THE AMES Astrogram
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER, MOFFETT FIELD
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# Ames' Flag Tribute honors victims, recovery teams

In response to the Sept.11 terrorist acts in New York and Washington, D.C., Ames Research Center held a special American Flag Tribute on Sept 26. The event was intended to honor the victims of this tragedy and their families, and to demonstrate support for those in the Ames community who will be directly called upon to serve the nation during the coming months and years. More than 1,500 center personnel attended.

The event featured a military color guard, the singing of the national anthem and America the Beautiful and short presentations by several speakers.

R. G. Moore offered a message of hope, reflecting in an uplifting and inspiring way upon what it means to be an American.

Jack Boyd read a message to employees from the Ames Center Director, Henry McDonald who was engaged in critical agency business at headquarters in Washington, D.C. (see text below).

Deputy Director William Berry spoke of the role and contributions of NASA and Ames, and of the ability of our people to participate in a variety of relief and charitable efforts through the Combined Federal Campaign. Berry also spoke of the recovery efforts of members of Ames' Disaster Assistance and Rescue Team (DART), six of whom are now deployed in Manhattan, with another team set to go.

The tribute concluded withthe unfurling of a 30 x 80 foot American flag. Cakes decorated in patriotic themes were provided to attendees by the Ames Exchange.

photo by Dominic Hart

*Deputy Center Director William Berry addresses the distinguished guests and crowd of 1,500 at the Ames flag tribute on Sept. 26.*

# A message from the Ames Center Director

Dear Colleagues:

In reflecting on the events of the last two weeks, it always comes as a great shock to us Americans to learn that there are people who hate us enough to try to do us harm--just because we are Americans. But, there it is! Sept. 11 reminded us once again, in the cruelest way, that these people exist. They exploit the basic freedoms that we hold so dear, and that our flag represents, in order to attempt to cause us in some way to change.

What is it about this country that we have, or do, that they fear so much? Is it domination? Surely not! This country has had many opportunities to 'colonize' other nations. Instead, for example, at the end of World War II, we emptied our treasury in one of the single greatest acts of generosity in modern history, and through the Marshall Plan, rebuilt war-ravaged Europe. To this day, we have sought no repayment of the loans and debts incurred in this event, nor have we sought to dominate the process by which these countries freely elect their governments. It is acts such as these, that when we suffer through times of sorrows such as following Sept. 11 and wonder who stands with us, western Europe with one voice responds, "We do!"

The people who hate us so cannot think that we would try to prevent them the free expression of their religion, for religious freedom is amply expressed and visible throughout this nation. All of the perpetrators of the appalling acts of Sept. 11 spent enough time in this country to observe our freedom of religion, our freedom of speech, our freedom to elect a government of our choice. They observed first hand the freedom of our press to report and criticize the actions of individuals or government without fear of persecution. The people who hate us know that these rights belong to all our citizens. It is these very freedoms that we associate with our flag that they fear. They fear these freedoms would be sought by their own people. They fear these freedoms to the extent that they would commit these terrible acts of Sept 11. They hope to convince us to cease and desist, not to be a beacon of freedom to their own oppressed people.

I cannot help but believe that these freedoms that we enjoy and that are symbolized by our flag, are fundamental rights which all peoples should have. They are codified in our constitution, in the basic fabric of the laws of our nation. Attempts to prevent the acquisition of these rights for those who do not yet have them, using any pretext, is a crime against humanity and doomed to failure. On Sept. 11, nearly 7,000 more innocent victims were added to the long list of people who have died in yet one more vain attempt to suppress the dream of freedom.

I believe we have ample evidence that the dream will not die.

Thank you, Henry McDonald

**Communication for the information technology age**

*For photos from the tribute, see page 4.*

# Americans feel backlash of recent events

Since Tuesday, Sept. 11, the United States has witnessed numerous acts of violence by Americans presumably resulting from the fear and anger brought on by the recent terrorist attacks. Our own citizens are feeling the subsequent backlash. Americans from a number of Middle Eastern backgrounds have been verbally and physically assaulted in the U.S. in the past few weeks. Wives, mothers, sisters and friends are meeting with insults and actions that most would deem disgraceful.

At some point, many of us have been directly affected by, or privy to, occurrences of racism or discrimination. When experiencing or hearing about these things happening to an acquaintance or family member, it can be a particularly painful experience. It often compels people to feel the desire to act on these misguided views. There is a need, however, to understand that those at fault in these terrorist attacks are a small group and do not represent Middle Easterners entirely.

