

September 2010 - A Quarterly Publication

NASA's Kepler Mission discovers two planets transiting same star

BY MICHAEL MEWHINNEY

NASA's Kepler spacecraft has discovered the first confirmed planetary system with more than one planet crossing in front of, or transiting, the same star.

The transit signatures of two distinct planets were seen in the data for the sun-like star designated Kepler-9. The planets were named Kepler-9b and 9c. The discovery incorporates seven months of observations of more than 156,000 stars as part of an ongoing search for Earth-sized planets outside our solar system. The findings will be published in the journal *Science*.

Kepler's ultra-precise camera measures tiny decreases in the stars' brightness that occur when a planet transits them. The size of the planet can be derived from these temporary dips.

The distance of the planet from the star can be calculated by measuring the time between successive dips as the planet orbits the star. Small variations in the regularity of these dips can be used to determine the masses of planets and detect other non-transiting planets in the system.

In June, mission scientists submitted findings for peer review that identified more than 700 planet candidates in the first 43 days of Kepler data. The data included five additional candidate systems that appear to exhibit more than one transiting planet. The Kepler team recently identified a sixth target exhibiting multiple transits and accumulated enough follow-up data to confirm this multi-planet system.

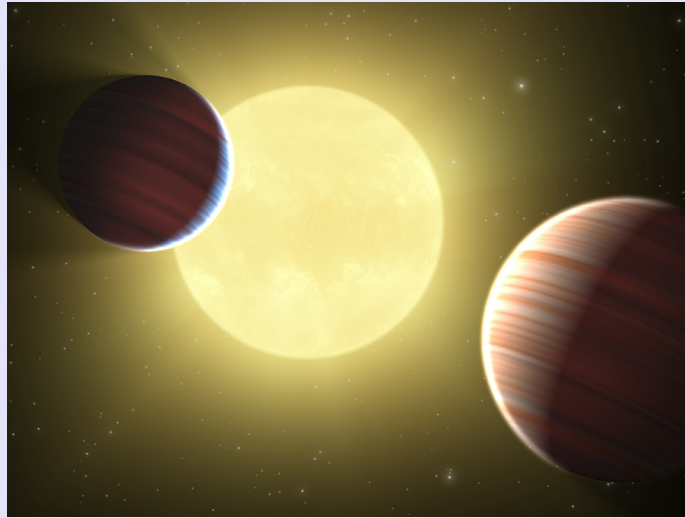
"Kepler's high quality data and round-the-clock coverage of transiting objects enable a whole host of unique measurements to be made of the parent stars and their planetary systems," said Doug Hudgins, the Kepler program scientist at NASA Headquarters in Washington.

Scientists refined the estimates of the masses of the planets using observations from the W.M. Keck Ob-

servatory in Hawaii. The observations show Kepler-9b is the larger of the two planets, and both have masses similar to but less than Saturn. Kepler-9b lies closest to the star with an orbit of about

19 days, while Kepler-9c has an orbit of about 38 days. By observing several transits by each planet over the seven months of data, the time between suc-

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NASA image credit: NASA/Ames/JPL-Caltech

Worlds on the Edge - This artist's concept illustrates the two Saturn-sized planets discovered by NASA's Kepler Mission. The star system is oriented edge-on, as seen by Kepler, such that both planets cross in front, or transit, their star, named Kepler-9. This is the first star system found to have multiple transiting planets.

NASA aims to improve aviation safety



NASA photo by Eric James

NASA Administrator Charles F. Bolden, Jr. addresses Ames employees at the recent Green Aviation summit held at NASA Ames.

BY BETH DICKEY AND KAREN JENVEY

NASA has a "critical responsibility" to the flying public to develop environmentally responsible solutions to the nation's most pressing aviation problems, according to NASA Administrator Charles F. Bolden, Jr.

Addressing the Green Aviation Summit held Sept. 8-9 at NASA Ames, Bolden said air travel is one of the safest modes of transportation and vital to the U.S. economy, but increasing air traffic

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VMS celebrates 30 years as unique training facility

BY KAREN JENVEY

NASA Ames' Vertical Motion Simulator (VMS) recently celebrated its 30th birthday. This unique facility is the largest, high-fidelity motion-based simulator in the world. Over the past three decades, the VMS has provided astronauts with a training facility for landing the space shuttle, as well as provided a place for researchers to test a myriad of aircraft.

"Its incredible range of motion and interchangeable cab system allows it to simulate anything that moves, including fixed-wing airplanes, rotary-wing helicopters, space vehicles, airships, and

even cars. This unsurpassed flexibility truly makes the VMS a national treasure," said Kathleen Starmer, a contractor with Science Applications International Corporation (SAIC) who works at the VMS.

Indeed, the realism provided by the VMS is unsurpassed, as exemplified by former NASA astronaut Brian Duffy on STS-72: "That was just like the VMS!" he exclaimed, upon landing the real space shuttle for the first time.

The VMS has to provide astronauts with the equivalent of a real-life experi-

ence because "you are landing this vehicle that is the heart and soul of the American space program," said former astronaut Marsha Ivins. Without proper training, "you can seriously screw up on the last 30 seconds. Training in the VMS allows you to prepare for all of the bad stuff that could happen to you," Ivins said. The people who operate the VMS can simulate poor visibility, high wind factors, and numerous other challenges to ensure that astronauts are trained for the worst possible circumstances.

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NASA accepts challenge to improve aviation safety

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is taking a toll on the environment and the nation's aviation infrastructure.

"We need to make some changes -- both in the design of aircraft and in the way they transit through our skies to not only maintain, but improve safety and efficiency," Bolden said. "That's a huge challenge, but we at NASA enthusiastically accept it."

The Green Aviation Summit highlighted the depth and breadth of NASA's work to develop aviation technologies that are designed to make air transportation cleaner and quieter for the environment, with fewer delays for travelers.

"Our critical responsibility is [to] those who feel anxious because of the long distance they have to travel to reach an airport; the crowding they experience upon arrival at the terminal; the departure, enroute, or arrival weather; or concerns that the technology on the planes may not be up to dealing with problems that may be encountered in the sky," Bolden told the summit.

The two-day meeting brought together about 200 experts from NASA, other federal government organizations, industry and academia. Keynote presentations by leading policymakers as well as detailed technical presentations and panel discussions are focusing on state-of-the-art and emerging technologies that can reduce aircraft noise, emissions and fuel consumption and ensure the safe and manageable growth of the aviation system.

