in the NASA Advanced Supercomputing (NAS) Division at Ames.

"On top of his multi-faceted talents, Stu is an extremely hard-working researcher. It's not surprising that he's made many critical contributions to Ames, NASA and the nation's technical well being," Kwak said.

Among Rogers' many important accomplishments in his 12 years at Ames is the development of a software tools package that allows first-of-a-kind flow computation about entire subsonic transport aircraft, including simulation of a complete Boeing 777 aircraft in a high-lift landing configuration. The Chimera Grid Tools software package, together with the OVERFLOW flow solver, received honorable mention in the 1998 NASA Software of the Year award.

Rogers also co-developed the INS3D code resulting in world-class production software for the solution of the incompressible Navier-Stokes equations. The code has had a broad impact on a wide range of

applications, including advanced rocket-pump development and the development of the DeBaKey ventricular assist device, a miniaturized heart pump that prolongs the life of patients awaiting a transplant.

Rogers holds a bachelor's degree and a master's degree in aerospace engineering from the University of Colorado, and earned a Ph.D in aeronautics and astronautics engineering from Stanford University. His recent research and development work has been funded by NASA's high performance computing and communications program.

The Arthur S. Flemming award, established in 1948, honors outstanding federal employees. For information on the award, visit: <http://www.gwu.edu/~flemming/index.html> For more information on OVERFLOW and INS3D, contact Rogers at ext. 4-4481 or email him at: rogers@nas.nasa.gov.

BY JILL DUNBAR



'Father of astrobiology,' Chuck Klein, passes away

Dr. Harold P. ("Chuck") Klein passed away July 15 at the age of 80, due to complications from cancer.

From January 1963, when he arrived at Ames to become the first chief of the nascent Exobiology Division, until 1984, when he retired after having served as Ames' first Director of Life Sciences, Klein played a seminal role in the creation and implementation of many of the programs in space and life sciences that have served to establish Ames' outstanding reputation as a leader in these fields. Because of his vision and leadership, Ames has attained recognition as the key NASA center for many new programs in these areas, as well as a national and international reputation for excellence in scientific research.

Among his most notable accomplishments were: 1) the establishment of the NASA exobiology program and establishing Ames' role as lead center (this program ultimately was the foundation of the current NASA astrobiology program); 2) the initiation of NASA's gravitational biology program and establishing Ames' role as lead center (this program will be a prime user of the ISS laboratory); 3) the initiation of Ames' biomedical program and initiating effective collaborations with Johnson Space Center; 4) serving as biology team leader for the Viking mission to Mars (eminent scientists associated with the Viking mission have stated that there would not have been a Viking mission without Chuck's intensive scientific and managerial initiative, wisdom and creativity); 5) the initiation of the space

shuttle biological flight experiments program, which has since been restyled in hundreds of successfully flown biological experiments; 6) the initiation of the SLS-1 mission, NASA's first dedicated life sciences space laboratory; 7) the initiation and continuation of a joint US/USSR space biology research program of some 30 years duration; and 8) recruiting a staff of life and space scientists of international caliber.

The Life Science Library was named in his honor upon his retirement in 1984 and he was named to the Ames Hall of Fame in 2000. At the Ames Hall of Fame dedication ceremony, it was stated that "Throughout his career, [Chuck] was the primary force who established Ames' reputation as the key NASA institution for the study of astrobiology in all its various facets, including exobiology, gravitational biology, and biomedicine, (with the initiation of Space Shuttle experiments in these areas), and he recruited a staff of brilliant scientists. More than any other individual, Harold P. Klein is the one who built the foundation upon which rests Ames' current leadership in astrobiology."

Never one to rest upon his laurels, Klein remained active in his scientific pursuits after his retirement from the civil service as a principal investigator with the SETI Institute. He also continued his collaborative activities with Space Science Division personnel, until just weeks before his death. His most recent research interests focused on selection of sites for collection, and subsequent analysis, of returned Mars

samples and on planetary protection guidelines for Mars exploration.



Chuck Klein

Klein is survived by his daughter, Judi Alongi; granddaughters Sara and Gina Alongi; grandsons Joshua and Simon Troll; and great-grandson Kyle Troll. He was preceded in death by his daughter Susie and his wife of 54 years, Gloria. A memorial service is being planned for mid-August. Details will follow.

BY SARA ACEVEDO



Ames hosts third annual safety magic show

What could be more important than family safety?

