THE AMES Astrogram
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER, MOFFETT FIELD
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# Ames engineers analyze Mars robot helicopter concept

Small robotic helicopters may be able to help explore Mars despite the thin, cold, carbon-dioxide-based atmosphere there, a small NASA research effort suggests.

Though there are many technical challenges that face engineers in the development of helicopters for planetary exploration, project scientists from Ames' Army/NASA Rotorcraft Division and Center for Mars Exploration have a clear vision of such flying machines and their advantages.

*Computer-generated concept of a Mars helicopter rotor configuration.*

"It is the year 2007. A solitary shadow sweeps across the barren landscape of the surface of Mars," wrote Ames project engineer Larry Young in a paper describing his concept for a Mars helicopter. "It is . . .a fragile looking, large but ultra-lightweight, robotic rotorcraft slowly making its way at low altitude across the Martian sky . . . Such vertical-lift vehicles, if they could be developed, would provide tremendous mobility and flexibility in exploring the surface of Mars."

There is a great deal of work ahead to prove if a Mars helicopter could be built and, if so, then to engineer it, Young said. "The world altitude record for a helicopter is less than 40,000 feet, and we need to produce one that would fly in very thin air, equivalent to a terrestrial altitude of over 100,000 ft. There are substantial aeronautical challenges we have to overcome to develop a Mars rotorcraft," he said.

Despite the major difficulties in engineering them, Mars whirlybirds would greatly augment the science return of a potential mission to the red planet, justifying the preliminary Mars helicopter work, Ames researchers say.

One advantage of a Mars rotorcraft is that its hover ability and low speed flight would enable detailed, panoramic survey of remote Martian sites. Another plus is that vertical take off and landing would permit the helicopter to return small rock and soil samples to a Mars lander spacecraft.

A helicopter could also fly scientific probes to Martian locations for precise placement. Unlike a fixed wing Mars airplane, a rotorcraft could land vertically to refuel at its home-base spacecraft without a runway. In addition, a whirlybird has a greater range, is faster, and can provide greater access to rough terrain than a surface robot rover. When compared to a Mars satellite, a helicopter would provide clearer, closer views of Mars surface details and weather.

"Ours is a small project," said Young. "For about 18 months we have been working on it." Engineers first made a conceptual design to predict if a helicopter could hover and fly forward satisfactorily on Mars."

"I'm reasonably confident that such a vehicle could be made to work, but there is a fair amount of work we need to do before one can say definitively that this could work."

"A good deal of our effort is to develop a proof-of-concept main rotor," Young said. "It's going to be 8 ft. in diameter. The current design is to have two of these 8 ft. rotors stacked onto one mast."

"The rotors will spin in opposite directions," he said. "These rotors are roughly the size we need for a 10 kilogram (roughly 22 lb.) helicopter on Earth. On Mars, the helicopter would weigh 7 to 8 lbs. because Martian gravity is about a third that of Earth's gravity. We're using conservative airfoil coefficients for the rotor blade performance," he said. "Further, the real secrets for a successful Mars helicopter are ultra-lightweight components and drive-train hardware," Young explained.

"We plan to do hover tests on a stand in a big vacuum chamber at NASA Ames, probably as early as January 2001, to prove our concept," he said.

Engineers want to verify that the helicopter rotor will provide good hover performance on the stand, Young said. "Mars takes about 2 years to orbit the Sun. Unlike Earth, it travels in a quite elliptic orbit so there are times in this cycle when Mars is cooler. During colder periods, carbon dioxide condensation at the winter pole can reduce air density by 20 per cent. So it's very important that the helicopter can successfully hover even when the Martian air is the thinnest," he explained.

The Ames Mars helicopter project team has asked a number of universities to do "sanity checks" on the planetary helicopter concept. "It's something fun for students to do," said Young. "Many of the university proposals include the same ideas that we have in our plans," he said. Carnegie Mellon University received a grant to develop a

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# Ames embraces Voluntary Protection Program

An historic agreement was reached on March 16 between Ames and the Center's Federal Employees Union, International Federation of Professional and Technical Engineers (IFPTE) Local 30. This new agreement solidifies a true partnership between Ames and the Union to work toward a common goal of achieving nationally recognized safety performance standards through Federal OSHA's Voluntary Protection Program (VPP). This significant OSHA certification is part of the Voluntary Protection Program (VPP) which has, as it heart, the safety and health of each individual in their work environment.

Voluntary Protection Programs (VPPs) are designed to recognize and promote effective safety and health management. In the VPP, management, labor, and OSHA establish a cooperative relationship at a workplace that has implemented a strong program.