The President Gen. of Pakistan, Pervez Musharraf, has made it clear that only those actively involved in terrorist groups are the subjects of the United States' search and not the people of Afghanistan as a whole. In the U.S., however, there is a pall of suspicion cast over a group of people from these and many other ethnic groups.

The criminal element within the U.S. makes up a small fraction of the overall population. Most Americans would not see this country as a reflection of its criminals. Similarily, the people who committed these acts do not represent their entire country, religion or ethnic group.

History, in fact, has proven that immigrants have been among the most ardent patriots during this country's time of need. In the Civil War, for example, African-Americans fought and distinguished themselves in battle despite their families remaining in bondage. During World War II, Japanese-Americans excelled on the battlefields of Europe, with one Japanese-American army company earning the most citations for valor, despite their families forced movement to relocation camps in the U.S. The city of Fremont contains the country's largest Afghan-American community, and their merchant district is lined with American flags as symbols of their patriotism, despite the treatment they have heard or personally witnessed.

This event has generated an abundance of feelings, but the most impressive is the feeling of unity we have all experienced toward one another. Only a few weeks ago, it was commonplace for strangers, in passing, to say nothing, not even look into the face of the person approaching them. Today, it is as if we have all merged into a level of awareness of others that we had not had before.

People walking the streets now see each other as compatriots and look into one another's faces and exchange salutations. It is a very comforting feeling passed on in these usually insignificant exchanges, which have now taken on new meaning. This situation acted as a catalyst for us to be more acutely aware of our sisters and brothers. The results are a level of commitment in Americans toward this country unseen since World War II.

As you read this article, there are still firefighters, police officers, emergency medical technicians, doctors, nurses, teamsters and citizens of New York, Washington D.C and Pennsylvania working at their respective sites in search of survivors and clues. Even Ames' own Disaster Assistance and Rescue Team (DART) is now in Lower Manhattan aiding in this massive effort. Perhaps some of those caring, devoted and tireless individuals might be of Middle Eastern descent. Despite the fallout of this tragedy, Middle-Eastern Americans remain loyal to the U.S. and their homelands just as millions of other Americans do.

*BY MIGUEL A. HERNANDEZ*

# Fletcher receives Lamme award

Dr. L. S. Fletcher, better known as "Skip," has been adding quietly to an impressive list of accomplishments and awards gathered during his career. Recently, yet another honor was added to his list of achievements.

Fletcher was awarded the Benjamin Garver Lamme award for his outstanding work in engineering education by the American Society for Engineering Education. The Lamme award recognizes excellence in teaching, contributions to research and technical literature and achievements in administration. The award was named after Benjamin Garver Lamme (1864 -1924), an engineer at Westinghouse Electrical Company, who took particular interest in training young engineers.

"During his tenure at Ames, Dr Fletcher has lead the transformation away from Ames' role in traditional aeronautics research into new areas, including stepping to the forefront of nanotechnology research," said Ames Deputy Director William Berry. "He also has worked with his staff to expand our leadership role in applying advanced computational sciences to the field of air traffic management. This transformation could not have occurred without the fresh insights and leadership Dr. Fletcher brought to Ames," Berry added.

Jack Boyd, executive assistant to Center Director Dr. Henry McDonald, seconds Berry's praise of Fletcher's work. "Skip has successfully redirected much of the effort in the aerospace directorate to be more in line with the Center's mission of creating new knowledge and new technologies that span the spectrum of NASA interests," said Boyd.

As chief of the Aerospace Directorate at Ames, Fletcher is responsible for planning, directing and coordinating Ames' aeronautics technology, science and development

*Skip Fletcher*

*continued on page 5*

# CFC campaign in full swing

The Combined Federal Campaign (CFC) began its annual request for donations earlier than usual this year. CFC volunteers have stepped up to the challenge to help support the charities that are aiding the families and victims of the recent attack on America. Ames employees can use the CFC to contribute to these organizations as well as to those to which they have given in the past.

*photo by Tom Trower*

*CFC coordinators at their training class on Sept. 19. From left and around the table: Arlene Spencer, Doug Smith, Mary Bravo, Maureen Weller, Grace Ann Weiler, Rho Christensen, Arlene Pineo, Herb Finger and Jean Nozaki.*

From the CFC web site (http://cfc.arc.nasa.gov), one can view a special list of groups that are directly aiding in the cleanup efforts and ensuing projects. All of the groups listed at the web site have been thoroughly screened and approved by the CFC. The web site also gives the local and national charities and foundations that need our support in their aid to people and yearly research projects.

Federal employees may designate the organizations of their choice and may either have their donation taken as a payroll deduction every two weeks or make a one-time donation via check or cash (or both). Contractors may only make a cash or check contribution.

