



# ASTROGRAM

Newsletter of NASA Ames Research Center, Moffett Field, California

May 2007

## NASA completes first checkout flight of airborne observatory

NASA recently successfully completed the first of several planned checkout test flights of the Stratospheric Observatory for Infrared Astronomy (SOFIA) aircraft.

The flight took place in Waco, Texas, to observe the low-speed and low-altitude handling performance of the aircraft. NASA research pilot and former astronaut Gordon Fullerton led the crew making the historic first flight.

"Today's first flight of SOFIA is a major milestone for the program and I want to thank the entire SOFIA team for all of its hard work over the years in making this first flight a success," said Jon Morse, director of the Astrophysics Division, NASA Headquarters, Washington.

The tests are required prior to the aircraft's ferry flight to its home base at NASA's Dryden Research Center, Edwards, Calif., tentatively scheduled for late May or early June. Once the aircraft arrives at Dryden, further development and a series of flight tests will take place leading up to science observations scheduled for 2009 or 2010.

Prior to this first successful flight, the airplane underwent major modifications at L-3 Communications Integrated Systems in Waco, Texas. To enable the 45,000-pound infrared telescope to scan the skies, the 747SP was modified by cutting a 16-foot tall opening in the aft fuselage, and equipping it with a sliding door. By flying at altitudes above 40,000 feet, this special 747SP will rise above most atmospheric water vapor to give the 98.4-inch diameter infrared telescope clear access to collect infrared images from space. The telescope can be positioned anywhere in the skies, unlike ground-based telescopes, and between science missions it can be serviced and reconfigured as needed to accomplish world-class astronomy.

SOFIA will study the universe in the infrared spectrum. SOFIA also will be used to develop observational techniques, new instrumentation, and to educate young scientists and teachers in the discipline of infrared astronomy.

SOFIA is a joint international effort by NASA and DLR, the German Aerospace Center. The aircraft will be based at Dryden.

SOFIA's science center is located at NASA Ames. The entire effort is supported by Universities Space Research Association (USRA), a non-

profit group of universities created in 1969 by the National Academy of Sciences, as well as the Deutsche SOFIA



The Stratospheric Observatory for Infrared Astronomy (SOFIA) aircraft during its first test flight in Waco, Texas on April 26, 2007.

Institute (DSI), Stuttgart, Germany. For more information about SOFIA, visit: [www.sofia.usra.edu](http://www.sofia.usra.edu)

BY MICHAEL MEWHINNEY

## NASA's Phoenix to seek organics in Mars' ice to unravel Mars' mysteries

A spacecraft called Phoenix is destined to land on Mars in 2008, seeking to unravel some of the mysteries of the red planet.

Back on Earth, NASA Ames scientist and Phoenix biological interpretation co-investigator Chris McKay will anxiously await results radioed from the red planet for clues about possible organics on Mars.

"What I hope we find is organic material in the ice," said McKay. "We know from Viking that there's very little, maybe no organic materials in the soils. We're hoping that the ice in the polar regions could preserve organics." NASA sent two Viking landers to Mars in 1976, which landed in non-icy zones, but neither found any organics in those areas.

NASA has scheduled the Phoenix lander spacecraft for launch in August 2007. In May 2008, Phoenix is to land in an ice-rich area in the northern polar region of the planet between 65 and 72 north latitude. The lander's robotic arm will dig into the arctic terrain in search of clues about the history of water on Mars, and also for evidence of organics.

*continued on page 5*

### On the Inside . . .

**Page 2** - Ames holds major earthquake disaster simulation

**Page 3** - New badges to be issued

**Page 7** - Way to Go! Recognizing employees

**Page 14** - Ames Ongoing Events

**Page 15** - Ames Classifieds

## Ames holds major earthquake disaster simulation

To kick off the biggest drill ever conducted at Ames, sirens sounded in the distance at about 9 a.m., May 11, 2007, to begin an earthquake simulation. A fire engine sped to the main administration building, N-200, and stopped there with emergency lights flashing.

The air was chilly, and the sky was dark with high fog, or overcast in places, but the sunshine in most places made the morning pleasant. Outside each Ames building, managers called roll and checked off names of building residents before groups began to walk to the emergency assembly point on the tarmac in front of Ames' main hangar.

"It reminds me of being back in kindergarten and walking in a group," said one Ames employee who declined to be identified.

A group from Bldg. 943, just outside the main gate, was walking towards the main hanger, N211, and past the circle near Bldg. N-200. The air was cool and breezy.

"It's just my walking exercise for the day," said Kelly Garcia.

"I think it's motivational - great practice," said Horacio Chavez, who works in the Exploration Center.

As the group crossed from the sidewalk near Hangar 211 onto the tarmac, its members crossed a metal ramp. The group headed for a red flag that marked the rendezvous place on the tarmac.

Asked why the drill was taking place, Khanh Dang, a volunteer waving the red flag said, "We're doing the exercise because we need to evaluate how many people we need to evacuate out of the buildings." She added that, "We want to find out what buildings are damaged and who got trapped in them."

Ames Center Director S. Pete Worden was standing nearby. He was 'killed' in building N-200, but still commented to members of the small group from N-943, saying a lot of places in the United States are subject

to possible disasters.

"Earthquakes impact this area," he said. It is important for Ames people to participate in a practice drill at least once to be prepared for a real disaster, Worden observed.

Jonas Dino of the Ames Public Affairs Office approached wearing a bright yellow vest. Two men, carry-

be the hardest hit. Chlorine gas was leaking from derailed railroad cars in Santa Clara. And - oh yes - there was no electric power, and there were no operating toilets.

One good thing - Mewhinney noted - was that Ames' emergency radio station, AM-1700 on the radio dial, was broadcasting emergency information. He rattled off a list of damaged buildings and said there were 25 walking wounded, five dead and 300 people unaccounted for.

Acting a bit disoriented, Melody Miles, who had simulated wounds painted on her left arm and her face wandered over to the public affairs group. She said she had been injured in Bldg. N255.

"Stuff fell," she said. Laura Lewis of Ames led Miles to Mike Dudley who had a two-way radio.

"Yeah, Phil, I've got a simulated injury at the red flag," Dudley calmly spoke into his two-way. "This is part of the drill," he added.

Ames' Associate Director for Institutions and Research Steven Zornetzer walked to the public address microphone in front of the hangar doors to speak to the crowd.

He answered the obvious question, why were most folks asked to walk to the hangar?

According to Zornetzer, going to the tarmac gets most people out of the dangerous area so there is less chance people will go back into damaged buildings to try to rescue colleagues - work better left to trained emergency responders. The gathering place in front of the hangar also serves as a large triage - so emergency workers can get a better idea of who is missing and who might need to be rescued.

In addition, Zornetzer said, people who are willing to volunteer can be sorted out - and messages can be provided to the crowd in an efficient manner.

Zornetzer gave the gathering more information about the simulated earth-

*continued on page 4*



NASA photo by Jim Taylor



NASA photo by Eric James

NASA Ames held its largest emergency drill on May 11, with employees evacuating their buildings to meet at the tarmac of bldg. N-211 (top photo) and employees with simulated injuries around the center (center and bottom photos.)



NASA photo by Jim Taylor

ing equipment and a tall metal pole, walked over to Dino.

"We've got a network connection for you guys - wireless," one of the men said. They talked with Dino, and walked towards the hangar to begin to set up their equipment.

Mike Mewhinney of the Public Affairs division briefed his small group.

"Today's event is a 7.3 earthquake on the Hayward fault," Mewhinney began to read from a prepared set of papers. "There is no voice or data service working," he added. He read more details of the simulated disaster. There was spotty cell phone service. Damage was reported as far away as Sacramento. The cities of Oakland, Hayward and Fremont appeared to

## New badges to be issued to all Ames employees

In the next few months, NASA Ames employees will be introduced to several changes that will affect facility and computer access as a result of Homeland Security Presidential Directive 12 (HSPD-12).