Almost 200 kids learned, with great pleasure, some of the dangers innocently lurking 'out there,' from poisonous household plants, to the importance of PPE (personal protective equipment). Many PPE (safety helmets) and anti-cancer (sun-block)



prizes were given away during Magic Mike's magic show on July 11, in the N-201 auditorium.

Ames, a hotbed for intellectual perspiration and magical inspiration, challenges our understanding of science and technology at the very edges of our known universe. And yet homes are six times more dangerous than work. What are we doing at home? Fire (kitchen, fireplace, candles and Christmas decorations), falls (stairs, stairs, stairs), roller blades and razors and bikes ridden without helmets and pads are all taking their horrific toll. Avoidable? Indubitably! How? Attitude!

Death and injury at home is a close second to death and injury on the road. The road is eight times more dangerous than work. OSHA legal requirements make the workplace safer than it has ever been in our history. And yet our attitude can make it safer still. Please take this attitude home with you.

The Safety Office would like to express its gratitude to the Ames Exchange, the Ames Café, Mega Bites, JFF (Logistics), and JIT (auditorium) for their generous support of this third annual Family Safety Day. Sparing just one child serious injury or death adds beauty for the pain it subtracts.

BY PATRICK HOGAN 



photo by Dominic Hart

Magic Mike, the Sorcerer of Safety, performed a magic show on July 11 in the N-201 auditorium, which highlighted tips for working and playing safe.

SHARP-V5 Crew Transfer Vehicle to be featured at Oshkosh

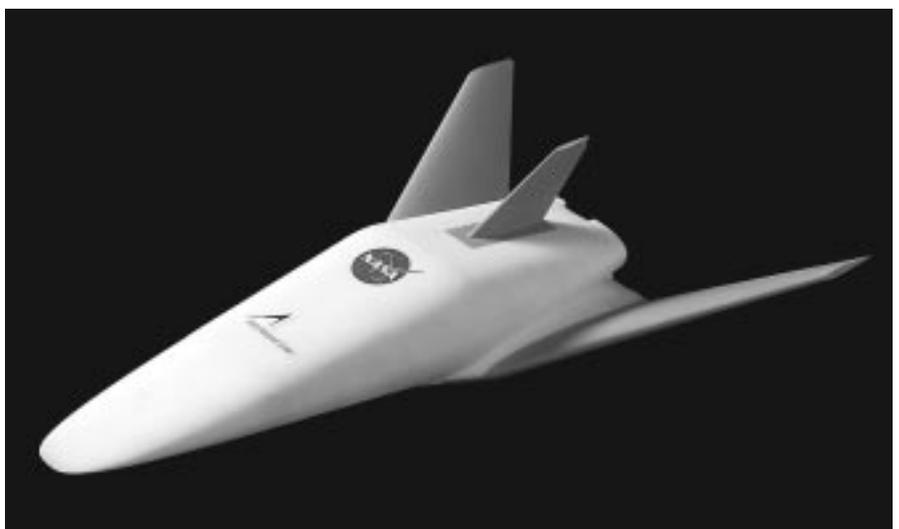


photo by Tom Trower

The SHARP-V5 Crew Transfer Vehicle will be featured at the AirVenture 2001 air show in Oshkosh, WI, with the caption "Crew safety is a primary concern in NASA's efforts in designing and testing reusable launch vehicles."

Event Calendar

Model HO/HOn3 Railroad Train Club at Moffett Field invites train buffs to visit & join the club in Bldg. 126, across from the south end of Hangar One. Work nights are usually on Friday nights from 7:30 p.m. to 9:30 p.m. Play time is Sunday from 2 p.m. to 4 p.m. For more info, call John Donovan (408) 735-4954 (W) or (408) 281-2899 (H).

Jetstream Toastmasters, Mondays, 12 noon to 1 p.m., N-269/Rm. 179. Guests welcome. POC: Samson Cheung at ext. 4-2875 or Lich Tran at ext. 4-5997.

Ames Bowling League, winter league from September through April on Tuesdays, at 6 p.m. at Palo Alto Bowl. Bowlers needed. POC: Mike Liu at ext. 4-1132.

Ames Diabetics (AAD), meet twice a month on first & third Wednesdays, 12 noon to 1 p.m., in the Ames cafeteria, Mega Bites, far corner of Sun room. Peer support group that discusses news that affects diabetics, both type I & II & exchange experiences in treatment & control & help each other best cope with the disease. POC: Bob Mohlenhoff, ext. 4-2523, or email at: bmohlenhoff@mail.arc.nasa.gov.