A letter was sent to staff explaining how to fill out the new Combined Federal Campaign forms. Key workers will be distributing the forms and brochures, listing charities and foundations, this week.

If you have any questions, call or email your key worker or directorate coordinator:

Code D, Anita Borger;
Code A, Leslie Jacob;
Code C, Mary Bravo;
Code F, Merle Simbe;
Code I, Maureen Weller;
Code J, Jean Nozaki;
Code Q, Doug Smith; and
Code S, Arlene Pineo.

Also available to help you are the committee members: assistant, Karen Bradford; assistant, Jean Nozaki; county liaison, Herb Finger; co-chairman, Rho Christensen, or chairwoman, Grace Ann Weiler, at ext. 4-CFC1 (2321.)

They all ask that you look within yourselves and see what you can do to help the people of your country in their hour of need. The theme this year is very timely: "It all begins with you!"

# NASA technology to help commercial ventures "listen up" -- and down

A 3-D audio processor developed for space shuttle mission controllers will soon find its way into virtual classrooms across the country.

BreakAway Sound, an African American-owned and-operated business based in Los Angeles, has received a license for further development and marketing of the Ames Spatial Auditory Display (ASAD) communication tool. NASA's Far West Regional Technology Transfer Center, located within the School of Engineering at the University of Southern California in Los Angeles, identified BreakAway Sound as an excellent candidate to commercialize the technology.

"The NASA flight director at mission control in Houston is sometimes required to listen to and understand as many as seven different voices at the same time," said Dr. Durand R. Begault of Ames. Begault originally developed the processor to improve communication intelligibility for space shuttle mission control operators. "Traditional communication systems involve listening to multiple voices with only one ear, which is disadvantageous for speech intelligibility," he added.

This revolutionary Ames technology makes radio communications more easily understood by taking advantage of people's natural ability to localize sounds. "Our everyday ability to listen to one desired voice out of a collection of different voices is known as the 'cocktail party effect,' which depends on two-ear listening to separate the sounds in space," explained Begault. "The ASAD simulates this by effecting directional cues for each input based on time and level differences at the ears."

ASAD's unique design provides highly adaptable, immersion sound technology for applications in physical and virtual computer realms, virtual game and multimedia technology, consumer electronics, aeronautic, submarine and emergency rescue technologies.

BreakAway Internetworking Group, the parent company of BreakAway Sound, has established 215 community technology centers around the world. The company now is linking the key centers together via the internet to deliver e-training, i-galleries, i-books, i-radio and i-TV as ways for multimedia students and participants to share their work.

"We understand that more realistic 3-D immersive sound will enhance the on-line audio experience," said Maisha Hazzard, president and CEO of BreakAway Sound. "ASAD allows the quality of the audio to finally match the advances in 3-D video."

By 2003, it is anticipated that ASAD may be ready for application in air traffic control, emergency communication, virtual conferencing, distance education, virtual classrooms and entertainment industry environments.

"NASA has superb innovative capabilities, but transferring our technology to the right strategic partner is a challenge," said David Lackner, Ames' technology commercialization manager. "In BreakAway, we have a firm that is in a prime position to take NASA R&D to market."

"This is a great example of NASA's ability to work with private industry to commercialize dual-use technology. I look forward to creating more partnerships like this one, where we achieve tangible benefits in cooperation with dynamic entrepreneurs," Lackner said.

*BY VICTORIA KUSHNIR*

# Honor & Tribute

photo by Dominic Hart

photo by Dominic Hart

photo by Dominic Hart


photo by Tom Trower

photo by Dominic Hart

photo by Dominic Hart

photo by Tom Trower

photo by Dominic Hart

photo by Tom Trower

# Professional development program graduates honored

On July 23, 20 NASA employees celebrated successful completion of the Professional Development Program (PDP). In his address to the graduates, NASA Administrator Daniel Goldin reminded the class that NASA is "not about survival, it is about doing unbelievably tough things!" Goldin challenged the graduating employees to take on tough goals. In referencing the class' commitment statement, Goldin noted that if they are truly committed to operating as "one NASA, NASA will soar."

This year's class members found that they shared a concern for ensuring an adequate technical work force in the future for both NASA and the nation. They decided to make a difference during their PDP year. The class took on a voluntary education project to encourage students to pursue higher education in mathematics, science and engineering through establishing an interactive web page. Although NASA currently hosts web pages to advertise opportunities for internships and scholarships, there are not enough of these openings to meet the demand. This searchable web page will supplement NASA resources by allowing undergraduate and graduate students to expand their search beyond the agency.