Management agrees to operate an effective program that meets an established set of criteria. Employees agree to participate in the program and work with management to assure a safe and healthful workplace. OSHA initially verifies that the program meets the VPP criteria. OSHA also reassesses periodically to confirm that the site continues to meet VPP criteria (every three years for the Star program; every year for the merit program).

The VPP concept recognizes that compliance enforcement alone can never fully achieve the objectives of the Occupational Safety and Health Act. Good safety programs that go beyond OSHA standards can protect workers more effectively than simple compliance alone.

VPP certified participants are a select group of organizations, including both corporations and government agencies, that have designed and implemented outstanding health and safety programs. Star participants meet all VPP requirements. Merit participants have demonstrated the potential and willingness to achieve Star program status, and are implementing planned steps to fully meet all Star requirements.

Highlights of the Union/Management Agreement:

The VPP agreement between the Union and the Center addresses a number of long-term concerns from both the Union and the Safety Office about safety practices and policies at the Center. Since this agreement was signed, a number of the following points have already been implemented.

• Exchange of Information: Previously, the Union was required to make a formal, written request to the Human Resource Division to obtain safety data such as incident reports. Now, the Safety Office will provide this information directly to the Union upon request. The Union/Management Safety Committee will hold a monthly meetings, normally on the third Thursday of each month at 11:00 a.m. in Building N-218, first floor conference room. The Safety Office is providing information requested orally by the Union, and the Union/Management Safety committee is meeting almost weekly.


• Confidentiality: Both the Union and management agree to protect employee confidentiality when participating in interviews or surveys.

• Construction of facilities safety project list: Previously, various organizations at the Center , e.g., Safety, Facilities Engineering, and Facilities Maintenance had their own, separate facilities project list. On each list were some safety-related items that were not always clearly identified as such. Now, the Safety office will maintain one coordinated tracking system for all safety-related projects, regardless of the performing organization. This new list has been consolidated, and is available now for all parties to review.

• Accident investigations: Under this agreement, the Union will be invited to provide an observer as a non-voting member of any accident investigation. The Union President participated as an observer on-site in an investigation of an injury accident.

• Safety of on-site contractors: This agreement provides a framework in which the Center shall provide safety oversight to on-site contractors.

• Union involvement in VPP: The Union plans to be actively involved in developing, implementing and leading the VPP program, fulfilling the OSHA requirement for a high level of employee involvement, and where there is Union representation, for Union support.

• Prioritization of safety hazards: The Center shall consult with the Union on prioritizing the mitigation of safety hazards. The Union and management have consulted and agreed on a change in priority, i.e., fiscal year, for one safety modification and have discussed a second such change.

• Orientation and Training: The Center and Union agree to participate equally in the Center's VPP orientation and education program. As the Center gears up for the VPP effort, Union representatives are trying to be available to participate in key activities.

• Committee of the Partnership Council: The Union/Management functions as a subcommittee of the Ames Research Center Partnership Council, and reports its progress to the Council.

The Center is very proud of its current safety performance and we look forward to a united approach to safety through the combined efforts of Ames and Ames Federal Employees Union participating in this very important endeavor to make safety an even greater part or our daily lives. Mission success starts with safety.

*BY DAVID KING AND MARC COHEN*

# Ames engineers analyze Mars robot helicopter concept

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conceptual design of Martian autonomous rotorcraft computer control. The Year 2000 American Helicopter Society Student Design Competition (cosponsored by Sikorsky Aircraft, Stratford, CT) focused on the design of a Martian autonomous rotorcraft. Competition judges are now reviewing design studies from Georgia Institute of Technology, Atlanta, GA; University of Maryland, College Park, MD; Pennsylvania State University, University Park, PA. The winning teams will be announced at the next Annual Forum of the American Helicopter Society, May 9-11, 2001, Washington, DC.

The Army/NASA Rotorcraft Division in collaboration with the Ames Center for Mars Exploration is conducting the Ames Mars helicopter study.

*BY JOHN BLUCK*

# McClenahan passes away

Jim (James O.) McClenahan was killed in an accident on his ranch in the foothills of east San Jose on Friday August 11. He was 59 and had retired in 1998. He is survived by his wife Patty, two daughters, one son and a stepson.

Before his retirement, Jim was the facility manager for the Kuiper Airborne Observatory. His dedication to the observatory lasted from its conception in the 1970s through the entire history of the program to the retirement of the KAO in the mid-90s. He was the driving force that enabled that observatory to "get the data" for astronomers worldwide. He has been described as the "real character" and the "real genius" who kept the facility running for Nobel Prize winning astronomers and student astronomers alike.

The many successful years of scientific operation were in large part due to his technical expertise and his ability to maintain the high level of enthusiasm in the engineering and operations team. To keep life in any program over many years is a tremendous challenge, and Jim did this in a unique way on the KAO.