Jaiwon Shin, NASA's associate administrator for aeronautics research, said NASA technology will become increasingly important because of the lack of available space for new airports. "We really are helping the country to advance to the next generation of air transportation and aviation by working together," he said. "This summit signifies our strong commitment."

Summit participants are sharing the

results of their work on airplanes that will be designed and built with unconventional configurations, super-efficient engines and lightweight, damage-tolerant materials to increase lift, reduce drag, and deflect noise. These innovations will capitalize on the potential of alternative fuels and advanced power technologies; and efforts to equip aircraft cockpits with computer

software and satellite-based navigation and communication systems to assist decision-making by pilots.

Ames Center Director S. "Pete" Worden opened the summit by crediting NASA research for today's understanding of climate change and the effects of global warming on the environment. "As the world

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NASA chief technologist outlines President's technology agenda



NASA photo by Eric James

NASA Chief Technologist Bobby Braun recently spoke to Ames employees at an all-hands gathering about the President's technology agenda, his goals for NASA technology and recent developments with respect to the program, and how Ames can contribute to the renewed NASA technology effort.

NASA helps students discover science and technology

BY RUTH DASSO MARLAIRE

More than 2,000 people flocked to the Chabot Space and Science Center, Oakland for NASA's Instituting Science in Schools (ISIS) festival on Sept. 5. The festivities supported NASA's science, technology, engineering and mathematics (STEM) efforts to reach out to under-represented middle school students.

NASA astronaut Leland Melvin and hip hop artist MOS Def were featured in a holographic presentation during the festival that invited students to "believe in themselves and take on new challenges" by participating in NASA's space program. Neo-soul singer Goapele hosted the event. Numerous exhibits and hands-on science and technology activities, including an opportunity to remotely operate a real NASA rover, were among the festival's highlights.

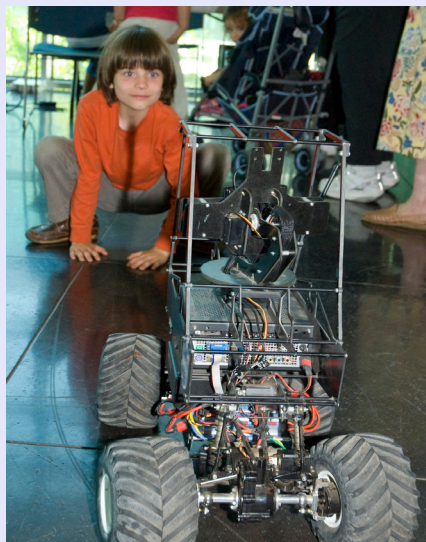
"Leland Melvin and myself are working with the Instituting Science in Schools Program, sponsored by NASA. I'm just here to give the young people some inspiration, some positive encouragement and some good information about science, technology, creativity and discovery and how to use math, science and information to make a positive impact and changes on the world around us," said MOS of the event.

The holographic presentations of MOS Def and Astronaut Leland Melvin were shown to capacity crowds and were a huge success. Their message was empowerment through education. Local artist

NASA photos by Eric Land and Michael Frederico



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Former Ames Center Director Clarence A. “Sy” Syvertson 1926-2010

Clarence A. “Sy” Syvertson enjoyed a 35 year career at NASA Ames, retiring as center director in 1984. He died on Sept. 13, 2010 at the age of 84.

“Sy embodied the best of Ames,” remembers his friend Jack Boyd. “He was a brilliant scientist, an innovative leader, who assembled a dedicated and motivated staff and left them free to forge ahead.”

A native of Minneapolis, Syvertson earned degrees at the University of Minnesota and began his career at Ames in 1948. He matched his theoretical insights on hypersonic airflows with brilliant experimental work. He led the 3.5 foot hypersonic wind tunnel branch and developed advanced vehicles like the XB-70 Valkyrie and the M2 lifting bodies.

His fundamental work on reentry vehicles underlay the design of the space shuttle. He served as director of

Astronautics then, during the tenure of Hans Mark from 1969 to 1977, as center deputy director.

Syvertson was named director of NASA Ames in 1977 and retired in 1984. Under his leadership, NASA Ames continued to blossom as a world-class research organization. Ames conducted groundbreaking research on vertical-lift aircraft, built the world’s largest wind tunnel, flew the Kuiper Airborne Observatory, consolidated its collaboration with NASA Dryden, and prepared the Galileo Probe for its journey to Jupiter.

He was elected to the NASA Ames Hall of Fame, was a member of the National Academy of Engineering and a Fellow of the AIAA, and won many awards for his service to NASA and to space exploration.



NASA photo by Roger Brimmer

Clarence A. “Sy” Syvertson

VMS celebrates 30 years as unique training facility

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“The VMS trains the seat of your pants to what it feels like on the runway. I would like to thank all of the people who have worked with the VMS for helping us look good,” said Ivins.

VMS employees, both past and present, have made an excellent impression on a lot of people.

Bill Decker, a longtime researcher in NASA’s Aeromechanics branch, recently conducted a study in the VMS examining aspects of large civil tiltrotors, an aircraft concept that is in the design phase. “That facility is more than metal and motors, but really the people that work there--and have worked there--in its 30 years as a facility here at Ames,” said Decker.

“We forget that even big facilities have humans running them,” Decker added.

A picture of the interior of another interchangeable cab built to look like an extraplanetary lander (in this case, a Lunar Landar, but it could also be used for studying Mars landings, asteroid landings, etc.). The pilot shown is John Amaral.



NASA photos by Dominic Heit

Above: The interior of one of the interchangeable cabs. In this image, the cab simulates a Large Civil Tiltrotor, which is a concept vehicle that NASA is studying to determine the best control system for such a vehicle.

Ames Research Center highlights NASA'S Summer of Innovation

BY RUTH DASSO MARLAIRE

We all remember a moment in which a teacher or mentor made a difference in our lives. It could be a nod of encouragement, a helping hand, a lesson that inspired wonder or discovery, and ultimately may have given purpose and value to our lives.

These moments of awareness are what educators and mentors at NASA Ames hoped to inspire in our new generation July 26, 2010, when Ames celebrated scientific discovery and technological innovation as part of its Summer of Innovation initiative. "Exploration Day" featured out-of-this-world missions and technology programs that brought students to NASA, so that they might experience a sense of awe and excitement while learning about NASA and its missions at the same time.

"Our research community has done a tremendous job developing new and creative ways to engage young people in their fields," said Ames Center Director S. Pete Worden. "They have been doing their part to speak at schools, to create hands-on learning opportunities as mentors, and to help spark that same curiosity in students, which perhaps led them to pursue a career in science and engineering."