Participants in the NASA Professional Development Program are competitively selected by their centers, and they engage in a year-long intensive leadership development process that combines developmental work assignments, leadership development workshops, briefings by NASA's leadership, targeted training opportunities and individual coaching. The goal of the PDP is to provide future leaders with a broader perspective of both the agency and the impact of NASA programs. This year's graduates included:

| NASA Center | Name |
|---|---|
| ARC | Dr. Robert Chatfield |
| DFRC | Mark Collard |
| | Camilla McArthur |
| GRC | Raymond Kacmar |
| | Naseem Saiyed |
| | Dr. Margaret Tuma |
| GSFC | Rebecca Barth |
| | E. Lucien Cox |
| | Robert Lane |
| | Kaleem Kawaja |
| | Dr. Ryszard Pisarski |
| | Donald Wolford |
| HQ | Janie Penn |
| KSC | Erik Denson |
| LaRC | Donna Phillips |
| | Jon Thompson |
| MSFC | Leland Dutro |
| | Tracy Lamm |
| | Carolyn Landry |
| | Dr. James Spann |

*Ames' Dr. Robert Chatfield receiving the Professional Development Program award from NASA Administrator Daniel Goldin on July 23 at NASA Headquarters.*

# Fletcher receives Lamme award

*continued from page 2*

activities. These include basic and applied aerodynamics, aviation systems, rotorcraft aerodynamics, acoustics, space transportation and thermal protection systems, and advanced aeronautical projects.

Fletcher began his distinguished career as an aeronautical test technician at Ames in 1956. He also served as a project engineer and research scientist at Ames. He currently is a Regents Professor and Thomas Deitz Professor of mechanical engineering at Texas A&M University. He received his master's degree from Stanford University and his Ph.D. from Arizona State University. Fletcher has served as director of Aerospace at Ames since 1999.

Fletcher has won numerous honors and awards and is a member of many professional organizations. He is past president and Fellow of the American Society of Mechanical Engineers and past president and Fellow of the American Institute of Aeronautics and Astronautics. He is a Fellow of the American Association for the Advancement of Science, the American Astronautical Society, the American Society for Engineering Education and the Accreditation Board for Engineering and Technology.

Fletcher has authored or co-authored numerous books and journal publications. He has patents or patents pending on six inventions, and he is listed in Who's Who in the World; Who's Who in Aviation and Aerospace; Who's Who in America; Who's Who in Engineering; and American Men and Women of Science.

Information about the Benjamin Garver Lamme award and the American Society for Engineering Education can be found at http://www.asee.org/awards.

BY JONAS DIÑO

# Ames' DART joins mission of hope

The horror of the terrorist attacks that took place on Sept. 11 seized the minds of the American people with absolute shock, anger and confusion. But not for very long! The spirit and solidarity of American citizens has proven to be stronger than concrete and steel. Firefighters and rescuers from all over the nation have flown to New York and Washington to help their local colleagues in rescue and recovery efforts. Ames' Disaster Assistance and Rescue Team (DART) has also joined this mission of hope.

The first six members of the DART team left the morning of Sept. 19 for New York, with other members of California Task Force 3 (CA TF3) out of Menlo Park. The group consisted of one hazardous materials specialist, one search team manager, one technical search specialist, two rescue specialists and one logistics specialist. Kelly Kasser, Roger Miller, John Preston, Mark Tangney, Phil T. Snyder and Paul Brown are among the 62-member task force.

"The entire 62-member task force deploys at the same time. It is unknown at this time what their specific assignment will be. Once the task force has arrived in New York, members will be assigned a work area by the local incident command staff and will be searching for live victims, assisting with the removal of debris and recovery of those who perished.," said Bob Dolci, Chief, Facilities, Logistics and Airfield Management Division. "If they need more help, we're here to provide all the support needed to get the city and the entire nation back to normal life," he added.

Another seven DART members are expected to participate in the next round of deployments. They include a hazardous materials specialist, three search specialists, two rescue specialists, and one logistics specialist. Given the magnitude of this disaster, the response activities could last up to five months or longer. Those DART members who have not deployed to New York are actively assisting Ames' Protective Services Office wherever required. They also are providing logistical assistance to CA TF3, as needed, to prepare for the next deployment of the task force.

Ames' emergency response and recovery program coordinator Lynne Engelbert, accompanied by her search dog Lucy, also joined the rescuers with CA TF4 out of Oakland on Sept. 26. "The saying goes that you have to find the victims before you can rescue them. Search dogs are essential for the rescue and recovery mission because their noses are capable of recognizing live, or dead, human scent. They can also cover large areas much faster than humans, and they can access small spaces that humans are just too big to enter," Engelbert explained.