Signed by President Bush on Aug. 27, 2004, the directive requires the implementation of a government-wide standard for secure and reliable forms of identification issued by the federal government to its employees and contractors. Development of the standard was assigned to the National Institute of Standards and Technology (NIST) under the Department of Commerce, which has issued a standard for a common Personal Identity Verification (PIV) system that will be used government-wide in accessing federally controlled facilities and information systems

"The centerpiece of HSPD-12 and the PIV system is a new badge that will be issued to all civil servants and contractors," said Ray O'Brien, Ames' HSPD-12 implementation manager (Code JTS). The badge will permit greater access control of both the physical and information technology (IT) assets at Ames, O'Brien added. New badges will be issued to all permanent employees, both civil service and contractor, by Oct. 27, 2007. After that date, current NASA badges no longer will be accepted for facility access. Over the next three years, these badges will be phased in for computer and systems access instead of a user ID and password

These badges will have several benefits:

- **Easier access:** With each employee having a common 'identity' across all government agencies, access to other centers or government institutions will be easier. Employees from Ames who visit other centers, for example, can use the same badge to enter another site and will not have to undergo any additional background checks. Eventually, those moving between centers will find it much easier to gain access to information

technology resources than is currently the case.

- **Single sign-on:** Eventually, many NASA desktop computer applications will not require a subsequent log-on action if the user previously gained access to the desktop computer using his/her badge; and

- **Better workplace security:** Increased levels of identity verification,

Many current civil servants already have a NACI, while about 60 percent of the contractor employees do not. The Projective Services Office is currently sending notifications to contractor employees requesting information necessary to initiate the NACI investigation, which must either be initiated or completed for each contractor employee before they can



photo by Astrid Olson

Employees at Ames, civil servants and contractors, will be issued new badges by Oct. 27, 2007. The NASA Ames Visitor Registration and Employee Badging Office, Bldg. 26, located to the right of the front gate as one enters Moffett Field. Hours for visitor badging are 6 a.m. to 6 p.m. and for employee badging (badging window) from 10 a.m. to 4 p.m., Monday through Friday.

including background investigations for all who require routine access, will help to ensure a safer and more secure work environment.

- **Reduced identity fraud:** The new standardized badging process required by HSPD-12 is designed to help reduce identity fraud and protect the personal privacy of those who are issued government identification.

Before employees can be issued new badges, however, they must provide personal information that will be used to confirm their identity, as well as agree to a background investigation and FBI fingerprint check. For most people, this will mean a National Agency Check (NAC) with Inquiries (NACI), according to Wende Hower, personnel security manager in Ames' Protective Services Office.

be issued their new badges. A NACI consists of a NAC with the added security of written inquiries and searches of records covering specific areas of an individual's background during the past several years.

"At this point in the process, we are working on verifying the identity of each employee," Hower said. "Once the employee's identity is verified, following completion of a background investigation and fingerprint check, the badging process can begin." Before a badge will be issued, the employee must present two forms of valid identification to a badging clerk. Current badges may not be used as an identification document for the rebadging process, as the agency did not require that records

*continued on page 12*

## NASA awards heat shield material contracts for Orion spacecraft

NASA has selected The Boeing Company, Huntington Beach, Calif.,

manufactured by its subcontractor, Fiber Materials, Inc., Biddeford, Maine.



NASA photo

Arc Jet test at the NASA Ames Interaction Heating Facility (IHF) (top view) with thermal protection system (TPS) material coupon glowing after test completion.

The alternate materials will be developed fully only if the primary material does not perform to Orion Project specifications. NASA will assess and evaluate all of the Alternate Block 2 TPS materials through initial testing and select the most promising of the materials for further

The Alternate Block 2 contract awarded to Boeing has an approximate value of \$10 million, including all options, and calls for Boeing to perform early investigation of a proprietary material, the Boeing Phenolic Ablator (BPA).

The contract awarded to Textron has a value of approximately \$24 million, including all options, and calls for Textron Systems to perform early investigation of two proprietary material options, Avcoat (used on Apollo) and Dual Layer.

Each contract has a 16-month performance period from May 4, 2007, until Aug. 31, 2008.

For more information about the Orion heat shield, see: <http://www.nasa.gov/centers/ames/research/humaninspace/cevheatshield.html>

For information about Orion, visit: <http://www.nasa.gov/orion>

and Textron Systems, Wilmington, Mass., to develop alternate heat shield materials for the Orion crew exploration spacecraft.

The Orion Thermal Protection System (TPS) Advanced Development Project, led by NASA Ames, was established to develop a heat shield to protect Orion during its return from low-Earth orbit or the moon. NASA's Constellation Program is developing Orion as America's primary vehicle for future human space exploration. Orion will carry astronauts to the International Space Station by 2015, with a goal of landing astronauts on the moon no later than 2020.

The two contracts for Alternate Block 2 TPS Materials and Heat Shield Systems Advanced Development will support development and testing of three alternative heat shield materials, designs and manufacturing processes. Under the contracts, the companies will work to ensure the technologies are mature enough to become viable backups if there are difficulties with the primary material.

In September 2006, Boeing was awarded a contract to develop the primary heat shield material, Phenolic Impregnated Carbon Ablator (PICA),

development, if needed.

## Ames Earthquake simulation exercise

*continued from page 2*

quake. There were hazardous spills. The fire department was gathering information from the safety people, and the health unit is the casualty collection area, he said.

There is an emergency telephone number with information (650) 604-9999 - in addition to the emergency radio station.

Zornetzer then turned to the question of when would people leave for their homes. "The roads are an absolute mess, anyway," he said, suggesting people should stay for a while. "You'd add to the traffic jam. We'll need to check you out so we won't search for you," he added.

Dino introduced Worden. "I know I'm a remarkably realistic looking corpse," he joked. "Real disasters occur," he said. "There's a real possibility of a disaster (happening) here," he continued. "I encourage people to observe, learn and give us a little feedback. I think (this exercise) could save your life and others," he predicted.

Walking back to the office, the external affairs group saw Joan McCullough on the lawn next to Bldg. N-241. She had faked injuries. The group debated if she was 'dead' or just knocked out. Her eyelids flickered and her lips were fighting a smile.

John Schultz called on his radio for help, quickly adding that the call was not for a real emergency. Later, it was heard that McCullough had probably 'died' because the group did not react fast enough.

The group then returned to its starting point near N-943, debriefed and asked questions, such as what happens with school groups in the Exploration Center. Are they also to be brought to the tarmac? Are there enough emergency batteries, radios, food and other supplies in the area? Lorie Moody made an action list of things to do. Across the center other groups did the same thing - all to prepare for the 'Big One.'

BY JOHN BLUCK

## Phoenix to seek organics in Mars' ice to unravel mysteries

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"It's got an arm that will dig to reach the ice which is below ground," McKay explained. "At the site where we're landing, we think we have to go down four to eight centimeters, about 1.6 to three inches, down."

Phoenix will deploy its robotic arm that is capable of digging trenches as deep as 1.6 feet (about one half meter) into the soil, or to the top of an ice boundary, during the course of the 90-day mission.

"We can identify organic material, but we won't be able to determine if it is biological," said McKay. The organic material could be biological, or it could be meteoritic – delivered by meteors from space, according to McKay.

To analyze soil samples collected by the robotic arm, Phoenix will carry eight small ovens in a portable laboratory. Selected martian samples will be heated to release volatiles that can be examined for their chemical composition and other characteristics. The instrument that will look for organics is the Thermal and Evolved Gas Analyzer (TEGA.) It will heat samples that the arm has retrieved to temperatures as high as 1,832 degrees Fahrenheit (1,000 degrees Celsius) and will examine the vapors released from the heated samples, according to McKay. Scientists say the samples could be martian dirt and ice.

The University of Arizona, Tucson, is developing TEGA. The TEGA principal investigator is Professor William Boynton.

"What I hope will happen is we'll get to the ice and scrape up a little piece of it, put it in the TEGA oven, and we'll find that it is rich in organics," McKay said. "It would mean that the ice is the place to find organics. Phoenix will be the test." The subsurface layers of ice, originally indicated by sensors on the Mars Odyssey spacecraft and recently imaged by the MARSIS radar on the European Space Agency's Mars Express spacecraft, could be an organic-rich, frozen soup, according to McKay.