NASA Ames organized a day filled with science, technology, engineering and mathematics (STEM) education hands-on activities and events, including a visit from the Traveling Space Museum (TSM), the "grand opening" of the renovated Ames Exploration Encounter (AEE), (see page 8), an opportunity to operate the rovers on a simulated lunar regolith and a student poster session of more than 100 students.

TSM brought to Ames numerous hands-on activities, one of which was "moon boots." Who wouldn't want to simulate Neil Armstrong's zero-gravity walk on the moon? By strapping on a pair of "moon boots," young students walked with enough bounce to

simulate a feeling of zero-gravity, or a less firm terrain. The boots also were large enough to leave behind a giant footprint.

Another activity included an authentic BD-5J micro jet with operat-

system (space toilet) to experience what it's like to live and work in space. The sudden suction of air caused one boy to exclaim, "Wow! It's breezy."

The celebration also included a student poster session, which illustrated and explained the accomplishments of the undergraduate interns and graduate fellows who worked at Ames. Students also used their posters as part of a presentation to fellow students and NASA mentors.

"The Ames Education Office was proud to show all the hard work performed by our undergraduate interns and graduate fellows. During their time here, they contributed to NASA missions and status," said Brenda Collins, Higher Education program manager at NASA Ames. "We can look forward to welcoming these

bright young minds into the future workforce."

Ames' Exploration Day was about providing positive experiences in science and mathematics, and instilling

in young people a love of learning and a sense of possibility in their own lives. As children moved from one event to the other, many of them were heard to say: "Thanks for the ride. It was fun!"

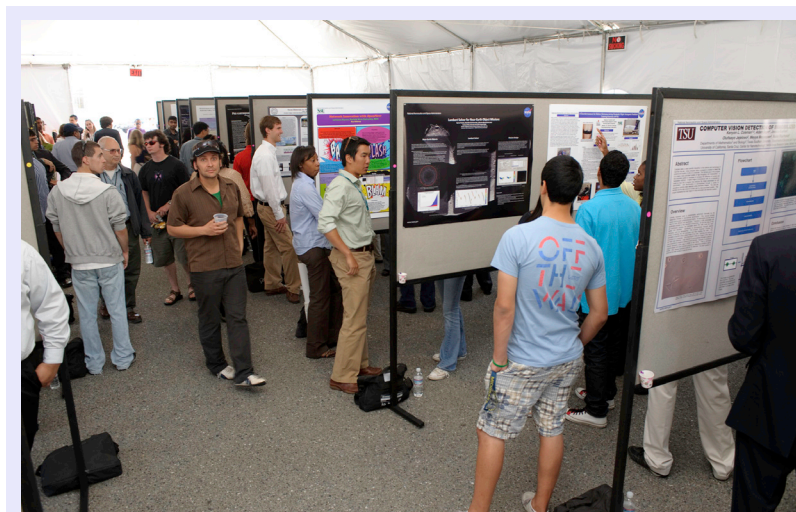
For more information

about NASA's Summer of Innovation, visit: www.nasa.gov/soi. For more information about Smart Skies, visit: www.atcsim.nasa.gov



It was a day filled with science, technology, engineering and mathematics (STEM) education hands-on activities, as well as various events, including a ride in a flight simulator.

ing controls similar to a hang glider. Young, novice pilots waited patiently to fly the small, single-seated aircraft, which demonstrated rudder movement when they pumped the foot pedals.



Exploration Day included a student poster session, illustrating the accomplishments of undergraduate interns and graduate fellows at Ames.

At a space shuttle exhibit, students learned to give the module operator a "thumbs up" to start the engine, and they were invited to "have a seat" on the space shuttle waste containment

NASA's Lunar Science Institute showcases the moon

BY CATHY WESELBY

Author and space historian Andrew Chaikin spoke before an audience of moon enthusiasts at an evening event this summer, held at NASA Ames. NASA's Lunar Science Institute sponsored the event.

Chaikin's presentation was called, "The New Moon," but he joked that the title was not a reference to the popular Twilight saga.

Chaikin said Earth's closest neighbor has clues to our past and how the Earth and the rest of our solar system were formed. The asteroids and comets that have pummeled the lunar surface throughout the ages provide a record of what went on during the first billion years of our solar system. The moon rocks that Buzz Aldrin and Neil Armstrong brought back from the Sea of Tranquility 41 years ago, he said, have taught us a lot about the moon.

"We thought the moon was created 4.5 billion years ago from blasted molten material and that it was a dry and waterless place," Chaikin said. "Now we need to rethink that."

Scientists' understanding of the moon has been transformed by recent discoveries from NASA's Lunar CRater Observation and Sensing Satellite (LCROSS), Lunar Reconnaissance Orbiter (LRO) and India's Chandrayaan 1 mission.

In 2008, Chandrayaan 1 found signs of water on the lunar surface with its moon mineralogy mapper. The lunar poles revealed the highest concentrations of water. The following year, LCROSS slammed into the lunar South Pole and proved there was water on the moon. And the LRO mission has provided the most detailed views of the moon to date.

Chaikin said the upcoming NASA lunar missions, the Lunar Atmosphere and Dust Environment Explorer (LADEE), the Gravity Recovery and Interior Laboratory (GRAIL) and the Africa Real Time Environmental Monitoring Information System (ARTEMIS), promise to reveal even more lunar secrets.

Astronomer and artist Jose Francisco Salgado followed Chaikin's presentation with a multimedia show titled, "Communicating Science through Art." Salgado is an astronomer and science visualizer at the Adler Planetarium (<http://www.adlerplanetarium.org>) in Chicago, Ill. He uses his skills in astronomy education and visual arts to create presentations to

communicate science in engaging ways.

The first segment of his presentation featured mixed images of the planet Jupiter with Gustav Holst's The Planet Suite. The images were a combination of historical illustrations from the Adler Collection of Works on Paper, NASA and ESA animations, as well as animations produced by Salgado. Another segment combined time-lapse images of the night sky and observatories set to music composed by Tom Bailey, formerly of the Thompson Twins.



NASA photo by Eric James

Author and space historian Andrew Chaikin spoke before an audience of moon enthusiasts at an evening event on July 21 at NASA Ames.