Ames Child Care Center Board of Directors Mtg. Every other Thursday (check website for meeting dates: <http://acc.arc.nasa.gov>), 12 noon to 2 p.m., N-269, Rm. 201. POC: Joan Walton, ext 4-2005.

Native American Advisory Committee mtg. Jul 24, 12 noon to 1 p.m., Building 19, Rm 1096. POC: Mike Liu at ext. 4-1132.

Ames Contractor Council Mtg. Aug 1, 11 a.m., N-200, Comm. Rm. POC: Paul Chaplin at ext. 4-3262.

Environmental, Health and Safety Monthly Information Forum, Aug 2, 8:30 a.m. to 9:30 a.m., Bldg. 19/Rm 1040. POC: Julie Quanz at ext. 4-6810.

Ames Federal Employees Union (AFEU) general meeting, Aug 15, noon to 1 p.m., Bldg. 19, Room 1042. Guests welcome. More information at <http://www.afeu.org>. POC: Marianne Mosher at ext. 4-4055..

Ames Amateur Radio Club, Aug 16, 12 noon, N-T28 (across from N-255). POC: Michael Wright, KC6BFX, at ext. 4-6262. URL: <http://hamradio.arc.nasa.gov>

Nat'l Association of Retired Federal Employees (NARFE), S. J. Chapt. # 50, no meeting in Aug. POC: Mr. Earl Keener (408) 241-4459 or NARFE 1-800-627-3394.

Ames Classifieds

Ads for the next issue should be sent to astrogram@mail.arc.nasa.gov by the Monday following publication of the present issue and must be resubmitted for each issue. Ads must involve personal needs or items; (no commercial/third-party ads) and will run on space-available basis only. First-time ads are given priority. Ads must include home phone numbers; Ames extensions and email addresses will be accepted for carpool and lost & found ads only. Due to the volume of material received, we are unable to verify the accuracy of the statements made in the ads.

Housing

3 bd/1.5 ba, 2-story twnhs on Luz Avenue, San José. Freshly painted inside, dishwasher, gas heat, w/w carpet, outside child play area/large patio. 1 car port. Easy access to H101/680/280. \$285K. Azucena (408) 559-2881.

Looking for 3 bdrm house in Mtn. View/Los Altos area, w/yard/pool for family with two children. Rent-to-own or purchase. Can pay \$1,600/mo. Have \$10K as down payment. Foreclosure/assumable loan type of situation would be great as well. Contact: falcon777@earthlink.net

Two sunny, pleasant furnished bdrms for rent in home in San José for considerate, professional non-smoker. Off-street parking, safe family neighborhood, most utilities included. Long term preferred, shorter term possible for summer/fall. Shared bath/kitchen. Lease/deposits required. Call (408) 266-7272 and lv. message.

3 bd/2 ba, 1,700 sq.ft. Yr. 2000 Mnfrctd. home right off of Shoreline (5 min commute or 15 min walk). Grmt. ktchn. w/bay wndws. Mrbl.frplc. Huge mstr. bd. and bthrm w/jczz. Cntrl A/C and heating. Lots of amenities. \$185K. James (650) 428-0123.

For rent: 2 bdrm/1 ba house w/attached garage & lg fenced backyard. Includes stove, refrig. & washer/dryer hookup. \$2,075 per mo. Call (650) 967-0420.

Mtn View Gemello Park district 3/1 home for rent. Remodeled w/new kitchen, washr/dryer, carpets, doors & roof. Quiet neighborhood in Los Altos school district. \$2,966/mo (utils not included). Call (650) 493-1211.

Miscellaneous

Moving sale: king and twin-size beds, dinner set, computer desk, baby car seat, microwave, etc. Karla or Saulo (650) 969-4083 (eves).

Small maple 4 drawer dresser circa 1900's, 2 pedestals w/center mirror, \$180. Rob or Kay (408) 265-5983 after 6 p.m.

New roof shingles: Pabco Premiere 40-year composition, color: weathered wood, 6 bundles (150 sqft) \$40. Call (408) 295-2160.

'74 Tahiti 19 ft jet ski boat with trailer, needs interior, runs good, \$1,500 or B/O. Call (408) 725-8695.