Lucy is a 10-year-old border collie who worked with California Task Force 3 at the Oklahoma City bombing site in 1995. She also is certified in human remains detection. Just last year, she extended her career to locating ancient Ohlone Indian burials in Fremont, Calif.

photo by Doug Pargett

*DART members train with other rescue specialists.*

"My personal hope for this mission is that we can locate and rescue even one person who has survived this catastrophic disaster. Although hope is dim now, miracles have happened where victims have survived 10 to 14 days after an incident. There are areas under this rubble that are survivable and where food and water are available," said Engelbert.

For the past two weeks, we have cried a lot of tears and lit a lot of candles in remembrance of all the innocent people who have become the victims of the outrageous terror. Now, let's light a new candle wishing our Ames' rescuers good luck and good faith in their mission of hope.

*BY VICTORIA KUSHNIR*

# An evening with Foundation for a College Education

The Foundation for a College Education (FCE) invites Ames employees to an informal gathering from 5:30 p.m. to 7 p.m. on Thursday, Oct. 11, in the Ames Visitor Center, special events room.

The FCE's mission is to make the dream of college a reality for students who traditionally have not had the opportunity to go to college. Specifically, FCE strives to increase the number of students of color attending and graduating from 4-year colleges and universities. Many of FCE's students are the first in their families to pursue higher education. FCE's successes include:

- 100 percent of their high school graduates are currently enrolled in college.
- 72 percent of their high school students have shown an increase in or maintained their GPA.
- 93 percent of their students have prepared for and taken the SAT.
- Over 80 percent of their students are enrolled in 4-year institutions.

The FCE now has over 116 students and parents in the program who are all striving for a college education. The families of FCE students are particularly inspiring as they work together toward their shared dream.

We hope you'll join us in celebrating the work of Foundation for a College Education and in meeting a few of the outstanding students and parents. If you are interested in attending, please RSVP to (650) 322-5048.

*BY ANTOINETTE & VERNOL BATTISTE AND LAURA SHAWNEE*

# Ames observes pollution prevention week

Pollution Prevention (P2) Week was celebrated at Ames with a display in the Ames cafeteria, Mega Bites, during September. Gigi Phung, P2 coordinator, Code QE, left, with Adrienne Erwin, representing Code JFP, center, are shown here discussing with a passer by ways to do things so pollution can be reduced or eliminated.

The next major pollution prevention event will be on Nov. 15 in celebration of 'America Recycles Day." Currently, there is a call out to all NASA centers for children's art highlighting P2 activities for the annual calendar competition.

If you would like more information about P2 or have any comments or suggestions, contact the P2 coordinator at: gphung@mail.arc.nasa.gov.


*photo by Eric James*

# Firefighters raise $22,000 to help New York colleagues

Ames firefighters raised more than $22,000 recently for New York firefighters who died and for their families who are suffering as a result of the Sept. 11 attack on the World Trade Center.

"Our focus was to send these contributions to the families of the fallen firefighters," said Ames Fire Chief Gary Alstrand.

Beginning Sept. 15, members of the Ames fire department stationed themselves in front of the military commissary at Moffett Field to collect donations for the victims of the intentional airplane crashes and the resulting fires, smoke and building collapses that killed thousands of people, including many emergency workers. Later, Ames firefighters stood outside the center's cafeteria, Mega Bites, to collect additional funds to help victims of the terrorist acts.

"The money was raised in four days," Alstrand said. "The effort that we made is standing completely in the shadow of what people at Moffett Field are doing when they give. They see a fire truck and a firefighter's boot on a table, and they put contributions in the boot. This is what we call a boot drive," the chief explained.

The collected money is being sent to New York firefighters with no money removed for handling or other services at either Ames or New York, according to Ames Fire Marshal Joe Gippetti. "Thank you to the Moffett community for opening their hearts to firefighters and to the surviving families," he said.

Persons who would like to donate funds on their own can check the internet at http://www.firehouse.com and click on "9-11 fund." The street address for the fund is: New York Firefighters 9-11 Disaster Relief Fund, c/o Firehouse.com, 9658 Baltimore Ave., Suite 350, College Park, Md 20740.


*photo by Eric James*

*Members of the Ames fire department raised more than $22,000 for New York firefighters who died and for their families who are suffering as a result of the Sept. 11 attack on the World Trade Center. From left to right: firefighters Frank Lopez, Marc Angelo, Paolo Braganza and Tim Frasch holding the boot during the firefighters 'boot' drive.*

BY JOHN BLUCK

# Ames' remote sensing aids firefighters

An Ames aerial-sensing system that employs a remotely piloted aircraft recently showed it can provide life-saving images of wildfires and other catastrophes to disaster managers in near real-time via the Internet.