Speaking about the significance of finding organics in Mars' polar ice, McKay said scientists would not know from the Phoenix mission how the organics were formed. "We'll know

that they're there, and that's pretty exciting," he said.

"Finding organics in the ice would mean that the ice in the polar regions is where we might find evidence of past life – frozen and dead in the dirt and ice," McKay said.

"There is no liquid water on the surface, but there is evidence that there was liquid water on the surface in the past," McKay noted. "There is some possibility that there are active water features on Mars today, but it's not certain," McKay added, referring to recent evidence from NASA's Mars Global Surveyor spacecraft that gullies on the planet may have been produced by recent flows of liquid water.

Asked about how proof of organics uncovered by Phoenix in the red planet's ice might influence the future exploration of Mars, McKay said, "It would mean that the poles are where we're going to go next." McKay noted that the Mars Science Laboratory (MSL) rover is designed for operation in zones where ice is not predominant.

"I'm hoping that the next one after the MSL, unofficially named the Astrobiology Field Laboratory – also a rover – would examine a martian region where ice is prevalent," McKay ventured. The Astrobiology Field Laboratory could be designed to cope with icy martian areas, according to McKay.

In addition to looking for organics, scientists will conduct other studies of Mars' polar region using Phoenix, which is not a rover, but instead will remain where it lands. The Phoenix mission is the first mission chosen for NASA's Scout program, designed to produce smaller, lower-cost, competed spacecraft.

The Phoenix mission is derived from two previous missions. Named for the resilient mythological bird,

Phoenix will use a lander that was intended for use by 2001's Mars Surveyor program before NASA cancelled the lander portion of that program.

Phoenix also will carry a complex suite of instruments that are improved variations of those that flew on the unsuccessful Mars Polar Lander mission that failed to return a signal to Earth from the red planet's southern polar region in 1999.



*An artist's rendition of the Phoenix lander, by Corby Waste of the Jet Propulsion Laboratory. The Phoenix is scheduled for launch in August 2007 and will land on Mars in May 2008. The lander's robotic arm will dig into the arctic terrain in search of clues about the history of water on Mars and also for evidence of organics.*

Engineers originally designed the martian lander to land in lower, warmer latitudes on Mars, where, presumably, there is softer dirt. Phoenix mission scientists are working to resolve the problem that the spacecraft was designed to work in softer soil. Scientists expect that ice on Mars will be very hard, because the temperature of ice on the red planet is extremely low.

Imaging technology inherited from both the Pathfinder and Mars Exploration Rover missions also will be used in Phoenix's stereo camera, located on its 6.6-foot (2-meter) mast. The camera's two 'eyes' will reveal a high-resolution perspective of the landing site's geology, and will also provide range maps that will enable the team to choose ideal digging locations. Multi-spectral capability will enable Phoenix to identify local minerals.

To update our understanding of martian atmospheric processes, Phoenix will probe the martian atmo-

*continued on page 8*

# Ames employee named one of first NASA Technical Fellows

Cynthia Null, a member of the NASA Engineering and Safety Center (NESC) who works at NASA Ames, was named one of the first 12 NASA technical fellows in a ceremony held in April in Hampton, Va.

The NASA Technical Fellows Program was established to recognize technical excellence and provide agen-



Cynthia Null of Ames, recently named one of the first 12 NASA Technical Fellows.

cy-wide leadership of their respective disciplines as members of the NESC in support of the Office of the Chief Engineer.

NASA Chief Engineer Chris Scolese said that the new designation was motivated by the success of NESC. Scolese presented each technical fellow with a plaque and his congratulations.

Consistent with NESC practice, the technical fellows will remain resident and actively engaged at their centers. The first 12 fellows reside at Ames, Goddard, Johnson, Langley and Marshall.

Other technical fellows named April 11 are Goddard's Michael Aguilar, software, Cornelius Dennehy, guidance, navigation and control, and Mitchell Davis, avionics; Johnson's Curtis Larsen, loads and dynamics, John McManamen, mechanical systems and Henry Rotter, life support/active thermal; Langley's Robert Piascik, materials, William Prosser, nondestructive evaluation, Ivatury Raju, structures, and David Schuster, aerospace; and Marshall's George Hopson, propulsion.

NESC Director Ralph Roe said that the idea of NASA technical fellows arose as part of the NESC practice of benchmarking against industry. Elevating distinguished technical employees is a well-established practice at some major corporations.

"NASA technical fellows will be role models for all of our engineers," said Roe.

Scolese added that NASA technical fellows would provide stewardship of their respective disciplines for the agency.

One example of that stewardship will be to foster consistency of agency-level standards and specifications, including those considered core standards. They will also promote discipline stewardship through workshops,

conferences and discipline advancing activities.

Four additional technical fellows are expected to be named this fiscal year, two more in fiscal year 2008 and one more in fiscal year 2009. Fellows are competitively selected. The need for additional technical fellows will be evaluated semi-annually.

BY KEITH HENRY

## NASA Partnerships Office Technology Showcase highlights collaborations

Over 300 Silicon Valley business representatives, venture capitalists, academics, city leaders, trade group representatives, technology consultants and others attended the NASA

areas including intelligent robots, space exploration and commercialization, nano-technology, small satellites, health management and voice-activated and wireless communications.

The Technology Showcase began with an opening address by Steve Zornetzer, Associate Director for Institutions and Research, and an over-



Julius Lin, founder and Chief Technology Officer, IntelligenTek Corporation (left) speaks with an attendee at the recent Partnerships Office Technology Showcase held in April at Ames.



Rex Ridenoure, CEO, Ecliptic Enterprises Corp., at the recent technology showcase held at Ames by the Partnerships Office.

Ames Partnerships Office Technology Showcase, held at Ames in April. The Partnership Office fosters technology partnerships, commercialization and innovation in support of NASA's mission.

The purpose of the showcase was to introduce the Silicon Valley business community to the Ames Partnerships Office and let them know how outside companies with a NASA programmatic 'fit' can partner with Ames -- via the Space Portal, the NASA Research Park (NRP), the Technology Partnerships Office and the SBIR Office.

A second goal of the showcase was to provide exposure and networking opportunities for more than 30 NRP partners who discussed their respective business operations and the benefits of partnering with NASA. NASA Research Park's partners are involved in diverse, programmatically-related

view of the Partnerships Office by its director Michael Marlaire, followed by a Q&A with the audience.

Eight NRP partners gave presentations, including M2MI Corp., Advanced Wireless Communications, Apprion Inc., Ecliptic Enterprises Corp., Honeybee Robotics, Tibion and Santa Clara University's CREST (Center for Robotic Exploration and Space Technology) program. Terry Fong of Ames also spoke about Google/NASA collaborations, with an emphasis on the planned disaster response project.

The showcase was profiled on Channels 2 and 7, on CNET and in the San Jose Mercury News. For images of the Technology Showcase, go to: <http://www.researchpark.arc.nasa.gov>

BY KATHLEEN BURTON

## Way to Go! Recognizing the deeds of Ames employees

This new monthly feature recognizes contractor and civil service staff for tasks and deeds that may otherwise go unacknowledged. When you witness a commendable action, please take a moment to write up a few sentences about the event, mentioning

the person who went that 'extra mile' by name. You can choose to remain anonymous; just indicate your preference when sending in your write-up. Thank you for taking the time to recognize the stellar actions of your fellow employees. Together, we make

NASA Ames more than just a research center; we make it a community! Submit your employee commendations to the Astrogram office by the 10th of each month to e-mail [astrogram@mail.arc.nasa.gov](mailto:astrogram@mail.arc.nasa.gov)

### **Recognizing Kevin Hoffman**

*"My computer recently began behaving strangely, so I called ODIN support and was assigned Kevin as my case manager. Kevin was technically superb - diagnosing, doing experiments, and ultimately correcting the problem. He made sure I was updated on the progress, and handled my worries with ease. I truly appreciated his friendly and professional style. Thanks Kevin!"*  
 -- Daniella Scalice, Education, Outreach and Communications Lead, NASA Astrobiology Institute