Bike trailer gd cond. Equinox Lite (408) 725- 8695.

Baldwin organ and bench, electric. \$150. Call (650) 960-0246.

Transportation

'70 VW convertible classic, original owner, no smog needed; transmission ok; needs work on top & possibly engine. \$1,600. Esther or Art (650) 961-2732.

'74 19ft Tahiti , 455 olds, Berkeley jet low profile ski boat and trailer, runs good, need interior \$1500 or B/O. Call (408) 725-8695.

'89 Dodge Spirit ES, black cherry w/gray interior, automatic, 35K mls on new engine, well maintained, orig owner, \$3,000. Betsy (650) 906-9872, cell.

'89 Yamaha FJ1200, white with red stripe, is in exc. condition. New tires, chain and sprockets replaced recently. Shop manual, tank bag and removable (Krauser) hard luggage. Runs great; must see to believe. \$2,300 or B/O. Kevin at email kjhow_99@yahoo.com.

'90 Oldsmobile 98 Touring Sedan (top of the line/ loaded), 122K mls, orig. owner, exc. cond, very clean, champagne color, leather, sports suspension, new Michelin Pilot tires, alloy wheels, roomy. \$3,500. Kris (408) 243-3348.

'90 Honda Accord EX (top of the line), 150K mls, original owner, silver with maroon interior, 4-door sedan, AT, A/C, power windows and door locks, sunroof, Sony radio with 10 CD changer (1 yr. old), 4 new tires, fun to drive with rack and pinion steering, roomy back seat. Reason for selling-bought a new car. Asking \$5K. Becky or David (408) 379-2298.

'92 Honda Civic DX sedan 4D, only 72K mls, white exterior, beige interior, auto, air, SRS, AM/FM/CD, complete records, orig owner. This car is very clean and economical: \$4,800. Call (408) 295-2160.

'93 Ford Escort LX Wagon 4dr, outstanding condition, very clean. Reason for selling: moving, \$4,000 or B/O. Karla or Saulo (650) 969-4083 (eves).

'94 Corvette Coupe (Targa-top), 2dr, 51K mls, 6-spd manual, candy-apple red, am/fm cass, leather seats (driver power seat), AC, excellent condition, always garaged. Asking \$15,995. Jeff or Nita (650) 941-1721 eves or (408) 232-0238 days.

'96 Toyota 4 Runner, green metallic, 82K mls, \$17,895. Luis (650) 207-6446.

'99 Honda Accord, forest green, orig. owner, 43K mls, power locks and windows, AM/FM, cass stereo, runs awesome. Cruise control, new brakes and tires, automatic transmission. \$13,900 or B/O. Email jmasis23@hotmail.com or call (510) 785-6519.

Carpool

Looking for carpool from Hayward/Castro Valley area to Moffett Field; need to arrive 7:20 a.m. to 7:30 a.m., depart 4:00 p.m. (Monday through Friday). Call Ms. Triviso ext. 4-1728 or mtriviso@mail.arc.nasa.gov

Lost & Found

Moffett Field Lost and Found may be reached at ext. 4-5416 at any time. Residents and employees at Ames may also use Internet browser at: <http://ccf.arc.nasa.gov/codejpp/pages/lostFound.html> to view a list of found property and obtain specific instructions for reporting lost or found property and how to recover found property. Call Moffett Field security police investigations section at ext. 4-1359 or email at: mfine@mail.arc.nasa.gov.

Ames public radio

1700 KHz AM radio -- information announcements & emergency instructions, when appropriate, for Ames employees.

Exchange Information

Information about products, services and opportunities provided to the employee and contractor community by the Ames Exchange Council. Visit the web site at: <http://exchange.arc.nasa.gov>

Beyond Galileo N-235 (8 a.m. to 2 p.m.) ext. 4-6873

Ask about NASA customized gifts for special occasions. Check centerwide emails for special sales and events. Maker your reservations for Chase Park here.

Mega Bites (Ames Café) N-235

(6 a.m. to 2 p.m.) ext. 4-5969
Catering is available for your office B.B.Q. or luncheon. Come by for details. See daily menu at: <http://exchange.arc.nasa.gov>

Visitor Center Gift Shop N-223

(10 a.m. to 4:30 p.m.) ext. 4-5412
NASA logo merchandise, souvenirs, toys, gifts and educational items.