From his daily one-o-clock briefings, to his flight logs, to his personal conversations, to his home life, Jim was always the entertainer. He loved to have fun and to get others involved in the fun. He was a practical joker and had an innate knack for weaving fantastic stories. When time would drag on the long seven and a half-hour nighttime KAO flights, Jim's flight log would come to life with humorous stories of fantasy and adventure. Stories of friends, of hunting and fishing trips, of growing up, of lost loves, and of his life on his ranch were common. In one story from one of the several trips the KAO made to Australia, Jim wrote: "Everything going well. When I woke up this morning, there was a raw fish stuck on my right index finger. Apparently, the Aboriginal maid put the fish under my pillow when she cleaned my room." The story continues on with Jim being attacked by a pair of pelicans that tear the fish from his finger. He concludes the story with: "What worries me now, is what am I going to tell the maid? I'll have to make up some lie because no one would believe the truth."

*photo by Roger Brimmer*

*James McClenahan*

His wife, Patty, claims that when Jim and his family recently went on a cruise to Alaska, Jim kept the passengers and crew well entertained with his stories and antics throughout the trip.

After sending out the initial email announcing Jim's death, I received many phone calls from ex-coworkers and acquaintances who feel a great sense of loss. We shared many memories of Jim, his antics, his stories, his hard work and dedication to the Kuiper and of his leadership of the KAO family. In those conversations, common phrases used to describe Jim were: "a real character", "a real genius", "the glue that held things together", "a fabulous storyteller", "like no other", "he made it fun to work your butt off" etc., etc.

But Harvey Mosely, an astronomer from Goddard who flew on the KAO many times over the years and knew Jim well, probably summed it up best by saying that Jim was "the spirit of the KAO." We will miss his combination of humor and commitment to getting the job done that was essential to the success of the KAO program.

BY DAVID BROWN

# Ames...an historical perspective

John Foster's recent piece in the July 10 Astrogram kicked in a number of Hangar 2 remembrances of my own. All most happily recalled because they were part of an eagerly pursued transfer in 1947 to the then Ames Aeronautical Laboratory from NACA's Langley Aeronautical Laboratory in Virginia. My transfer occurred just six months following a six week tour of temporary duty at Ames.

*H. Julian "Harvey" Allen behind the wheel of his Dusenberg with "Miss Edie" Watson, his long-time secretary, who he asked to jump in beside him during his retirement ceremony.*

*Overview of the crowd, stage and Mercury capsule at H. Julian Allen's retirement ceremony.*

All during the fifties, my office was located on the second floor between Theoretical Aerodynamics and the Building Inspector's digs. The broad windows of Hangar 2 offices provided a wonderful view of the apron of Hangar 1. For one as completely enamored with aircraft as I, this eagles nest never failed to capture a parade of WWII flying thoroughbreds, let out to pasture and now garbed in "TEST" and NACA insignia. From that perch, often one might hear the sweet sound of our P-80 buzzing the field at the end of a mission and moments later pilot Larry Clousing wheeling the brilliant white jet into position on the apron of Hangar 1 to let the compressor whistle slowly to silence. How often to see Crew Chief Al Puchianelli fussing about the innards of a former Navy F6F-3 fighter or even catching "Shorty Joe" Quartuccio trying to climb onto the wing of his charge parked on the concrete across from my window?

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# NCBW sponsors girls at Space Camp

The National Coalition of 100 Black Women, Inc. (NCBW), Santa Clara Chapter, gave scholarships to 12 young ladies to Space Camp this past summer. This was a historical first for Space Camp and NCBW.

*NCBW members, 12 scholarship winners and Lynn Brown (front center, kneeling), U.S. Space Camp representative during their Space Camp visit.*

*Meagan Buckholtz (left) and Amie Sulaiman (right) visiting Space Camp on July 23.*

There was an rigorous selection process to select 12 principals and 3 alternates out of over 50 applications from 4, 5 and 6 graders in the Santa Clara County area. The selectees represented 15 schools.

Since the inception of the Santa Clara chapter in 1996, it has had a proven commitment to African American youth with particular concern about young girls who have not had the opportunity, encouragement, exposure and or resources to access career information, especially in science and technology. Space Camp is a terrific place to put into practice science and math skills.

The Chapter's goal is to encourage young girls to prepare for careers in the interdependent high-tech economy and global scientific community. It is a pleasure and joy to represent NCBW and to foster closer ties with Ames and US Space Camp.