### **Recognizing Mike McIntyre**

*Mike McIntyre exhibited exemplary professionalism and dedication in his position of software lead on the GeneSat-1 project. Mike's work on the project was always well organized and very detailed. He demonstrated a great talent in communicating technical information to his co-workers in a well-structured format that eliminated confusion and kept his team on track.*

*Mike also excelled at running efficient ad hoc meetings to resolve technical problems as they arose. He always kept a steady and calm demeanor with his team members even during the most stressful of situations. Mike was always extremely focused on mission success and made personal sacrifices that included losing personal vacation days, working over the holidays, and staying as late as necessary, sometimes until 1 or 2 a.m. to complete mission-critical tasks. Mike's contributions were a crucial and direct element of the highly successful GeneSat-1 mission.*

### **Recognizing Gina Fox**

*The male must get through! Gina Fox Code C/J Secretary, outdid Paul Revere when Lew Braxton called from SFO airport exclaiming that he had forgotten to take his wallet with him. She managed to get his wallet to him before the flight took off.*  
 -- Shirley Prosper

### **Recognizing Teague Soderman and Kevin Martin**

*"These two fantastic people from the Ames New Business Office recently provided me extraordinary help and guidance in preparing and submitting a proposal. Teague created a template relevant to the guidelines in the RFP for me to work in and provided great editing support, and Kevin worked with me to prepare the budget in great detail. Beyond their technical expertise, their calming presence and cheerful, supportive style made the whole experience a stress-free pleasure. Thanks Teague and Kevin!"*  
 -- Daniella Scalice, Education, Outreach and Communications Lead NASA Astrobiology Institute

### **Recognizing JJ Toothman**

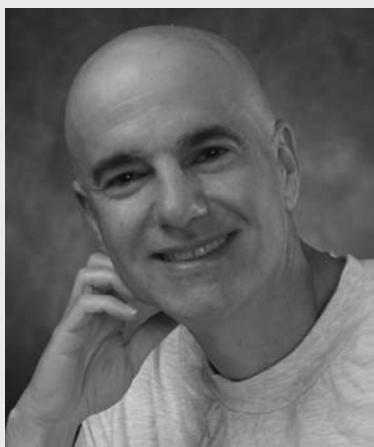
*Responding to Pete Worden's initiative to revitalize Ames web presence into an engaging new web site, JJ Toothman of the web services team, took initiative and jumped in to lead the development of an exciting new site that takes advantage of web 2.0 tools such as social networking, bookmarking and blogging. In the process he has drawn together members from all over the Ames community and fostered excitement and enthusiasm to spread the word about Ames using innovative, effective and cool new technologies. He is a top-notch creative and inspirational leader.*

### **Recognizing Rick Serrano**

*"I would like to put in Rick Serrano for kudos in the Way to Go article. Rick volunteers just about every morning and at lunch time to keep the Fitness Center's aerobic classes going strong. The participants appreciate his dedication in keeping everyone physically fit and preparing them for all the challenges that lie ahead. Way to Go, Rick!"*  
 -- Ames aerobic participants

## Two Ames 2007 Associate Fellows honored

One of the highest honors that we bestow on our scientific and engineering staff is selection as an Ames Associate Fellow. The award includes a \$4,000 personal honorarium, a \$2,500



*NASA photo*  
Dr. Jack Lissauer, recently was selected as an Ames Associate Fellow for his research achievements in astrophysics and planetary science.

travel grant and a \$40,000 research stipend.

Any civil servant with more than five years of service is eligible to win the award. The Science and Technology council is responsible for making the selections. The Ames Associate Fellows for this year are Dr. Jack Lissauer and Dr. Chris Potter.

Lissauer was selected for his research achievements in astrophysics and planetary science. He is internationally known for his models of planet and star formation and the detection of extrasolar planets. Lissauer and his team discovered a planet (GJ 876 d) that is just 7.5 times the mass of Earth, which at the time of its discovery two years ago, was by far the lowest mass and smallest extrasolar planet found by any method around a nearby star.

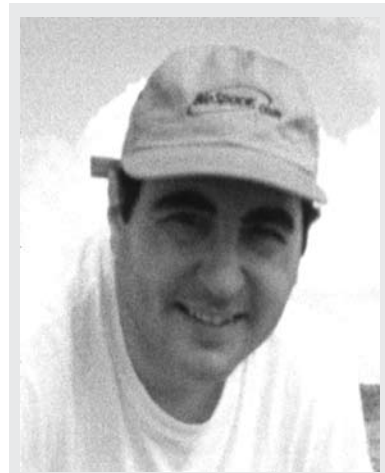
In addition, he has studied the abundance of habitable planets, rotation of planets and comets, cratering, circumstellar disks, resonances and chaos, planetary rings and moons, and spiral density wave theory. He has received many awards including the

1992 Harold Urey Prize of the Division of Planetary Sciences of the American Astronomical Society. He has published more than 80 peer-reviewed scientific papers and has delivered numerous invited lectures. He has been the editor in charge of Planetary Sciences for the journal *New Astronomy Reviews* and a member of many review panels.

Potter was selected for his research achievements in global terrestrial ecology. Recent research contributions span both the ecological and astrobiology research areas. His firsts include the design and implementation of a predictive global ecosystem model to explain the exchange of N<sub>2</sub>O, CH<sub>4</sub> and CO<sub>2</sub> between the atmosphere and the biosphere. The application of his modeling to address microbial ecosystems of the Early Earth, the influence of hydrology on Earth and Mars, and the consequences of changing land use on the Earth's carbon cycle have resulted in new advances in Astrobiology.

He has served as an invited author of the NASA HQ 'Earth Science Vision' for NASA's biological science research goals over the next 20 years, which largely form the basis for the next two decades of NASA research in

terrestrial ecology and global carbon cycles. He has published over 60 peer-reviewed scientific publications, four



Dr. Chris Potter, recently was selected as an Ames Associate Fellow for his research achievements in global terrestrial ecology.

book chapters and has been a book and journal editor.

The call for nominations for Ames Associate Fellows for next year will be sent out later this summer via a center-wide announcement. Nominations of eligible staff members may be made by any Ames staff member. Contact Dr. Stephanie Langhoff, Chief Scientist, at e-mail [slanghoff@mail.arc.nasa.gov](mailto:slanghoff@mail.arc.nasa.gov) for further information.

BY STEPHANIE LANGHOFF

## Phoenix to seek organics in Mars ice

*continued from page 5*

sphere up to 12.4 miles (20 kilometers) in altitude, obtaining data about the formation, duration and movement of clouds, fog and dust plumes. The spacecraft will also carry temperature and pressure sensors.

Principal Investigator Peter H. Smith of the University of Arizona, Tucson, leads the Phoenix mission. Project management is being led by NASA's Jet Propulsion Laboratory, Pasadena, Calif. Lockheed Martin Space Systems, located near Denver, Colo., is designing and building the

spacecraft and will provide Mars space flight operation for Phoenix. The Canadian Space Agency, the University of Neuchatel (Switzerland), the University of Copenhagen and the Max Planck Institute in Germany provide international contributions for Phoenix. JPL is a division of the California Institute of Technology in Pasadena.

For information about the Phoenix mission visit: <http://marsprogram.jpl.nasa.gov/missions/future/phoenix.html> and also <http://phoenix.lpl.arizona.edu>

BY JOHN BLUCK



## In Memory of . . .

### Three former Ames employees pass away

#### Odell M. 'Bill' Cox

Odell M. "Bill" Cox, 83, of Jacksonville, Ala., died May 5, 2007 at Jacksonville Medical Center. Funeral services were held in Anniston, Ala., on May 8.

Cox was retired after 38 years at NASA Ames. His faith was shown by example in all aspects of his life, to God, his family, his work, his church and helping others. He loved life and adored children. He was loved by everyone who crossed his path.