Yvonne Pendleton named NLSI director

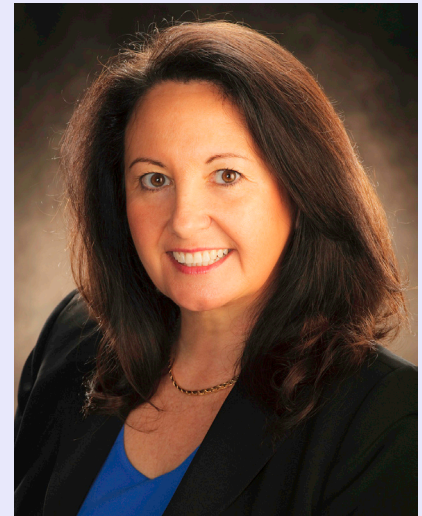
BY CATHY WESELBY

Yvonne Pendleton became director of the NASA Lunar Science Institute (NLSI) on July 19, 2010. She started her career at NASA Ames as a research astrophysicist, took an assignment with headquarters as the chief of the Space Science and Astrobiology division, and was most recently the deputy associate center director at Ames.

Pendleton has a Ph.D. in astrophysics from the University of California at Santa Cruz, a master's degree in aeronautics and astronautics from Stanford University and a bachelor's degree in aerospace engineering from the Georgia Institute of Technology.

She is distinguished by the fact that an asteroid (Asteroid 7165Pendleton) was named in honor of her work in astrophysics and planetary research.

"We're thrilled to have someone with Pendleton's combination of leadership and Astrophysics background lead the charge for our lunar science institute," said Ames Center Director S. Pete Worden. "And, we thank Dr. Morrison for his hard work and dedication to the institute these past couple of years."



NASA photo by Dominic Hart

Yvonne Pendleton, recently named director of the NASA Lunar Science Institute.

Pendleton replaces David Morrison, who was acting director for the NLSI since 2008. Morrison recently was appointed director for the Carl Sagan Center for Study of Life in the Universe at the SETI Institute and continues part-time as a senior scientist at the NLSI.

BBC Television interviews Larry Lasher about purpose of Pioneer Mission

Pioneer Project Manager Dr. Larry Lasher described the purpose of the Ames-managed Pioneer Mission during a recent BBC interview. The Pioneer Spacecraft carried with it the Pioneer plaque designed with a special message to outer space that Earth had evolved an intelligent species.

An entire episode has been dedicated to the Pioneer Plaque. It is part of a television series called "The Beauty of Diagrams" and will explore diagrams or images that have successfully shaped and defined our understanding of scientific theories. Other episodes include Leonardo da Vinci's Vitruvian Man, Watson and Crick's double helix, Sir Isaac Newton's prism, and Copernicus's representation of the universe. This show will air this fall.



NASA photo by Dominic Hart

Pioneer Project Manager Dr. Larry Lasher describes the Ames-managed Pioneer Mission to BBC interviewer Marcus du Sautoy.

NASA accepts challenge to improve aviation safety

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travels even more," Worden said. "we're going to have a very serious global warming issue, as well as lots of other environmental impacts of aviation."

Bolden, Shin and Worden all noted that conservation – through improved performance, efficiency and safety -- is an aim that has guided NASA's research goals for decades. "Green is not just a buzzword to us," Bolden said.

Examples of green technology NASA has developed in the past include winglets and chevrons. Winglets are the vertical attachments that can be seen on the wing tips of many commercial airliners in service today, and are designed to reduce fuel consumption. Chevrons are the scalloped edges on the engine nozzles of some models of commercial and cargo aircraft just now entering the market, and are designed to reduce noise.

NASA has a suite of incremental goals for demonstrating the feasibility of aircraft technology and air traffic management techniques that can minimize the environmental effects of air transportation by:

- Enabling aircraft to burn 33 percent less fuel than today's most efficient models

- by 2015, 50 percent less by 2020, and better than 50 percent less by 2025.

- Cutting engine emissions of nitric oxide and nitrogen oxide, which contribute to ozone creation, 20 percent by 2015, 50 percent by 2020, and better than 50 percent by 2025 -- when compared with today's best engines. Reducing the amount of fuel burned reduces emissions of carbon dioxide, which contribute to global warming.

- Reducing the nuisance noise footprint around airports to one-third its current size by 2015 and one-sixth by 2020, and containing it within the airport property boundary by 2025.

NASA aims to facilitate the transition of new capabilities to manufacturers, then to airlines and ultimately to the Federal Aviation Administration, for the ultimate benefit of the flying public.

The NASA administrator said it is crucial for the agency and its stakeholders to collaborate closely to that its aeronautics research continues to be both relevant to the aviation community and beneficial to the flying public.

"Just as I like to tell the scientists

and engineers who send our human and robotic missions out into the cosmos, you are contributing to national goals and helping people in the work you do every day," Bolden said. "We are going to make measured progress leading to ever expanding accomplishments to meet the myriad increasing challenges. This is our challenge - to shape the future in aeronautics."

For more information about the Green Aviation Summit, visit: <http://www.aeronautics.nasa.gov/calendar/20100908.htm>

The Astrogram returns January 2011

The Astrogram staff hopes you all enjoy this issue of the current newsletter in its quarterly publication format. Our next issue will be published in January 2011. If you want to submit a story and/or photo for consideration, please email them to Astrid Olson at A.Olson@nasa.gov by Dec. 15, 2010.

NASA Ames re-opens door to discovery and adventure

BY RUTH DASSO MARLAIRE

Today's students are tomorrow's leaders, and they will need us to give them an education system that inspires rewarding academic achievement. To help meet this challenge, NASA launched the Summer of Innovation initiative to not only promote science and math education, but also to let students experience NASA's missions and technology programs.

As part of this commitment to educational excellence, NASA Ames recently re-opened its doors to a new and improved Ames Exploration Encounter (AEE) student facility, featuring hands-on science and math activities geared toward middle school students.

"By renovating the Ames Exploration Encounter student facility, we have set a clear goal to support student achievement in science and math education. This facility draws on the excitement of NASA to create new learning opportunities of exploration and discovery outside the classroom," said Ames Center Director S. Pete Worden. "To meet the challenges of the 21st century, we must commit to an exemplary education system worthy of our future workforce."



NASA photos by Dominic Hart

If you were sending a space probe to Jupiter - where would you aim it? A variety of hands-on activities provided an answer to this and other questions asked during the open house.

ing N226, the AEE makes math and science curricula come alive. Students experience science from a different perspective as they realize its presence in their lives. By using NASA's

flight, space science and Earth science. AEE's recent renovation expands on these themes and introduces even more opportunities to explore and experience them.