BY SHEILA JOHNSON

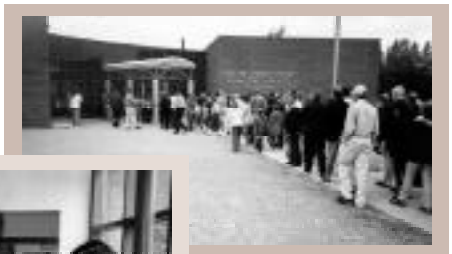
# Challenger Center opens in Alaska

The Challenger Center is a non-profit, international network of facilities and programs founded by the families of the seven crew members of Challenger flight 51L to continue the crew's educational mission. The Kenai, Alaska Center was dedicated as the "Ted and Catherine Stevens Center for Science and Technology Education" in honor of the Senator and his wife. More than 500 invited guests were on hand for the opening celebration.

Ms. Cheryl McNair and Ms. Jane Smith Wolcott, attended the ceremonies. They both spoke of the importance of education and how their husbands had felt so strongly about the role a quality education played in their ability to become astronauts.

Senator Stevens was accompanied by his senate colleague Christopher Bond (R-Missouri) and Congressman Don Young (R-Alaska). Senator Bond is the Chairman of the Senate Appropriations Subcommittee on Veterans Affairs, HUD, and Independent Agencies. Both Senators praised NASA for its commitment to Education and to the Challenger Learning Centers. Senator Stevens said, "Of all the causes I have been involved in over the years, this will stand out as one of the most important."

Challenger Learning Center Network currently consists of more than 33 innovative educational simulators located across North America. Staffed by master teachers, the core of each Center is a two-room simulator, consisting of a space station, complete with communications, medical, life, and computer science equipment, and a mission control room patterned after NASA's Johnson Space Center and a space lab ready for exploration.



*The new Challenger Learning Center in Kenai, Alaska, 150 miles southwest of Anchorage.*

*Senator Ted Stevens (R- Alaska), Chairman of the Senate Appropriations Committee is shown here (right) with Ames Education Chief Donald James (left) at the recent dedication ceremonies for the new Challenger Learning Center in Alaska.*

All of the programs conducted at the Challenger Learning Centers utilize the same robust educational model that emphasizes educational content, cooperative learning, problem-solving, and responsible decision-making. Challenger Centers are designed for students in Grades 5 - 8. For more information see their Web site: http://www.challenger.org/

BY DONALD JAMES

## Center Briefs

*NASA plans to send Rover twins to Mars in 2003*

The traffic on Mars is expected to double in the near future. NASA recently announced plans to launch two large scientific rovers to the red planet in 2003, rather than the original plan for just one, said Dr. Ed Weiler, Associate Administrator for Space Science, NASA Headquarters, Washington, DC. Both Mars rovers currently are planned for launch on Delta II rockets from Cape Canaveral Air Force Station, FL.

The first mission is targeted for May 22, with the second launch slated for June 4. After a seven-and-a-half month cruise, the first rover should enter Mars' atmosphere January 2, 2004, with the second rover bouncing to a stop on Mars on January 20, 2004.

*Cosmic gas clouds yield puzzling concentrations of water*

The amount of water and molecular oxygen found in interstellar space has astronomers running hot and cold. NASA's Submillimeter Wave Astronomy Satellite, or SWAS, has detected water vapor throughout interstellar space. However, in the very coldest reaches, where temperatures are found just 30 degrees above absolute zero, astronomers measured water vapor concentrations of only a few parts per billion.

"That's far less than predicted by most theories and presents a real puzzle to our understanding of the chemistry of interstellar clouds," said Ronald Snell, Professor of Astronomy at the University of Massachusetts at Amherst and a member of the SWAS science team.

*Scientists cut through the clouds to see shifting arctic ice*

NASA researchers have new insights into the mysteries of Arctic sea ice, thanks to the unique abilities of Canada's RADARSAT satellite. Using special sensors to take images at night and to peer through clouds, NASA researchers can now see the complete ice cover of the Arctic. This allows tracking of any shifts and changes in the extent or the thickness of the ice, in unprecedented detail, over the course of an entire winter.

*Hubble gets head count of elusive brown dwarf stars*

Astronomers using NASA's Hubble Space Telescope have taken notice of a class of brown dwarfs and found indications that these odd and elusive objects also tend to be loners. The Hubble census -- the most complete to date -- provides new and compelling evidence that stars and planets form in different ways.

Brown dwarfs are intriguing objects that, unlike stars, are too low in mass to burn hydrogen, but are more massive than planets. At 15 to 80 times the mass of Jupiter, the light that they emit is so faint it's hard to tell how many of them are scattered throughout the galaxy, and how they're formed.

# NASA scientists on "safari" mission study African smog/ecosystems

African smog and its role in global change are under study by NASA and international scientists who are currently tracking the movement of air pollution in the southern part of the continent.