He is survived by his loving wife of 62 years, Jessie Corinne Cox of

Jacksonville, Ala.; his children, Gloria Jean Blevins and her husband, William of Jacksonville, Ala.; Lynda Louise George and her husband, Larry; and Sidney David Cox and his wife, Sharon, all of San Jose, Calif.; eight grandchildren, Les and Lisa Blevins, Christina Lesondak, Rocky Garman, David, Adam, James and Amanda Cox; his brother-in-law, Lowell Kuykendall and his wife, Wanda of Orange, Calif., and many nieces and nephews.



Odell M. "Bill" Cox

#### Lorraine Vernon

Lorraine Cunha Vernon, 84, died peacefully in her home on Feb. 8, 2007. Lorraine was born and raised in Santa Clara and graduated from Santa Clara High School in 1940.

She was employed at NASA Ames starting in 1942 and retired in 1959 to have her twin daughters. She returned to work in 1970 at NASA as personnel manager for the next 10 years.

Lorraine was a member of the Palo Alto Elks RV Club, Mother of Twins Club, Gamma Club and Sewing Club of Palo Alto. She loved traveling, dancing and shopping

#### Edwin Vernon

Edwin R. Vernon, 85, peacefully passed away at his home on March 16, 2007. He was born in Sanger, Calif., and raised in San Jose and attended San Jose High School and later San Jose Tech Trade School.

In 1943, he entered the U.S. Navy and was stationed at NACA at Moffett Field. He then continued his career at Moffett with NACA for 40 years, working in metal fabrication. Edwin was an avid duck hunter and fisherman and enjoyed traveling with his family and friends. He was a member of the Palo Alto Elks and

with her friends. Her hobbies included counted cross-stitch and knitting.

Lorraine was married for 60 years to Edwin Vernon who passed away March 16, 2007. She is preceded in death by her sister, Irene Zaro. She is survived by her daughters, Lynne Vernon of Sacramento, Janice Keplinger of Stockton, son-in-law Steven Keplinger and grandchildren

Matthew and Michelle Keplinger.

A memorial service was held on Feb. 15, 2007 at St. Claire's Church in Santa Clara, followed by a blessing at Santa Clara Mission Cemetery. In lieu of flowers, donations can be made to Pathways Hospice Foundation, 585 N. Mary Avenue, Sunnyvale, CA 94085



Edwin and Lorraine Vernon

Wheeler RV Club and 240 Duck Club of Los Banos.

Edwin was married to the love of his life, Lorraine C. Vernon, for 60 years. Lorraine passed away on Feb. 8, 2007. He is survived by his daughters Lynne Vernon of Sacramento, Janis Keplinger of Stockton, son-in-law Steven Keplinger, grandchildren

Mathew and Michelle Keplinger and brother Gregg Vernon of Fremont. A memorial service was held on March 22 at Santa Clara Mission Cemetery. In lieu of flowers, donations can be made to Pathways Hospice Foundation, 585 N. Mary Avenue, Sunnyvale, CA 94085.

## Ames' newly remodeled beach volleyball courts open



NASA photos by Dominic Hart

*Above photo, from left to right: Ames Center Director S. Pete Worden, Jack Stanley, Shirley Burek, Koushik Datta, Mike Benning and Larry Lemke at the red ribbon cutting ceremony in celebration of the opening of the remodeled beach volleyball courts at Ames held in early May. Worden cut the ribbon as well as performed the 'first serve' (left photo). Games are organized every day for pick-up games at noon. The courts are conveniently located on Durand Road, across the street from the Mega Bytes Cafeteria. Players of any skill level are welcome to join in the fun! Balls, provided by the Ames Exchange, are located on site.*

## Honey bee haven at Ames relocated to beekeeper in San Jose

It's called 'Colony Collapse Disorder' or more commonly 'Vanishing Bee Syndrome.' Either term means a loss in U.S. agricultural production, since bees pollinate fruits, crops and nuts on an annual basis. In the U.S. alone, this crop is estimated to be worth approximately \$15 billion.

All over America, beekeepers are opening up their hives in preparation for the spring pollination season, only to find that their bees are dead or have disappeared. So far, nobody knows why.

In April of this year, the Plant Engineering Branch at Ames successfully relocated three healthy hives, totaling about 25,000 worker and three queen bees, to a beekeeper in San Jose.

"Pest control is one of the branch's responsibilities," says Plant Engineering Branch Chief Steve Frankel. "We adopted Integrated Pest Management (IPM) some years ago as a method to

reduce pesticide use. IPM incorporates the least toxic methods, including relocation of beneficial pests if possible. Saving the bees was the right thing to do."

The hives were collected by A-Pro Pest Control Inc and relocated to Carriers Beekeeping in San Jose. The largest hive had about 20,000 bees and supported 30 pounds of honey. Carriers Beekeeping estimated the hive to be about three years old.

BY STEVE FRANKEL



Photo by Jason Fritz of A-Pro Pest Control

Jason Fritz from A-Pro Pest Control, with the hive he removed at Ames from an electrical vault in the east side airfield.

## Ames hosts festive Earth Day celebration

Ames held its annual Earth Day Fair on April 19. This year's event was held in conjunction with A.I.B. Express' NASA Supply Store annual customer-appreciation free lunch event at building N-255.

Ames Environmental Services Division showcased 'Commuter Alternatives' by bringing in exhibitors to educate employees on transportation options. Manufacturers of hybrid cars, all-electric cars, and electric motorcycles offered test drives, and representatives from all of the local mass transit agencies shared route information.

Other local non-profit organizations shared information about carpooling, vanpooling, transit-use incentives and the health benefits of alternative transportation.

The Ames Bicycling Club provided a wealth of knowledge about bicycling safety, local trail updates and information about bicycling in the cities surrounding Ames.

In addition to the fair, two environmental presentations took place. On April 17, the Environmental Services Division hosted Will Travis, executive director of the San Francisco Bay Con-

servation and Development Commission, for a presentation titled, 'Impacts of Global Warming on San Francisco Bay.' On April 19, the Bicycling Club hosted attorney Dawn Hassell for a presentation titled 'What You Need to Know about Bicycles and the Law.'

Rounding out the week's ac-

tivities, an electronic waste collection event was held on April 18 and 19 at the Exploration Center parking lot, during which household electronic appliances were accepted from employees and local residents by a third party recycler.



NASA photo by Dominic Hart

One of the commute alternative exhibitors from the Rideshare program at the recent Earth Day Fair held at Ames, sponsored by the Ames Environmental Division.

## Earth Day photo contest results announced

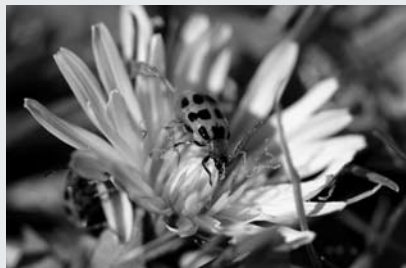
Ames Environmental Services Division hosted its annual Earth Day photo contest during the Earth Day Fair in April. Ames employees were encouraged to submit a photo they felt best reflected the meaning of Earth Day. Winners were chosen by popular vote at the April 19 luncheon.



Left: Second Place (tied): 'My Commute Alternative: Cost Efficient, Low Maintenance, All Natural and Very Caring,' by Faten Mansour.



First Place: 'As a Commute Alternative, Take Time off to Enjoy Earth's Beauty,' by Karen Heere (photo of her dog, Westy).



Second Place (tied): 'A Walk Through the Flowers,' by Joel Lachter.



Third Place: 'The Priests Come From Across the Lake by Canoe to Pray for the Earth,' Lake Batur, Bali, Indonesia, 2007, by Thom Ston.

## Google representative discusses impressive solar program

On May 3, Ames hosted Google's Robyn Beavers at a Director's Colloquium explaining the company's impressive use of solar photovoltaic panels on eight roofs of their Mountain View headquarters.

Google is now home to the largest commercial solar installation in the U.S. These panels produce 1.6 megawatts of power daily; about 30 percent of electricity consumption will be offset. To put it into perspective, this amount of energy could power approximately 1,000 California homes!