Called Altus II, the experimental 'uninhabited aerial vehicle' (UAV), carrying 200 pounds of camera and communications gear, flew between 10,000 feet and 15,000 feet altitude over a small, controlled fire near an airfield in southern California. The airplane is able to fly high enough for a wide view and carries a television camera as well as a digital, multi-spectral scanner that can spot flames through smoke.

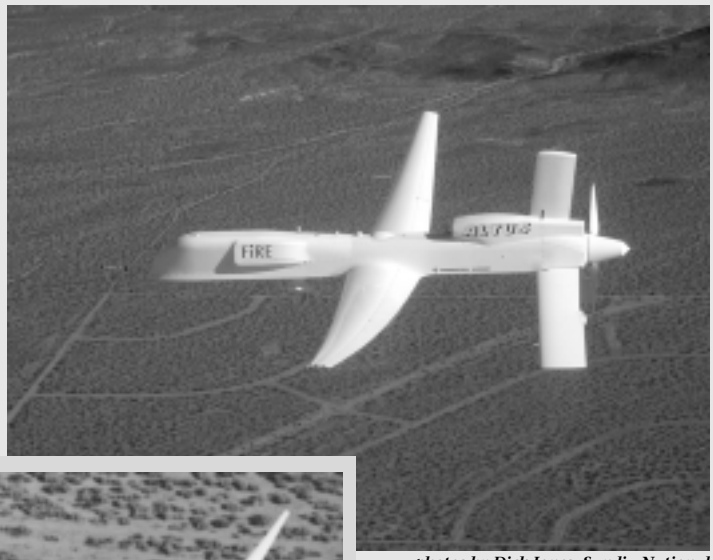
"We successfully demonstrated the ability to send geo-registered imagery through the internet in near-real time," said Ames' Steve Wegener of Code SGG, who leads the sensors and science portion for the project. "This is the only civilian UAV airborne system that can put near real-time geo-registered multi-spectral imagery of disasters on the internet."

"The focus of the UAV disaster-monitoring program is getting the right information to the right people at the right time," said Wegener. "In the case of fires, we can provide wide-view aerial fire images that disaster managers have never had before and that they can overlay on maps that show exact locations of assets such as fire engines. The firefighters can react more quickly to emergencies and send assets to trouble spots."

The Altus flew over a controlled propane fire at an airfield in El Mirage, Calif., on a small, dry lakebed south of NASA Dryden Flight Research Center, Edwards, Calif. "We had a practice flight on Sept 5 and then a real demonstration on Sept. 6," Wegener added.

The remotely piloted plane sent images and other data to the InMarsat satellite. Communications systems in Australia and other locations around the world received the satellite's signals. This digital information was transferred to Ames for real-time image processing. Ames scientists overlaid the fire information on maps and posted them on the worldwide web. The entire process took 10 to 15 minutes.

Although fire management agencies currently use piloted planes to observe fires, these planes usually fly lower, view a smaller area, and often must land to provide images for interpretation and delivery to command posts, said Wegener. "The delay can be significant when getting images on a timely basis is crucial."




*photos by Dick Jones, Sandia National Laboratory, Livermore, Calif.*

*The Altus II remotely piloted experimental 'uninhabited aerial vehicle' (UAV) flying over the test fire at El Mirage, Calif.*

"National press and observers from the disaster community, including fire-fighting managers and U.S. Forest Service representatives in particular, attended the demonstration," Wegener said. "It was a huge stride forward to provide that geo-registered imagery in almost real time. Normally, it would take substantially longer to process the data. I think this is a big step for NASA in demonstrating the ability of the agency to use remote-sensing platforms to monitor disasters," he said.

"It was a big, personal milestone for me and the team, too, but that's just the beginning," he said. "We are developing this technology to enable people to better manage many kinds of disasters including fires, floods and earthquakes. During the next three years we expect to conduct three UAV disaster demonstrations," he added.

"We are looking forward to taking the next step, flying over the western states to demonstrate the endurance of UAVs and their ability to acquire disaster management data and distribute it quickly," he said. "We hope the combination of sensors, UAV technology and internet delivery will mature so that it can help firefighters view and combat large fires that exceed local capabilities."

The research team is proposing another project that may use a bigger UAV, the Altair, which has a longer wingspan, and can fly as high as 52,000 feet. That aircraft can fly more fire-monitoring instruments further and for a longer time than the smaller Altus that has a 55-ft. wingspan and can fly up to 45,000 ft. in one configuration.