The southern African atmosphere is particularly vulnerable to air pollution due to a persistent high-pressure system there. African smog is a soup of smokes from industry, mining, agricultural burning and other sources.

"We plan to test and improve satellite measurement accuracy for airborne particles, including smoke and haze, as well as water vapor and ozone," said Philip Russell, team leader from Ames' Atmospheric Chemistry and Dynamics Branch. "We want to better understand the effects that smoke, haze and trace gases have on the African and global climate. We also want to improve remote measurements of the Earth's surface, particularly measurements of vegetation and ocean color."


NASA researchers are among more than 100 scientists who are now conducting extensive and varied field studies as part of the Southern African Regional Science Initiative (SAFARI 2000) that has been underway for more than a year, and will continue into September. Flights and science activities are based in Pietersburg, Republic of South Africa.

Russell's team is measuring and analyzing sunlight with an airborne sunphotometer carried on a University of Washington CV-580 aircraft. The sunphotometer measures the amount of sunlight that penetrates smoke and other aerosols in the atmosphere at different wavelengths, including ultraviolet, visible and infrared light.

Russell's researchers will match airplane flights with satellite overpasses, and will sample smokes from burning vegetation as well as industrial emissions. Other investigators on the CV-580 aircraft and on the ground will simultaneously measure a variety of aerosol properties during data consistency tests.

In addition to Russell, Ames scientists on his team include Beat Schmid and Jens Redemann. A second Ames team, led by Peter Pilewskie, is doing other African field studies. His "radiation group" is flying a solar spectral flux radiometer instrument on a NASA ER-2 airplane and on the University of Washington's CV-580 aircraft. Scientists will use data from the instrument to find out how much solar energy is absorbed by particles of smoke and dust and other aerosols, and how much energy clouds reflect. In addition, the researchers are testing the ability of satellites to make the same measurements from space.

The NASA Ames studies are a part of the larger SAFARI effort. It includes analysis of terrestrial ecology and land processes; land cover and land use change; atmospheric aerosols and trace gases; clouds and radiation; hydrology; and computer modeling. Researchers are studying these elements by using ground and airborne measurements complemented by remote sensing observations from older satellites as well as a new generation of Earth observation satellites. They include sensors on NASA's Terra, Landsat 7 and SEAWIFS satellites as well as the European ENVISAT and POLDER II spacecraft.

The study region for SAFARI 2000 includes Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. Scientists from the United States, Canada, the United Kingdom and Germany are collaborating to conduct the science initiative. NASA's Earth Observing System project is the primary sponsor of U.S. participation in SAFARI 2000.

SAFARI 2000 information, including listings of additional experiments and organizations, is on the Internet at: http://safari.gecp.virginia.edu and http://eos.nasa.gov

BY JOHN BLUCK

# Ames...an historical perspective

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Theoretical Aerodynamics was just next door. My workplace provided a variety of resources, not the least of which was illustrating technical reports, useful to many of the technical pursuits engaging people like a young John Spreiter. The makeshift paper models of two-dimensional wings that he had fashioned simply could not survive his dipping them into a bucket of water. Volunteering to make his models of tough illustration board, painting them with colorful lacquer and gluing a pencil to the trailing edge of each of the curious platforms; John's models would survive repeated immersions. He had found a corner of my office where he was free to examine the swirling patterns in the skin of aluminum powder floating on the water's surface.

This exercise soon required photography and a more precise method of introducing models into the water. Somehow, as in all closely-knit highly motivated organizations, our bucket endeavor spilled over to include Al Puccinelli from Hangar 1. Within a week, he had converted a 50-gal drum fitted with a motor driven model transport. The contraption had adjustable speeds for moving the model at any desired angle through the aluminum film at the touch of a button. A movie camera was mounted to capture the vortices produced by John's extensive collection of models.

Ames' first electronic computer found a home on Hangar 2's first floor. I enjoyed a demonstration of the machines ability when I asked to see it multiply 2 x 2 after my friend had boasted of the awesome power of the machine. The operator fiddled with some dials, rewired a plug-in board, and happily pointed to one of the voltmeters where I could see the needle move slowly to 4.

The memory fostered by Hangar 2 that I most cherish is the retirement ceremony of a most memorable man. H. Julian "Harvey" Allen was stepping down from a career distinguished by achievement in aeronautical and space research that I believe is unparalleled. Yet, he was a man who would never fail to be the most personable, kind and fun person one could ever meet.

A few thousand people stood before the lectern where Russ Robinson conducted Harvey's retirement ceremony. The honorable people on the platform with Harvey were flanked by just two potent symbols (however, they were the real thing) of Harvey's accomplishments.