Tickets, etc... (N-235, 8 a.m. to 2 p.m.) ext. 4-6873

Get your exclusive discount tickets for Air Expo Moffett Field 2001. Supplies are limited, so get yours early. Check our web site for all discounts to local attractions, <http://exchange.arc.nasa.gov> and click on tickets.

NASA Lodge (N-19) 603-7100

Open 7 days a week, 7:00 a.m. to 10 p.m. Rates from \$40 - \$50.

NASA Swim Center (N108) 603-8025

The pool is open for the summer. Book your office birthday party. A fun way to spend the day.

Vacation Opportunities

Lake Tahoe Squaw Valley twnhse, 3bd/2ba, balcony view, horseback riding, hiking, biking, golf, river rafting, tennis, ice skating and more. Summer rates. Call (650) 968-4155, DBMcKellar@aol.com

South Lake Tahoe cottage with wood fireplace and hot tub. Rates from \$50 to \$130 per night. Call (650) 967-7659 or (650) 704-7732.

Vacation rental, Bass Lake CA 14 mls south of Yosemite. 3 bd/1.5 ba, TV, VCR, MW, fireplace, charcoal BBQ, priv. boat dock, great lake view. Sleeps 8. \$1,050/wk. Call (559) 642-3600 or (650) 390-9668.

Big Sur vacation rental, secluded 4bd/2ba house in lovely canyon setting. Fully equipped kitchen. Access to priv. beach. Tub in patio garden. Hiking, biking and jogging. Halfway between Carmel & Big Sur. \$175/night for 2, \$225 for 4 & \$250 for more, plus \$150 cleaning dep. Call (650) 328-4427.

On-site Events

National Geographic visits Ames



photo by Dominic Hart

National Geographic editor in chief Bill Allen, accompanied by special assistant to the Ames Director, Orlando Santos, recently toured the Center to gather information for several upcoming articles on advances in science and technology.

AAE to host open house

On Tuesday, July 31, from 10 a.m. until 2 p.m., the Ames Aerospace Encounter (AAE) will be holding another in its series of Ames employee days at the AAE. All on-site personnel are invited to come and bring their family and friends for a self-paced tour (allow about an hour). The Encounter is located on the second floor of Building N-226.

The Encounter is a unique, interactive educational program designed for 4th, 5th and 6th grade students. It is booked year round with student field trips. It stirs young

people's imagination and fuels their enthusiasm for science, mathematics and technology. The Encounter is managed by the Education Branch, Office of Development and Communication, Code DX.

Children must be accompanied by an adult at all times, and employees are responsible for arranging to bring their guests onto Moffett Field.

For more information about this event, send email to: encounter@mail.arc.nasa.gov or call ext. 4-1110.

Astrogram deadlines

All Ames employees are invited to submit articles relating to Ames projects and activities for publication in the *Astrogram*. When submitting stories or ads for publication, submit your material, along with any questions, in MS word by e-mail to: astrogram@mail.arc.nasa.gov or on before the deadline.

Deadline	Publication
Mon, Jul 30	Mon, Aug 6
Mon, Aug 13	Mon, Aug 20
Mon, Aug 27	Mon, Sep 3

Safety and Quality Week set for Sept. 24 through 28

Safety Stand Down Day this year will be on Wednesday, Sept. 26 and will include a street fair with health and safety awareness vendors, the chili cook-off and a centerwide safety competition (in "Jeopardy" format) at 2:00 pm. in the main auditorium.

This year's guest speakers will be Homer Hickam Jr., author of "October Sky" on Monday, Sept. 24, at 10:00 a.m. NASA astronaut Dr. Yvonne Cagle will

appear on Wednesday, Sept. 26, at 9:30 a.m. and Michael Pollan, author of *Botany of Desire* will speak on bio-diversity, genetic manipulation of crops and global warming on Thursday, Sept. 27, at 9:30 a.m.

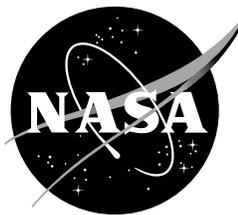
Training classes will be offered all week long. For more information, contact Jack Stanley at: jstanley@mail.arc.nasa.gov or ext. 4-4242.



National Aeronautics and Space Administration

Ames Research Center
Moffett Field, California 94035-1000

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Managing Editor.....David Morse
Editor.....Astrid Terlep

We can be reached via email at:
astrogram@mail.arc.nasa.gov or by
phone at (650) 604-3347.



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