To challenge their math skills, students can land a large aircraft in a variety of simulated conditions. They can select, create, or review a problem at one of 12 new computer stations. The computer learning module is called "Smart Skies," which enables students to explore and resolve distance-rate-time conflicts in realistic air traffic control problems, using decision-making and proportional reasoning skills. After completing an online lesson, students apply newly learned skills in an effort to "beat the clock" while solving the problem.

Students also can learn about the moon. Although it is the most familiar object in the night sky, the moon still has many mysteries. Images from NASA's Lunar Reconnaissance Orbiter are projected onto a large touch screen using an interactive computer program that shows the lunar surface in remarkable detail, including features as small as one and a half feet across.

Student players are invited to count and map craters on the moon, which helps identify the age of the crater. Another new AEE feature that helps students explore the surface of the moon is a rover lander that travels across a simulated lunar regolith surface.

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Students learn that an airplane moves in six degrees of freedom, or in six directions: roll, pitch, yaw, lift, thrust and drag.

The Ames Exploration Encounter offers a unique educational program designed to inspire positive attitudes about science, technology, engineering and math for students in the 4th through 6th grades.

Located in a renovated six-foot-by-six-foot supersonic wind tunnel build-

missions to motivate and inspire them, students are given the opportunity to learn the necessary tools to become real pioneers and innovators.

Students visiting the AEE are treated to a variety of rich and exciting educational experiences, including hands-on activities exploring physics,

Sustainability Base construction continues at Ames



Sustainability Base won the 2010 GSA Real Property Award for green innovation. The award was based on the building's original and innovative design, which was done by William McDonough+Partners. The award will be given formally to NASA Ames in a ceremony in Washington, DC in mid-October.



Construction of the new Sustainability Base collaborative support facility, expected to become the highest-performing building in the federal government, continues at NASA's Ames. The new building is designed to achieve a platinum rating under the Leadership in Energy and Environmental Design (LEED) new construction standards for environmentally sustainable construction developed by the U.S. Green Building Council, Washington, D.C. When completed by the end of 2010, the \$20.6 million building will feature near zero net energy consumption, use 90 percent less potable water than conventionally built buildings of equivalent size, and will result in reduced building maintenance costs.

Find out more about the Sustainability project at: <http://www.nasa.gov/externalflash/sustainability-base/index.html>



NASA photos by Eric James

Contractor Council hosts 7th Annual Golf Tournament

BY KATHLEEN STARMER

The Ames Contractor Council (ACC) hosted its 7th Contractor Council Golf Tournament at the Moffett Field Golf Course in August. The ACC is a 501(c)(4) nonprofit organization, and proceeds from this annual event support both the Ames community and various educational outreach programs.

In addition to the golf tournament, this year's event was highlighted by putting and pitching contests, exciting prize raffles, and a delicious BBQ dinner catered by Tee Minus One.

The winning foursome was a team sponsored by the International Association of Machinists and Aerospace Workers and included players Pedro Mendez, Steve Older, Eric Jennings, and Arthur Gonzalez.

Ninety-two players participated in this year's event, and more than \$6,000 was raised for use in the



photo by Terry Reichert

ACC President Elisa Taube highlights the 2010 Golf Tournament sponsors.

ACC's upcoming philanthropic activities. The 2010 ACC Golf Tournament Planning Committee was co-chaired by Terry Reichert and Steve Perry.

ACC President Elisa Taube declared the event one of the council's most successful fund raising efforts to-date.

Technology Showcase 2010 introduces latest technology

Lockheed Martin IT & Desktop Services hosted the Technology Showcase 2010 with Airship Ventures this summer. This year's theme was "The Sky's the Limit – Demand More from Your IT Service Providers."

Jack Boyd, NASA Ames senior advisor, gave the keynote address at the event by walking employees through the long and rich history of NASA Ames from its time as the National Advisory Committee for Aeronautics (NACA) to present. He introduced attendees to the numerous contributions and innovations made by Ames over the last 70 years in aeronautics, air traffic management, astrobiology, planetary exploration and more.

The event introduced the latest and greatest in IT technology and how it can help end users become more productive without sacrificing data security. Leading technology vendors including AEC Software, Apple, Cisco Webex, Eureka Streams, Fujitsu, HP Printing, Kingston, Microsoft and others attended the event, showcasing



Jack Boyd, NASA Ames senior advisor, (left), gave the keynote address at the recent Technology Showcase 2010, (below).



NASA photos by Dominic Hart

their latest laptops, printers and Web collaboration tools.

Attendees were exposed to innovative new mobile computing

technologies, such as IronClad which can securely store the entire operating system on a USB drive.

Ames recognizes 2010 Honor Award recipients

NASA Ames recognized recipients of the 2010 Ames Honor Awards at a recent ceremony held in the main auditorium. A list of those being honored follows.

Administrative Professional

Karen C. Bradford
Maura C. Fujieh
Veneranda M. Jubilo
Gabriel Lozano
Thomas C. Paine
Sherri A. Shore

Best First Paper at Ames

Carlos Malpica

Commercialization/Tech Transfer Award

Ames/CMU GigaPan
Development Team

Community Service/Volunteer

Donald A. Durston
Sheila A. Johnson

Contractor Employee

Mark R. Anderson, PEROT Systems
S. Terry Brugger, EYAK Technology LLC.
Melinda S. Cavaness, AI-RAZAQ Computing Services
John J. Freitas, PEROT Systems
Paul G. Guido, Stinger Ghaffarian Technologies (SFT, Inc.)
Todd C. Klaus, Lockheed Martin Space OPNS
Yijiang Lu, University of California Santa Cruz
Josh McKenty, PEROT Systems
Bassam Musaffar, University of California Santa Cruz
Julie M. Nottage, Bay Area Environmental Research Institute
Peter Tenenbaum, SETI Institute
Yensen Wu, PEROT Systems

EEO

Andrew L. Mattioda

Engineer

Richard L. Alena
Max A. Amaya
Matthew V. D'Ortenzio
Mark V. Mallinson
Jeffrey T. Onufer

Group/Team

Airport Spot and Runway Departure Advisory Simulation Team
Ames IRIS Team
AS9100 Compliance Team



The 2010 Ames Honor Award recipients during the recent ceremony held in the main auditorium.