First, a P-51 airplane, borrowed and flown in by Jim Nisson of San Jose; citing the laminar flow airfoil and the influence this aircraft had in winning WWII. Next, Scott Carpenter's Mercury spacecraft, an historic example of the blunt body principle, the key for a spacecraft to safely reenter the atmosphere. The "Aurora 7" was on loan from the Smithsonian Institution. The third symbol was a personal item dear to Harvey's heart. It idled just outside closed hangar doors and upon Russ's signal the doors parted and in tooled a golden yellow Dusenberg roadster where it stopped before the rostrum. It was the first time I ever saw tears in his twinkling eyes. Then a broadly smiling Harvey stepped off the platform, gathered himself behind the wheel then motioning "Miss Edie" Watson, his long-time secretary, to jump in beside him, he began moving slowly through the crowd.

The crowd parted to allow the circling vehicle room, all the while cheering and clapping happily to see Harvey once more at the wheel of his most prized auto. It had been specially trucked in from Reno's Harolds Auto Collection. It had been acquired from Harvey years before. Hangar 2 was a happy time for me.

*By Harry J. DeVoto, Ames employee 1947-1973*

# SAFETY SNAPSHOTS

*This feature is one in a series intended to inform the Ames community about facets of Ames' Safety and Environmental programs*

## Ames Confined Space Entry Program

**PROFILE**

When you see workers laying pipe in a deep trench, or lowering themselves into a manhole, do you ever wonder about their safety? Rest assured. Before any employee enters a space that is not designed to be occupied, and lacks a direct and ready means of escape, many precautions are taken. Ames does what OSHA requires, and that may include (depending on the nature of the space):

Monitoring the air to ensure that the atmosphere is safe
Providing rescue equipment
Radio communication if the employee will be out of visual contact
A buddy standing by just in case
Training and practice (always required)
A permit system ensures that those applicable precautions are observed each and every time a confined space is entered

**CLOSEUP**

John Rosen, Industrial Hygienist, says that Ames has hundreds of confined spaces. Most are utility vaults and underground pipe systems, but many are unusual. Some wind tunnels become confined spaces when their hatches are closed. Some of our research equipment, like the human-powered centrifuge, meet OSHA's definition of a confined space. If you look closely at the numbered white and black metal labels attached to ports in roadways and many other locations, you will see that each identifies a confined space. John maintains the inventory of these confined spaces. Work in confined spaces may be extremely hazardous – but workers know the dangers and how to work safely. Because life and death situations readily happen if there is any accident of any kind in a confined space, the Moffett Fire Department is specially trained for confined space rescue. At Ames, emergency preparedness is a high priority and good assurance of on-the-job safety for confined space entrants.

For more information, go to chapter 26, Ames Safety and Health Manual under Safety at q.arc.nasa.gov.

# Calendar & Classifieds

## 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 at (408) 735-4954 (W) or (408) 281-2899 (H).

**Ames Ballroom Dance Club.** Tuesdays: Quickstep 8/22, 8/29, 9/5, Cha Cha 9/12, 9/19, 9/26. 3 levels of classes, from Beg. to Int., 5:15 - 6:45pm. Please email to confirm class location. Women dancers are especially encouraged to join. POC: Helen Hwang at hwang@dm1.arc.nasa.gov.

**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 Child Care Center Board of Directors Mtg,** Every other Thursday (check website for meeting dates: http://accc.arc.nasa.gov), 12:00 noon to 2:00 PM, N269, rm. 201. POC: Katharine Lee, x4-5051.

**Nat'l Association of Retired Federal Employees, (NARFE), San Jose Chapter #50, Mtg,** Sept 1, at Hometown Buffett, Westgate Mall, 4735 Hamilton Av, San Jose. Prog. & bus. mtg. at 9 a.m., followed by lunch, $6.27, in a reserved area. Program starts at 9:30 a.m. followed by lunch. POC: Mr. Rod Perry (650) 967-9418 or NARFE 1-800-627-3394.

**Ames Bowling League,** Season starts Sept 5 through April 24, Tuesdays, at 6 pm at Palo Alto Bowl. Bowlers needed. POC: Mina Cappuccio at ext. 4-1313 or Carmen Park at ext. 4-1215.

**Ames Contractor Council Mtg**, Sept 6, 11 a.m., N-200 Comm. Rm. POC: David Lawrence at ext. 4-6434.

**Environmental, Health and Safety Monthly Information Forum**, Sept 7, 8:30 a.m. to 9:30 a.m., Bldg. 19/Rm 1078. POC: Linda Vrabel at ext. 4-0924.

**Hispanic Advisory Committee for Employees,** Sept 7, 11:45 a.m. to 12:30 p.m., N-241/Rm 237. POC: Mary R. Valdez, at ext. 4-5819.