Altair has a 4,200-mile range, and can stay aloft as long as 32 hours. Altair can carry a thermal imager capable of seeing through smoke, and may also fly a small synthetic-aperture radar (SAR) that can see through water vapor, clouds and smoke. SAR can provide very detailed images of flooding, damaged buildings and other infrastructures difficult to detect, especially in bad weather.

"Near real-time delivery of aerial images and data via the internet can enable anyone to pinpoint key disaster locations, including roads, schools, homes and flood plains," Wegener said. Scientists also foresee using the emerging UAV technology to monitor other conditions on Earth such as climate change, air quality and crop conditions.

The research team includes NASA's Environmental Research Aircraft and Sensor Technology (ERAST) project; the California Resources Agency; the U.S. Forest Service, Los Angeles County; and the National Interagency Fire Center, Boise, Idaho. The team cooperated in the demonstration, the first response experiment that combined the remotely piloted aircraft, remote sensors and advanced information technology to send over-the-horizon pictures and data to the internet in near real time.

Archived examples of real-time imagery of the controlled burn experiment can be seen on the internet at: http://geo.arc.nasa.gov/sge/UAVFiRE

BY JOHN BLUCK

# Event Calendar

**Model HO/HOn3 Railroad Train Club** at Moffett Field in Bldg. 126, across from the south end of Hangar One. Work nights are usually Friday nights, 7:30 p.m. to 9:30 p.m. Play time is Sundays, 2 p.m. to 4 p.m. 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,** starts Sept 4. Palo Alto Bowl on Tues nights. Seeking full-time bowlers to fill out teams and substitutes. Pre-league meeting at Palo Alto Bowl on Tues, August 28 at 6 p.m. Questions about the league or wish to sign up, contact Mike Liu at ext. 4-1132.

**Ames Diabetics (AAD)**, 1st & 3rd Weds, 12 to 1 p.m., at Ames Mega Bites, Sun rm. Support group discusses news affecting diabetics. POC: Bob Mohlenhoff, ext. 4-2523/email at: bmohlenhoff@mail.arc.nasa.gov.

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

**Ames Sailing Club Mtg**, second Thursday each month, 11:30 a.m. to 1 p.m, bldg. N262/Rm 100. Brown bag lunch, usually includes a special speaker. Come learn about sailing. Everyone welcome. POC: Stan Phillips, ext. 4-3530 or Joyce Barrett, ext 4-3816.

**Ames Contractor Council Mtg**, Oct 3, 11 a.m., N-200, Comm. Rm. POC: Paul Chaplin at ext. 4-3262.

**Environmental, Health and Safety Monthly Information Forum**, Oct 4, 8:30 a.m. to 9:30 a.m., Bldg. 19/Rm 1040. URL: http://q.arc.nasa.gov/qe/events/EHSseries/ POC: Julie Quanz at ext. 4-6810.

**Nat'l Association of Retired Federal Employees, (NARFE),** Oct 5, S. J. Chapter # 50 mtg, 9:30 a.m., Hometown Buffett, Westgate Mall, 4735 Hamilton Avenue, San José. Lunch at 11 a.m. $6.27 pp. Program at 10 a.m. Peninsula Stroke Association. POC: Earl Keener (408) 241-4459 or NARFE 1-800--627-3394.

**Ames Federal Employees Union (AFEU) meeting,** Oct 17, 12 p.m. to 1 p.m., Bldg. 19, Rm 1042. Info at: http://www.afeu.org. POC: Marianne Mosher at ext. 4-4055.

**Ames Amateur Radio Club**, Oct 18, 12 noon, N-T28 (across from N-255). POC: Michael Wright, KG6BFK, at ext. 4-6262. URL: http://hamradio.arc.nasa.gov

**Native American Advisory Committee mtg,** Oct 23, 12 noon to 1 p.m., Building 19, Rm 1096. 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

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.

Two sunny, pleasant furnished bdms for rent in home in the Los Gatos/Campbell area of San Jose for professional non-smoker. Off-street pking, safe family nghbd, most utilities incl. Long term preferred, shorter term possible for summer/fall. Shared bath/kitchen. Lease/deposits required. Call (408) 266-7272 and lv. message.

Townhouse for sale: 2 bd/1.5 ba, 4 miles and 10 minutes from Ames; best area of Sunnyvale, across from elementary school, lg patio, priv hot tub & orange tree, complex pool, fireplace, large greenbelt in front, close to Hwys 85 & 280 & El Camino Real, washer, dryer, refrigtr can remain (plus dishwasher); going on market soon; new carpets & paint; $365K. Call (408) 245-8256.

Furnished 11x14ft room in 4 bd/2bth house at Sunnyvale & Olive. Less than 3 miles to Moffet. Near Caltrain,mrkt,freeway,gyms. Female Prof./Student wanted. $750. util not incl. Avail Sept.23 sunnypoohbear2001@yahoo.com. Call (408) 530-8547.