CMMI L2 SCAMPI Appraisal/Certification Team
Forest Carbon Team
Hayabusa Re-entry Airborne Observation Project Team
Kepler Science Operations Center Team
LCROSS Mission Operations Systems and Ground Data Systems Team
LCROSS Science Team
NAS Security Team
NASA Ames Public Affairs Video Production Group
NASA Ames/Traveling Space Museum Space Days Events
NASA Intelligent Systems Division, CMIL and USGS Team
NASA/USAF/CA ANG/129th RQW Permit Team
STL Team
Technology Development/NASA iPhone App
Terrestrial Observation and Prediction System (TOPS) Team
TROPIC-2 Payload Team
2010 Yuri's Night and Education Day Team

Mentor

Venoncia A. Braxton
Cahit Kitaplioglu

NASA Employee

James L. Fanson, NASA Jet Propulsion Laboratory

Project Manager

Jessie L. Dotson
Jay H. Grinstead
Charles K. Sobek
Sidney C. Sun

Safety and Environment

Leonard C. Hee

Scientist/Researcher

Brad M. Bebout
Stephen T. Bryson
Scott A. Sandford

Secretary/Administrative Assistant Support

Erlinda M. Fox
Femy D. McGrath
Lori-Ann S. Munar

Student

Lynnette C. Jacome
Melissa A. Kieselbach
Christina Ngo

Supervisor/Manager

James P. Connolly
Robert M. Haberle
Cecilia L. Wigley

Technical Support

Diana M. Cox

Technician

Emmett A. Quigley

Technology Development

Haoqiang H. Jin

NASA photo by Dominic Hart

Ames asks: What has NASA done for you lately?



NASA photo by Eric James

This summer, Ames began hosting a series of four free public lectures. The series, entitled “NASA: What Has It Done for You Lately?” focuses on selected activities that are having a positive impact on people’s day-to-day lives. The goal is to help people learn about the cool things that NASA and the space program (and NASA Ames in particular) are contributing to making people’s lives better. The series is co-sponsored by Lockheed Martin. The first lecture focused on life sciences with a panel that included (left to right) Ken Souza, Eduardo Almeida, Lynn Harper and Jeff Smith. Future lectures will look at aviation, sustainability and Earth sciences activities at Ames.

Ombuds Office services available to Ames personnel

BY JACK BOYD

The Ames Ombuds Office provides all civil servants, contractors and students at the center with a supplemental, confidential channel of communication to raise significant issues and concerns that they perceive could impact safety, organizational performance or mission success.

The Ombuds is accountable for conducting informal inquiries, raising issues of concern to appropriate officials and redirecting matters not under the Ombuds’ realm to the appropriate office or organization with an existing administrative system, for example, the Inspector General, the Office of Equal Opportunity and Diversity, Ames Federal Employees Union, Procurement

Ombuds, Chief Counsel and Human Resources.

The Ombuds’ success depends on their reputation for confidentiality, fairness, objectivity and respectful concern for the welfare of all individuals in the NASA community and for the well-being of the agency.

Jack Boyd continues to serve as Ames Ombuds and Geoffrey Briggs continues to serve as the alternate Ames Ombuds. The Ombuds office is located in Building 200, Room 216, Mail Stop 200-1A. Boyd can be reached at (650) 604-5222 or john.w.Boyd@nasa.gov and Briggs can be



Jack Boyd, Ames Ombuds

Geoffrey Briggs, Ames alternate Ombuds

reached at (650) 604-0218 or geoffrey.a.briggs@nasa.gov. The Ombuds website is <http://inside-ames.arc.nasa.gov/life-ombudsoffice.php>



Structured Wikis explained

In August, Peter Thoeny presented a Director’s Colloquium entitled “Structured Wikis at Work - Enterprise 2.0 in Action.” A wiki enables teams to organize and share content and knowledge in an organic and free manner, and to schedule, manage and document their daily activities. Attendees learned from the founder of TWiki, the leading open source enterprise Wiki what exactly a wiki is, and how you can use it to enhance the communications within your organization and between organizations. Thoeny is the founder of the TWiki Enterprise Collaboration platform and has lead the open-source project for 11 years. He is the CTO of Twiki Inc, a company providing enterprise agility platform solutions. He invented the concept of structured wikis, where free form wiki content can be structured with tailored wiki applications.

NASA photo by Dominic Hart

In memory of ...



David Herman Limtiaco Aguon

David Herman Limtiaco Aguon

David Herman Limtiaco Aguon worked as a printing specialist in the Reproduction Services branch. He worked there 20 years and retired in 1996. Aguon passed away in July 2010.

He was born July 24, 1943 to the late Nicolas Castro Aguon and Ana Limtiaco Aguon. He was predeceased by his eldest brother Alfred Aguon. Aguon leaves his wife Anita, his children Ken, Randy Orlando Aguon and Lizette Smith, his siblings, Juan Aguon, Patricia Camacho, Rosita Quenga and Nicolas Aguon, Jr., 12 grandchildren and four great-grandchildren.

George Alger

George Alger passed away on Aug. 18, 2010. Alger fought to the end of his year-long fight with cancer.

Deeply respected and universally admired, Alger's enthusiasm and passion for his work and family will continue as inspiration to all.

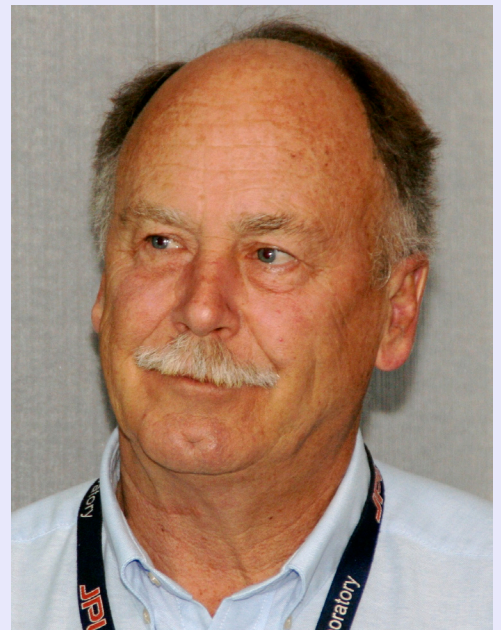
His spirit was infectious. He was an engaging and innovative leader at NASA for more than three decades. He led the NASA Ames IT branch as division chief for five years, until 2008, after serving as IT services manager for 14 years, overseeing all basic IT services including data, voice, video, computer, support staff and contracted resources in support of Ames.

Alger's earliest experience at Ames began in 1976, spanning 21 years as the Airborne Science manager, supporting NASA and

the international science community in verification and validation of engineering instruments, as well as basic science with airborne instrumentation.