**Ames African American Advisory Group Mtg,** Sept 7, 11:30 a.m. to 12:30 p.m. POC: Robert Finnie at ext. 4-5230. Contact Robert for meeting place.

**Professional Administrative Council (PAC) Mtg,** Sept 14 , 10:30-11:30 a.m., Bldg 210, Rm. 115. POC: Leslie Jacob, ext. 4-5059.

**Ames Sailing Club Mtg,** Sept 14, 11:30 a.m. to 1 p.m., N-262/Rm. 100. POC: Stan Phillips, ext. 4-3530.

**NFFE Local 997 Union General Mtg**, Sept 20, noon to 1 p.m., Bldg. 19/Rm. 2017. Guests welcome. POC: Marianne Mosher at ext. 4-4055.

**Ames Multicultural Leadership Council Mtg**, Sept 20, 11:30 a.m. to 1 p.m., Galileo Rm/Ames Café. POC: Sheila Johnson, ext. 4-5054 or David Morse, ext. 4-4724.

**Ames Asian American Pacific Islander Advisory Group Mtg,** Sept 21, 11:30 a.m. to 1 p.m., N-237/Rm. 101. POC: Daryl Wong, ext. 4-6889 or Margaret Salas, ext. 4-6755.

**Ames Amateur Radio Club**, Sept 21, 12 noon, N-260/Conf. Rm. POC: Mike Herrick, K6EAA at ext. 4-5477.

**Native American Advisory Committee Mtg,** Sept 26 ,12 noon to 1 p.m., Ames Café. POC: Mike Liu at ext. 4-1132.

## 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

For sale by owner: $489K, small horse ranch near Watsonville. Royal oaks, California/scenic area. 3 acres w/ trees & lots of open space. 3 bd/2 ba home/family rm w/ fireplace. Front/rear decks w/hot tub rm. 2 car garage w/laundry rm & storage rm. Barn, tack rm, corrals, workshop/electricity. Property fenced & outside lighting. Ron (408) 736-2150. Lv msg or call (831) 722-0130.

Room for rent in Newark located near H880 and 84. Very close to 4 major groceries, post office and and NewPark Mall. Private entrance, kitchen, bath, telephone lines, and cable hook-up, utilities paid. $465/ month. Jim (510) 324-7187.

Furnished room for rent in private home w/kitchen priv's, washer/dryer. Nonsmoker. San Jose, near Capital Expressway and Hostetter, $400/month. Roberta (408) 258-6453.

### Transportation

'87 Mercury Sable wagon with a third seat and straight body and paint. Very good conditon. Asking $2,500 or B/O. Spent $1,350 on the engine and installed special Uniroyal Nailgard tires ($500). PB, V-6 engine. Runs great. Aftermarket stereo/cassette speakers all around. Bob (408) 737-7329 after 4:30 p.m., lv msg.

'87 Honda Shadow 1100cc motorcycle, 32K mls, good paint, tires, runs great. $2,600. Jeremy (510) 502-5477.

Mini motor-home, self-contained. 92K mls on '87 Ford Econoline engine. $14,000 or B/O. Call (415) 826-3041.

'90 Eagle Talon, Sony CD, alarm system, rebuilt engine, new clutch and break assembly. Body damage in back. Asking $2,500 or B/O. Ray (408) 749-1182.

'91 Mercedes 300E. 127K mls. Loaded, excellent condition. Recent valve job. Asking $11,500. Call (408) 867-3348.

Black '98 Nissan Altima GXE; 28K mls; 4-Cyl. 2.4 Liter; power steering, door locks and windows; tilt wheel; AC; AM/FM and CD (Premium Sound - JVC unit, Rockford Fosgate speakers). New tires, alarm, one owner. Still under warranty. $11,890. Ilia (650) 400-8073.

### Miscellaneous

Pure-bred Rottweiler, 7 years old, well trained, is looking for a new home. Have to give away since my wife is not comfortable having her around our new born baby. if interested, call Bassam at (408) 732-0267.

Dark wood dining room table w/six chairs (2 with arms) and two leaves $150; white student desk w/4 drawers $25; white 5 drawer dresser $30, & light stained oak entertainment center $180. Call (408) 257-7122.

Fixed keel 1984 Catalina 25 sailboat berthed in Alameda. Well equipped, main, jib, genoa jib, cruising spinnaker. $7,000. Call (408) 263-6393.

3 piece (couch, love seat, swival rocker) leather furniture, lite grey, very good condition $2,000; wood & glass 4 x 4 coffee table $20; exercise machine $100. Shirley (408) 777-8048.

35 mm Nikon Manual Focus AI lenses, all mint cond w/orig pkg 35/2.0 $195; 50/2 $95; 135/2.8 $125. Call (650) 851-5290 after 6 p.m.