MV shared housing: Seeking mature prof female to Share town home with 2 prof females. Spacious furnished bdrm/shared bath, avail Oct. 1. N/S, N/P, D/W, W/D, CATV, sep phone line, small yard. Near downtown, Cal Train, light rail. $750/mo plus 1/3 utils plus 350 deposit. Chris (650) 967-8773.

For rent: Sunnyvale house. 2bd/1ba plus laundry, yard, gardener. Recently remodeled. Convenient to Ames and downtown. $1,800. Call (408) 736-8260.

House for rent, 3 bedroom, 1 bath, with fireplace, 2 car garage, large yard, $2000 per month. Close to Ames. Available: 10/2. Call (650) 851-8947.

For sale: 5 bedroom, 3 bath, 2,400+ sq. ft. Cupertino home on 9,700+ sq. ft. landscaped lot for sale, $988,000. Call (408) 985-9222 or (925) 516-7001.

## Miscellaneous

Aquarium, 55-gallon, fully equipped and currently operational. Includes some gorgeous fish, $100. Call (408) 296-8182.

Solid oak entertainment center white wash, smoked glass, holds a 32" TV gd cond. $200 or B/O. Ryan (650) 604-5974 or (408) 615-1420.

Space Art from Kim Poor's Gallery. All numbered prints. Most professionally doubled matted and framed. Some rare collectors prints. Shirley (408) 777-8048

Climbing gear, woman's harness. size small (about a size 6-8). Used 3-4 times in indoor climbing gym. Shirley (408) 777-8048.

Temporary employment through a NASA contractor located at Ames. Males and females aged 25 to 55 are needed for bed rest studies. A time commitment of 74 days, which includes 30 days of bed rest, is required. For more information, call The Human Research Facility at ext. 4-5551.

Two pair of double, prairie-style casement windows removed from 1923 California Bungalow home, victims of a remodel. Good condition, Call for pics, $125. Call (408) 295-2160.

New roof shingles: Pabco Premiere 40-year composition, Color: Weathered Wood, 6 bundles (150 sqft) $25. Call (408) 295-2160.

Pair of San José Sharks hockey tickets for games on Dec 28 (vs NY Rangers) and 30 (vs Phoenix) available. Tickets are $68 per pair. Call (408) 735-0524.

## 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.

'87 Toyota Corolla SR5, maroon, 5 speed, 71k miles. More than excellent condition. Original owners. $4,000. John (408) 779-6041.

'95 Ford Ranger XLT ext cab, Automatic, 3.0 V-6. Excellent condition. 1 owner with complete service records. Sport seats, AC, cruise, pwr mirrors, bedliner. $7200. Call Steve tues-thurs. (650) 966-1206 or fri-mon. (831) 648-1423.

## Ames public radio

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

## 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* |
|---|---|
| *Mon, Oct 8* | *Mon, Oct 15* |
| *Mon, Oct 22* | *Mon, Oct 29* |
| *Mon, Nov 5* | *Mon, Nov 12* |

# 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. Make your reservations for Chase Park.

### Mega Bites (Ames Café) N-235 (6 a.m. to 2 p.m.) ext. 4-5969

Catering is available for your office BBQ 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

Check web site for 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 w/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 eqpd. kitchen. Access to priv. beach. Tub in patio gdn. Halfway between Carmel & Big Sur. $175/night for 2, $225 for 4 & $250 for more, plus $150 cleaning dep. Call (650) 328-4427.

## Exobiology event postponed

In view of the recent tragic events, the heightened security concerns at the center and the uncertainty of air travel, the seventh triennial Exobiology Principal Investigator Science Conference (web site: http://exobiology.arc.nasa.gov/meeting) that was scheduled to be held on Oct. 15 -19 at Ames has been postponed to October 2002.

## Computer Museum History Center lecture set

On Oct. 17, at 6 p.m., the Computer Museum History Center will hold a panel discussion on 'Early Computer Mouse Encounters' with Doug Engelbart, Daniel Borel, Niklaus Wirth, Jean-Daniel Nicoud and Stuart Card. The inventor, early developers and proponents of the computer mouse will relay insider stories of how the concepts came about and they were implemented.

The lecture is at the Xerox PARC Pake Auditorium, 3333 Coyote Hill Road, Palo Alto. It is free of charge. This event is sponsored by the Computer Museum History Center.

RSVPs are required by Oct. 15.Call ext. 4-2714 or you can send an email to lectures@computerhistory.org. www.computerhistory.org


THE AMES Astrogram

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