He was part of the Ozone Hole Research mission (AASE and AASE-II), traveling to the North and South Poles, in addition to leading several flight missions. Alger flew aboard the CV-990, C-130 and DC-8 NASA aircraft on many missions. Alger made numerous contributions to the Airborne Science Mission at Ames.

A graduate of San Jose State University, Alger held a bachelor of science degree in meteorology. Heartfelt condolences to Alger's wife Marsha, his son and daughter, and his grandchildren, in addition to his many family members, friends and colleagues.



George Alger

In memory of ...

NASA photo by J. T. Heineck



Charles Edgar "Charlie" Billings

Ames Fellow, Charles Edgar "Charlie" Billings passed away Aug. 30, 2010 at the age of 81.

Billings was drafted into the Air Force and attended the USAF School of Aviation Medicine. He was assigned

Charles Edgar "Charlie" Billings

as a squadron flight surgeon for a Fighter-Interceptor Wing located in England. Discharged, he took graduate training in aviation and occupational medicine at Ohio State University (OSU), and then taught at OSU for 15 years.

He joined NASA as a medical research officer and became chief of Aviation Safety Research. He was promoted to senior scientist and served as division chief of the Aerospace Human Factors Research Division.

During his tenure with the division, Billings was one of the four founders in 1976 of the Aviation Safety Reporting System (ASRS), a national safety reporting system that still receives voluntarily submitted aviation incident reports in order to lessen the likelihood of aviation accidents.

Billings was selected as an Ames Fellow and Ames chief scientist before his retirement from NASA Ames in 1992. He returned to OSU as an Emeritus Professor,

and for the past 17 years worked in the School of Engineering in cognitive systems engineering and human factors research.

Billings' expertise in aviation medicine and human factors is internationally recognized, having been published in over 80 professional articles, books and lectures. His abilities earned him numerous honors, including president of the Aerospace Medical Association, a Fellow of the Royal Aeronautical Society and as a two-time NASA leadership award designee.

His knowledge made him a recruited consultant on the United Aircraft Corporation (Apollo Project) as well as a Visiting Lecturer offering his special talents to be heard internationally at prestigious institutions in the United States, Canada, England, New Zealand and Australia.

The memorial service was held Sept. 4, 2010. Condolences for the family may be sent at: <http://www.rutherfordfuneralhomes.com>.



Margaretta (Etta) Rosamond

Margaretta (Etta) Rosamond worked at NASA Ames from 1968 until she retired in 1991. Rosamond passed away on June 24, 2010 in Mountain View. She died from a brief illness following cancer surgery. She was 77 and a long time resident of Sunnyvale.

Rosamond began as a clerk typist in the Technical Information Division, Library Branch.

Margaretta (Etta) Rosamond

Next, she became a library technician and then a financial resources specialist for the Technical Information Division. She earned herself the nickname of "Financial Wizard" while working with Paul Bennett. She worked on many teams for different projects including projects at Dryden, finding lifetime friends in the process.

In her early adult life, she was in the US Air Force. While working at Ames, Rosamond went back to school as a working adult and completed her AA degree from De Anza College in 1978 and her BS degree from USAF in 1980. She also was a long-time Jetstream Toastmaster at Ames where she became a Distinguished Toastmaster.

She served in many official roles and as a mentor to many. She enjoyed many things, including, traveling to Hawaii and other places, playing bridge often, word puzzles, reading

and enjoying the company of dear friends. She was an active volunteer at Palo Alto Medical Foundation (Mountain View campus) for the last three years.

She is survived by her daughters, Cathy Payne, Karen Fowler and her husband Jon, grandson Joshua Payne and other family members.

Charitable donations can be made in her honor to the following or to your favorite charity: American Cancer Society at <https://www.cancer.org/involved/donate/donateonlinenow/index>; the Sunnyvale Community Services at www.svcommunityservices.org; and the Sunnyvale Public Library at <http://sunnyvale.ca.gov/Departments/SunnyvalePublicLibrary.aspx>.

There was a "Celebration of her Life" gathering in August. She is interred at Alta Mesa Cemetery in Palo Alto.

From our readers ...

Many of you missed the Astrogram. Here's a small sample of the comments we've received and are pleased to know you liked the first return issue of the newsletter.

- *Great that we have the Astrogram again!*
- *Thank you for mailing me the Astrogram. It was a pleasant surprise. Looking forward to receiving future issues.*
- *I received my Astrogram the other day and was very pleased. I am an Ames retiree (1989). Also, I worked and flew on the 141, so I was also pleased to get the information about SOFIA. I'll be looking forward to the next issue.*
- *I just read through the June 2010 Astrogram. You've done a great job putting it together, and I wanted to let you know that I'm delighted to learn it will be resuming its appearance as a quarterly publication!*
- *Thank you very much. I am delighted to be able to know what is happening at Ames and with NASA in general. Thanks again.*
- *I've missed getting the Astrogram. It keeps us retirees in the loop about NASA Ames.*
- *I was so excited to see the return of the Astrogram. I have missed it! I thought I would read the online version but I never did. I appreciate being able to see the good work going on around the center. I think this builds a stronger Ames community and strengthens ties across organizations to hear what others are doing. I don't know what brought it back but wanted to thank you!*
- *Thank you for re-instituting the hard copy of the Astrogram. I had actually stopped reading it after it was only available on-line.*
- *And finally, a letter from NASA retiree Joyce Pidgeon:
"Thank you, thank you, thank you for my Astrogram. It means more than I can say. A piece of my heart will always remain at NASA Ames. What a great surprise to find an "Astrogram" in my mailbox today. It is so full of "junk" anymore (the mailbox!!!) I worked at Ames for many happy years; retired about 11-12 years ago. I haven't been able to keep up and need information anytime anyone discussed the monies spent on the space programs."*

Kepler Mission discovers two planets

continued from front page

cessive transits could be analyzed.

"This discovery is the first clear detection of significant changes in the intervals from one planetary transit to the next, what we call transit timing variations," said Matthew Holman, a Kepler mission scientist from the Harvard-Smithsonian Center for Astrophysics in Cambridge, Mass. "This is evidence of the gravitational interaction between the two planets as seen by the Kepler spacecraft."

In addition to the two confirmed giant planets, Kepler scientists also have identified what appears to be a third, much smaller transit signature in the observations of Kepler-9. That signature is consistent with the transits of a super-Earth-sized planet about 1.5 times the radius of Earth in a scorching, near-sun 1.6 day-orbit. Additional observations are required to determine whether this signal

is indeed a planet or an astronomical phenomenon that mimics the appearance of a transit.