After a glowing introduction by MC Steve Hipskind, Ames chief of the Earth Sciences Division, and Ames Center Director S. Pete Worden, Google's Corporate Environmental

Programs Manager Robyn Beavers enthusiastically began her presentation.

Beavers gave a summary of Google's environmentally friendly culture, explaining the benefits that employees enjoy at headquarters including: free shuttles for employees commuting to work within a 50-mile radius, incentives for employees who use alternative modes of transportation, and the sale of organic foods on campus, most of which are grown locally. When Google employees caught wind of the solar panel installations, Beavers received many e-mails in support of the upcoming project.

The solar panels are installed on top of the existing roofs. There is no interruption of power when in

use, so power surges are not a concern. Sounds simple right? Well it is. Beavers explained that Google wants to see copycats of their solar panel system, "This would drive efficiency in the market and contribute to 'greening' of the environment."

After Beavers finished her presentation, a panel discussion was held, featuring Beavers, Steve Frankel, Walt Brooks, Scott Sandford, and Stephanie Langhoff - all of whom have had experience with using solar panels. Frankel gave details on the effort to install solar panels at Ames and said that "seeing a payback on the investment of the panels is a challenge." Panels were installed on two buildings at

*continued on next page*

## New badges are coming to Ames

*continued from page 3*

be kept to verify which IDs were used to issue the current badge. Only after these steps are completed, will the new badge be issued and activated.

Hower emphasized that background investigations will be conducted by personnel from the Office of Personnel Management who themselves have been the subject of in-depth background investigations. Information gathered in the course of an investigation cannot be shared with anyone not having a 'need to know'. All personal information collected and stored in federal information systems will be secured in accordance with the NIST operational, management and technical controls required to protect this category of information, the FBI will check employee fingerprints against its database of fingerprints from convicted criminals. Once it has been determined that employee fingerprints do not match any in the FBI's database, the digitized employee's fingerprint record will be erased.

O'Brien stressed that the implementation team is striving to execute HSPD-12 with as little disruption to the workforce as possible. Existing building access card readers are being tested to ensure they work correctly

### What HSPD-12 will mean to Ames employees

- Everyone who now has a permanent badge will be issued a new badge.
- All employees will have, at a minimum, a NACI background investigation.
- Everyone who has access to an IT system or application must first have a verified identity.
- All systems and applications will be reengineered to accommodate two-factor authentication or two forms of proof for access, such as a new badge and a PIN or password.

Access to IT systems and applications will be controlled more tightly than ever.

There will be changes in processes and procedures for all civil servants, contractors and partners coming to work at Ames after the implementation of HSPD-12.

with the new badges, and it is likely that older equipment will require replacement prior to issuance of the new badges. Changes to IT resources, currently in the initial planning phases, will occur over the life of the program, with most changes to be completed by 2010.

For more information about

NASA's implementation of HSPD-12, visit <http://hspd12.nasa.gov/>

For more information about HSPD-12 at Ames, contact Ray O'Brien at [robrien@mail.arc.nasa.gov](mailto:robrien@mail.arc.nasa.gov), or at ext. 4-6875. For questions about the NACI or other rebadging issues, please contact Wende Hower at [whower@mail.arc.nasa.gov](mailto:whower@mail.arc.nasa.gov), or call ext. 4-5401.

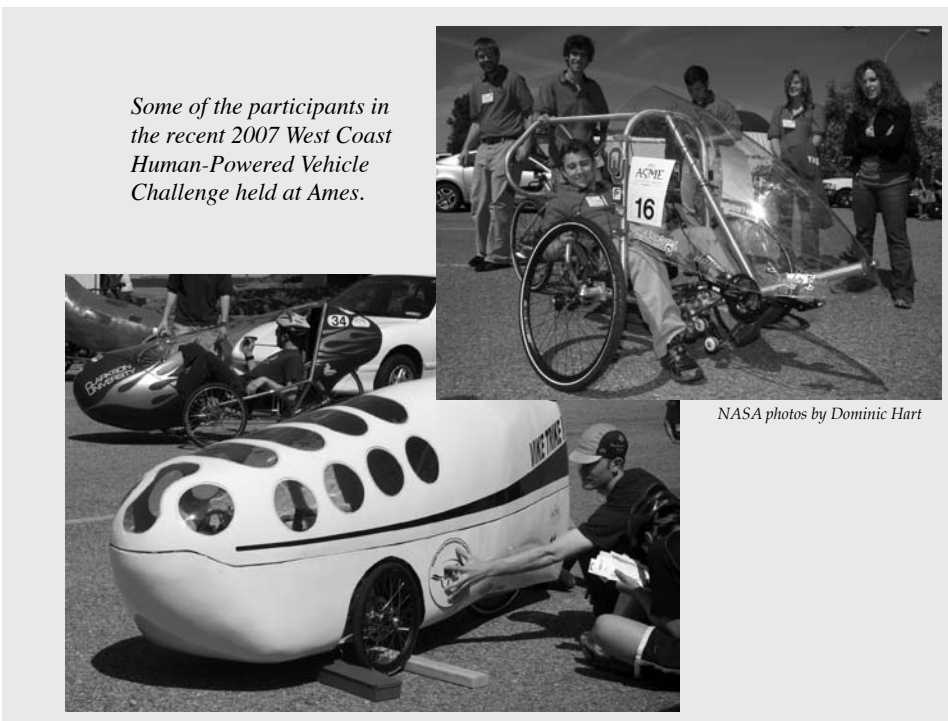
*BY ANN SULLIVAN*

## NASA Ames hosts Human-Powered Vehicle Challenge

More than 100 young inventors and engineers gathered at NASA Ames recently for the 2007 West Coast Human-Powered Vehicle Challenge (HPVC) to test the next generation of vehicles powered only by the human body.

Twenty-five teams from around the country competed in three vehicle classes: single rider, multi-rider and utility. The goal was time trials and a grand prix-style race with a take-home prize of \$500. The prototype vehicles were designed for everyday transportation for such activities as commuting to work or school, shopping trips and general transportation. The vehicles were judged on design, safety and performance, and include a comprehensive design report, time trials and an endurance event.

"This kind of competition is a wonderful way to introduce students to the challenges of engineering, to the need to work as a team, and to the fact that persistence, ingenuity and creativity are necessary to design a vehicle that operates as required," said Juan Alonso, director of the Fundamental Aeronautics program at NASA head-



Some of the participants in the recent 2007 West Coast Human-Powered Vehicle Challenge held at Ames.

NASA photos by Dominic Hart

quarters, Washington.

Ames hosted the event in partnership with the NASA Aeronautics Research Mission Directorate at NASA headquarters, San Jose State University and the American Society of Me-

chanical Engineers. The ASME HPVC East Coast Challenge took place at the University of Central Florida, Orlando, in May.

BY JONAS DINO

## Google goes solar

*continued from previous page*

Ames in the past and they were unsuccessful; they were not maintained and became unusable. On the individual level, Stephanie Langhoff installed 800 sq. ft. of solar panels on her home in 2004 and has been very satisfied with them.

The use of solar panels is a simple, though expensive, way to use natural resources to our advantage. Google is confident that they are setting a prime example for other corporations to follow.

BY ELIZABETH SANCHEZ

## Bonnie Dalton retires from Ames



Bonnie Dalton, deputy director, Code S, recently retired from Ames. A retirement luncheon was held in her honor to celebrate her many years at NASA. From left to right, Dr. Russell L. Kerschmann, Bonnie Dalton and Kenneth Souza during the retirement party.

Left to right, attendees at Bonnie Dalton's recent retirement lunch, Eduardo Almeida, Kathleen Hinds, Bonnie Dalton, Timothy J. Lee, George Sloup and Carol Stoker.



NASA photos by Dominic Hart

# Ames Ongoing Monthly Events Calendar

**Ames Amateur Radio Club**, third Thursday of each month, 12 noon, N-T28 (across from N-255). POC: Michael Wright, KG6BFB, at ext. 4-6262.

**Ames Ballroom Dance Club**, Classes on Tuesdays. Beginning classes meet at 5:15 p.m. Higher-level class meets at 5:50 p.m. Held in Bldg. 944, the Rec. Center. POC: Helen Hwang at helen.hwang@nasa.gov, ext. 4-1368.