Sofa and loveseat, La-Z-Boy, plaid, 4-5 years old, very good condition, clean. $400 or B/O. Hank or Barbara (408) 923-2231 for more info.

Mac Performa 6300 computer with 15" color monitor, laser printer, Extended keyboard, joystick, and extras. $595 for all. Call (408) 249-3030.

Motorcycle enclosure. Armadillo Full Dress size, semi circular fiberglass, 3 1/2 ft. X 9 ft. with flanged bottom for surface mounting at apartment or work for security/weather protection. $350 as-is, where-is (Saratoga), original list $895. Call (408) 377-5556; fax 377-5559.

San Jose Shark hockey tickets for sale. 2 seats in section 209 row 8 for many games. Call (408) 735-0524.

NEC MultiSync 50 monitor for sale. Desktop MultiSync 50 15" (13.8" viewable image size). Model #: PN7501. Price reduce: $125 or B/O. Excellent condition, 6 months old. Dennis (650) 344-9555 or elusive@best.com

Old Town Discovery 133K canoe $500. It is blue. It is a bit dirty but in very good condition. Not used much. It is a little over one year old. Original owner. Sells new for $729. Holds two adults and one child. Including paddles and car carrier for no extra charge. View it at http://www.danielc.com/canoe/ Contact via email at: danielc@danielc.com.

Mountain bike - GT Karakoram $100. Mountain bike has Shimano Deore LX components. It is dirty, but in good working order. Needs a front wheel, as one was stolen. Sold new for $549. View it at http://www.danielc.com/bike/ Contact via email at danielc@danielc.com.

Fitness trampoline. Foldable, still in box. $200. Call 415-826-3041.

### Vacation rental

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

### Ames public radio

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

## Become a part of a winning team!

ACS (formerly Intellisource) and the SAIC team are pleased to announce the successful award of the "Outsourcing Desktop Initiative for NASA (ODIN)" contract at Ames, Langley, Glenn and Dryden Research Centers. In support of this award, we are seeking qualified individuals to join the ODIN team at Ames.

An Open House will take place on Wednesday, September 13, from 11:30 a.m. until 5:30 p.m., and Thursday, September 14, from 11:30 a.m. until 5:30 p.m. The location will be in Building 3 the MTCC at Ames.

Managers from ACS, SAIC and the other team members will be available for preliminary interviews.

Bring a copy of your resume with you. All incumbents are encouraged to stop by and meet with the management team. Refreshments will be provided.

## 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 on or before the deadline.

| *Deadline* | *Publication* |
|---|---|
| *Tues, Aug 29* | *Mon, Sep 11* |
| *Tues, Sep 12* | *Mon, Sep 25* |

## Kite flying at Ames!

The Ames Kite Club has been established to promote kite flying of all kinds. Many of our members fly modern two-line maneuverable sport kites. We also fly all kinds of more traditional single-line kites, such as diamond, dragon and box kites. Asian fighting kites are also popular.

Sport kites range in size from 3 to 10 feet and can fly gracefully, aggressively or even pull you across the field. There is a kite and style of flying for everyone. Some folks find that flying to music is one of the real treats the sport has to offer. One of our club members even performs a choreographed routine in regional competitions.

One of the reasons we formed the club was to share our hobby with others at Ames. We have a monthly mid-day fly at Shoreline Park and many of us fly several times a week during lunch. We have plenty of kites to share and qualified flight instructors. Check out our Web site at http://homepage.mac.com/kiteclub/ or email acarter@mail.arc.nasa.gov for more information. The Web site also includes photos and links to many other kite-related sites and local events.

*Members of the Ames Kite Club, from left to right, are Thomas Chimento, Phil Clarke, Lorinda Rodrigues, Allen Carter and Chris Johnson. The club is supported by the Ames Exchange as part of its employee morale and welfare efforts.*

*photo by Tony Prusa*

## Airport reps gather at Ames

Moffett Field recently hosted the State Department of Transportation's quarterly airport noise meeting. The August 3 meeting was attended by 40 representatives from California airports, including San Jose International (SJC), Los Angeles International (LAX) and San Francisco International (SFO) airports.

The meetings rotate between northern and southern California airfields, and with officials from all the major airports in attendance, the discussions provide a valuable community service by addressing and resolving airplane noise-related complaints.

After representatives from each airport gave noise updates, attendees toured Ames 80' x 120' Wind Tunnel, Future Flight Central and the Vertical Motion Simulator (VMS).

The next meeting will be held at the John Wayne Airport in Orange County.

THE AMES Astrogram

The Ames ASTROGRAM is an official publication of the Ames Research Center, National Aeronautics and Space Administration.

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