**Ames Bicycling Club**, Every 3rd Wednesday of the month. The meeting location is Building 19, Conference Room 1083 and the meeting time is 12 noon - 1 p.m. Contact Julie Nottage at jnottage@mail.arc.nasa.gov, ext. 4-3711. By-laws of Ames Bicycling Club can be found at <http://zen.arc.nasa.gov>; the link is right under the picture.

**Ames Bowling League**, Homestead Lanes on Thursday nights at 6:20 p.m. Seeking substitute bowlers. Questions to sign up: Mike Liu at ext. 4-1132.

**Ames Child Care Center Board of Directors Mtg**, every other Tuesday in N-229/Rm 117 from 12 - 1:30 p.m. POC: Julie Schonfeld, ext. 4-6504.

**Ames Contractor Council Mtg**, first Wednesday each month, 11 a.m., N-200, Committee Room. POC: Chris Johnson, ext. (650) 938-8017.

**Ames Federal Employees Union (AFEU) Mtg**, third Wednesday of ea. month, 12 p.m. to 1 p.m., Bldg. 221, Rm 104. Guests welcome. Info at: <http://www.afeu.org>. POC: Marianne Mosher, ext. 4-4055.

**Ames Mac Support Group Mtg**, third Tuesday of ea. month, 11:30 a.m. to 1 p.m., Bldg. N262, Rm 180. POC: Tony ext. 4-0340.

**Ames Model Aircraft Club**, flying radio-controlled aircraft at the north end of Parsons Ave. on weekend mornings. POC: Mark Sumich, ext. 4-6193.

**Ames Sailing Club Mtg**, second Thursday of ea. month (March through Nov), from 12:00 p.m. -1:00 p.m. in Bldg. N-262, Rm 100. URL: <http://sail.arc.nasa.gov/>. POC: Becky Hooley, ext. 4-2399.

**Environmental Forum**, first Thursday every other month, 9:00 a.m. to 10:00 a.m., Bldg. 218/2nd floor training room. URL: <http://qqe/events/EHSseries/> POC: Stacy St. Louis at ext. 4-6810.

**The Hispanic Advisory Committee for Excellence (HACE) Mtg**, first Thurs of month in N255 room 101C from 11:45 a.m. to 12:45 p.m. POC: Eric Kristich at ext. 4-5137 and Mark Leon at ext. 4-6498.

**Jetstream Toastmasters**, Mondays, 12 p.m. to 1 p.m., N-269/Rm.179. POC: Miwa Hayashi at ext. 4-1397, mhayashi@mail.arc.nasa.gov, Web: <http://jetstream.freetoasthost.com>

**Native American Advisory Committee Mtg**, fourth Tues each month, 12 noon to 1 p.m., Bldg. 19, Rm 1096. POC: Mike Liu at ext. 4-1132.

## Ames emergency announcements

To hear the centerwide status recording, call (650) 604-9999 for information announcements and emergency instructions for Ames employees. You can also listen to 1700 KHz AM radio for the same information.

## Safety Data

### NASA-Ames Occupational Illness-Injury Data for Calendar Year-to-Date 2007 Jan. 1, 2007 – April 30, 2007

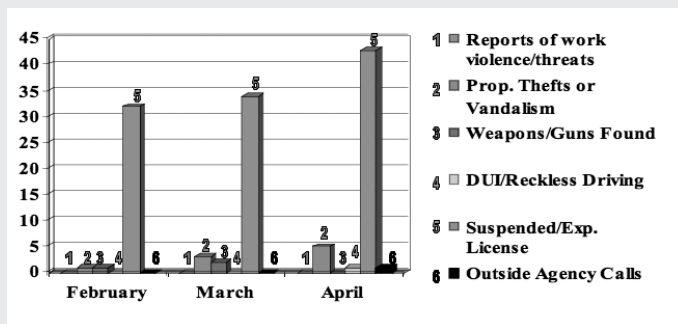
	Civil Servants	Contractors
First aid cases	4	7
Lost Workday cases	0	0
Recordable cases	0	0
Restricted duty days	0	0

Above data are as of 4/30/07. May be subject to slight adjustment in the event of a new case or new information regarding an existing case.

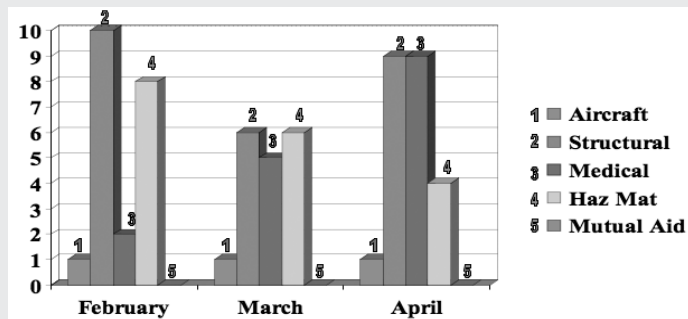
## Protective Services monthly activity

A statistical summary of activities of the Protective Services Division's Security/Law Enforcement and Fire Protection Services units for the month of April 2007 is shown below.

Security/Law Enforcement Activity



Fire Protection Activity



## Ames Classifieds

Ads for the next issue should be sent to [astrogram@mail.arc.nasa.gov](mailto:astrogram@mail.arc.nasa.gov) and must be resubmitted for each issue. Ads must involve personal needs or items; (no commercial/third-party ads) and will run on a 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 and found ads only. Due to the volume of material received, we are unable to verify the accuracy of the statements made in the ads. Caveat emptor!

### Housing

Furnished room for rent in a private home near downtown Los Gatos avail. 6/1 (maybe sooner). Room is medium size w/ nice size closet. \$650 a mo./includes most utils. Deposit is \$350. House is near all fine parks/bike paths. Kitchen and living room privileges included. A cleaning lady is available for you to hire. No animals and a non-smoker please. Chris (408) 354- 7126.

### Miscellaneous

The Ames Cat Network needs help finding homes for cats trapped at Moffett. They range from feral to abandoned/lost pets. Tested, altered and inoculated. Call Iris at ext. 4-5824 if you or someone you know are interested in fostering or adopting a cat.

17" Al PowerBook G4 laptop. 1.33 GHz, 1 GB RAM, new 80 GB HD. OS 10.4. Perfect media, kids, 2nd or 3rd computer. \$900. Jeff (650) 218-7674.

Sears Craftsman 7 1/4" circular saw, \$30; Craftsman router, \$35. Wayne (650) 960-6827.

Looking for old military-type tube testers. Jim (510) 727-9075.

Sleeper sofa bed - like new, beige/brown - unattached pillows, across back - \$100. Call (408) 765-4935.

**For All Your Supply Needs On Installation**  
 NASA Ames Supply Store • Building N235 • DeFrance Ave. (North Side)

- Huge In-Store Selection 50,000 Catalog Items
- FREE on Installation Delivery
- Office Products
- Paper
- Paper Products
- Janitorial & Cleaning Supplies
- Computer Accessories
- Furniture & Tools

NAME BRANDS: SKILCRAFT, JWOD, AIB EXPRESS  
 Retail Store: 650-604-6801 • Fax 650-604-6802  
 On-Line: [www.aibexpress.com](http://www.aibexpress.com)

**The NASA Lodge**  
 Rooms starting at \$45 a night.

Having a B-I-G family reunion and just run out of bedrooms and inflatable beds? Reserve rooms at the NASA Lodge

Ames employees and contractors can "host" their friends or relatives at the Lodge, and it doesn't have to be government or NASA related.

Let Us Welcome You!

Call (650) 603-7101

<http://naccenter.arc.nasa.gov/lodging.html>



### 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 Gift Shop N-235 in the cafeteria, 8 a.m. to 2 p.m., ext. 4-6873

Don't forget to purchase your baby shower, birthday, holiday gifts at Ames' two gift shops!

#### Visitor Center Gift Shop N-943 M-F, 10 a.m. to 4 p.m., ext. 4-5412

NASA logo merchandise, souvenirs, toys, gifts and educational items.

#### Tickets, etc... N-943 outside the main gate, 10 a.m. to 3:30 p.m., ext. 4-5412 and Beyond Galileo, 8 a.m. to 1:30 p.m. ext. 4-6873

#### Mega Bites Cafeteria N-235, 6 a.m. to 2 p.m., ext. 4-5969/Catering ext. 4-2161

See daily menu at: <http://exchange.arc.nasa.gov>

#### Moffett Field Golf Club with Tee minus 1' Grill and Sports Bar. Call (650) 603-8026.

#### RV Lots Available Call to reserve a space at (650) 603-7100/01.

Civilian/Contrators, \$50/mo; military \$25/mo

#### NASA Lodge (N-19) 603-7100

Where to stay when you're too tired to drive home? What about the lodge?! Two types of rooms: Bldg. 19 (43 rooms), rate: \$55/night (\$5 ea add'l adult); Bldg. 583 (150 rooms), rate: \$45/night (\$5 ea. add'l adult)

#### Ames Swim Center (N-109) 603-8025

The pool is heated year round! The pool is currently available for lap swim, pool parties and special events. POC -Chana Langley, Pool Manager (650) 603-8025. Memberships: single memberships: \$40/yr. Family memberships: \$60/yr. After purchasing a membership, there is an entrance fee: daily entrance fee - \$3/day or lap pass fee - \$40 for 20 uses. Platinum membership - \$360/yr. (no daily fee). Special events: include military training, swim team events, kayak role practice, etc. The cost for special events is \$50/hr.

#### Vacation Opportunities

Lake Tahoe-Squaw Valley townhse, 3bd/2ba. View of slopes, close to lifts. Per night: \$250, plus \$145 cleaning fee. Two night minimum. Includes linens, propane fireplace, fully equipped. Call (650) 968-4155, DBMcKellar@aol.com

Bass Lake vacation rental, 4 mls south of Yosemite. 3bd/1.5 ba, TV, VCR, MW, frplc, BBQ, priv. boat dock. Sleeps 8. \$1,050/wk. Call (559) 642-3600 or (650) 390-9668.

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

Pine Mountain Lake vacation home. Access to golf, tennis, lake, swimming, horseback riding, walk to beach. Three bedrooms/sleeps 10. \$100/night. Call (408) 799-4052 or (831) 623-4054.

Incline Village, Forest Pines, Lake Tahoe condo, 3 bdrms/2 ba, sleeps 8, fireplace, TVs/VCR/DVD, stereo w/CD player, microwv, W/D, jacuzzi, sauna, outdoor pool. Walk to lake. Close to ski areas. Visit web site for pictures: <http://www.ACruiseStore.com> \$135/night spring and fall, \$173/night summer and winter (holidays higher) plus \$125 cleaning fee and 12 percent Nevada room tax. Charlie (650) 743-8990.

New York, 5th Ave. One fully furnished bedroom in 24 hour security bldg. overlooking Washington Square Park, \$2,000/wk or \$3,000/mo. negotiable. Call (650) 349-0238.

Paris/France: Fully furnished studio, 5th Arr, Latin Quarter, Notre Dame and Lie-St. Louis., \$1,400/wk. negotiable. Call (650) 349-0238.

Santa Cruz townhouse, 2 bedrooms plus study, 2 baths, decks, totally furnished, 3 blocks from beach, available July, August, September; \$1,600 per month. Call (831) 423-5777 (H) or (831) 277-8476 (C).

Lake Tahoe cabin rental in Agate Bay, North Shore. 4bd/3ba tri-level, AEK, cable TVs, fireplace, BBQ, deck, sleeps 10. Closest skiing is Northstar, Alpine and Squaw. Rates are \$375 a weekend, \$1,000 a week. Call (408) 867-4656.

Florida west coast vacation in St. Petersburg, beautiful 2bd/2ba condo, fully equipped kitchen and furnished, sunset views, 1/4 mile from St. Pete Beach, monthly or 2 week minimum rentals only. Call (703) 299-8889 or e-mail: [jdgoehler@aol.com](mailto:jdgoehler@aol.com)

Maui luxury oceanfront resort one-bedroom condo available one week. Rents for \$345/night now, \$495/night in the summer. We will rent to an Ames family for \$1,750 for the week. See the condo at <http://www.starwoodvo.com/resorts/villafeatures.jsp?resortID=12> Call (650) 572-8877 for availability and questions.

Monterey Bay vacation rental at Pajaro Dunes, 20 miles south of Santa Cruz, 3bd/2ba beach house with distinctive architecture. Beautiful ocean and valley views, only 150 ft from the beach, first-class tennis courts. \$700/wkend, \$2,100/wk including cleaning by the maid service when you depart. Call (408) 252-7260.

South Lake Tahoe large cabin surrounded by protected forest, 8 miles from Stateline Sleeps 12 comfortably, 4 bd/3ba. Hot tub/pool table/65" TV Matt (408) 482-5286

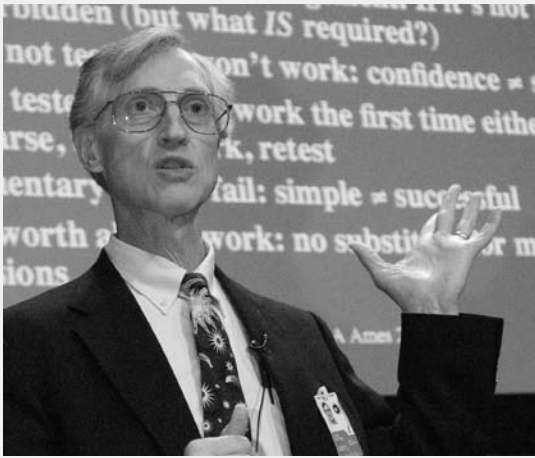
South Lake Tahoe cozy home backs up to large open meadow, 1 mile from Heavenly Valley. Sleeps 11, 3 bd/2.5 ba. Large deck with hot tub. Matt (408) 482-5286.

## Astrogram deadlines

Please submit articles, calendar and classified advertisements to [astrogram@mail.arc.nasa.gov](mailto:astrogram@mail.arc.nasa.gov) no later than the 10th of each month. If this falls on the weekend or holiday, then the following business day becomes the deadline. For Astrogram questions, contact Astrid Olson at the aforementioned e-mail address or ext. 4-3347.

## Nobel Laureate speaks at NASA Ames

NASA photo by Dominic Hart



Nobel Laureate John Mather of Goddard Space Flight Center, speaks during the colloquium he presented at Ames in May, entitled 'From the Big Bang to the Nobel Prize and Beyond.'

In early May, Nobel Laureate John Mather of NASA Goddard Space Flight Center, visited Ames to present a director's colloquium entitled 'From the Big Bang to the Nobel Prize and Beyond.' He described the Cosmic Background Explorer (COBE) satellite, proposed in 1974 and launched by NASA in 1989, which measured the cosmic microwave and infrared background radiation from the Big Bang and everything that happened later.

Mather also described the project history of COBE, the COBE team members, the hardware and data processing, the major results and

their implications for science.

He concluded his presentation with an outlook for future progress, using new background measurements and large telescopes such as the James Webb Space Telescope.

Mather is a senior astrophysicist at the NASA Goddard Space Flight Center in Maryland and adjunct professor of physics at the University of Maryland, College Park. He was awarded the 2006 Nobel Prize in Physics, shared with George F. Smoot for "their discovery of the black body form and anisotropy of the cosmic microwave background radiation."

## SJSU awards April Gage of Ames



photo by Glenn Bigos

April Gage of Ames recently received an Outstanding Thesis Award from San Jose State University for the exceptional quality of her graduate research. Gage, of Oakland, recently received her master's degree in library and information science with a specialization in archival studies. Originally from Oxnard, Calif., Gage has a bachelor's degree in English from the University of California, Berkeley. Her thesis is titled "Speaking Freely: An Oral History of the Freedom to Read Foundation" and her thesis chair was Professor Debra Hansen. She is now acting archivist for the history office at NASA Ames.



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