NASA Ames manages Kepler's ground system development, mission operations and science data analysis. NASA's Jet Propulsion Laboratory in Pasadena, Calif., managed Kepler mission development.

Ball Aerospace and Technologies Corp. in Boulder, Colo., developed the Kepler flight system and supports mission operations with the Laboratory for Atmospheric and Space Physics at the University of Colorado in Boulder. The Space Telescope Science Institute in Baltimore archives, hosts and distributes the Kepler science data.

For more information about the Kepler mission, visit: <http://www.nasa.gov/kepler>

Discover science

continued from page 3

Goapele brought young people to the stage to help her sing messages of optimism and about helping others.

"We reached many in the community who may not have been able to visit Chabot due to economic circumstances. We were very pleased to spread the message that science education is accessible to everyone," said Ames Center Director S. Pete Worden.

The festival's huge crowd turned out to be record-breaking for a single day attendance at Chabot.

Chabot's Executive Director and Chief Executive Officer Alexander Zwissler was delighted by the overwhelmingly successful event.

"Providing a quality science experience to local families is extremely important to us. The enthusiasm around the event was contagious and we consider it a tremendous success," Zwissler said.

Author discusses book about science fiction and the space race

NASA photo by Eric James



This summer, Ames employees were invited to a presentation and book signing by Megan Prelinger, who discussed her new book, "Another Science Fiction: Advertising the Space Race 1957-1962." The NASA Ames History Office hosted the event. Prelinger is co-founder and architect of information design of the Prelinger Library, a private research library open to the public, which houses more than 40 thousand books and other print artifacts.

T-38 trainer jets land at Moffett Field



NASA photo by Dominic Hart

NASA's T-38 trainer jets are shown in this historical photo lined up on the Moffett Field airfield. Astronauts have been flying the T-38 aircraft into Moffett Field for their space shuttle training in the Vertical Motion Simulator throughout the shuttle program.

Ames Ongoing Monthly Events Calendar

African American Advisory Group (AAAG) Mtg., every fourth Wednesday of each month, 12 - 1 p.m., Bldg. N255 Rm 101C. POC: Chair - Jim Busby, ext. 4-2792.

Ames Amateur Radio Club, third Thurs., of ea. month, 12 noon, N-T28 (across from N-255). POC: Michael Wright, KG6BFK, 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 third Wednesday of each month, 12 noon - 1 p.m., Bldg. N-245 Auditorium. For information on the club go to the website <https://ames.clubexpress.com>. POC: Julie Nottage at jnottage@mail.arc.nasa.gov, ext. 4-3711.

Ames Bowling League, Homestead Lanes Thursdays at 6:20 p.m. Need substitute bowlers. Sign up questions: Mike Liu at ext. 4-1132.

Ames Child Care Center Board of Directors Mtg., every other Monday, 1 - 2:30 p.m., Bldg. N-262/Rm 180. POC: Sally Miller, ext. 4-5411.

Ames Contractor Council Mtg., first Weds. of ea. month, 11 a.m., Bldg. N-200, Committee Room. POC: Elisa Taube (408) 541-2838.

Environmental Forum, first Thursday every other month, 9 a.m. - 10 a.m., T20-G conference Rm. 129. URL: <http://q/e/events/EHS-series/> POC: Stacy St. Louis, ext. 4-6810.

Ames Federal Employees Union (AFEU) Mtg., third Wednesday ea. month, noon. Bldg. N-247, Rm. 109.. Guests welcome. Info at: <http://www.afeu.org>. POC: Paul K. Davis, ext. 4-5916.

The Hispanic Advisory Committee for Excellence (HACE) Mtg., first Thursday of each month, 11:45 a.m. - 12:45 p.m., Bldg. N-255, Rm. 101C. POC: Eric Kristich, ext. 4-5137 and Mark Leon, ext. 4-6498.

Jetstream Toastmasters, Mondays, 12 p.m. - 1 p.m., Bldg. N-269/Rm.179. POC: Tim Steiger, ext. 4-0195, tim.steiger@nasa.gov. Web: <http://jetstream.freetoasthost.com>

Ames Mac Support Group Mtg., third Tuesday of each month, 11:30 a.m. to 1 p.m., Bldg. N-262, 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.

Moffett Aikido Club, Monday and Wednesday evenings, 6:30 p.m., Bldg. 944, across from former McDonalds. Aikido is a non-competitive, defensive martial art known as the "Way of Harmony." POC: Diane Pereda (650) 575-9070 or Robert Dean (650) 787-1007, email: mfaikido@aol.com

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

Ames Nimble Knitters Club, every Tuesday at 11:30 a.m., Bldg. N210/Rm 141. POC: Rosalyn Jung, knitfan2@yahoo.com or Diane Alexander at ext. 4-3140. URL: <http://knit.arc.nasa.gov>

Ames Safety Committee, third Thursday of each month, 10 a.m. - 11 a.m., Bldg. N-237, Rm. 201. POC: John Livacich, jlivacich@mail.arc.nasa.gov, ext. 4-3243 or Terry Reichert, treichert@mail.arc.nasa.gov, ext.-4-0375.

Ames Sailing Club Mtg., second Thursday of each month (March through November), from 12 p.m. - 1 p.m., Bldg. N-260, Rm. 113. URL: <http://sail.arc.nasa.gov/>. POC: Clif Horne, ext. 4-4571.

Ames Cat Network

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.

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/Contractors, \$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.

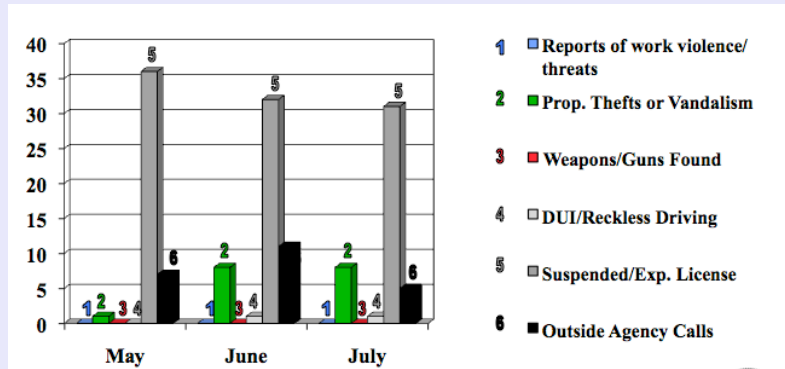
Ames emergency announcements

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.

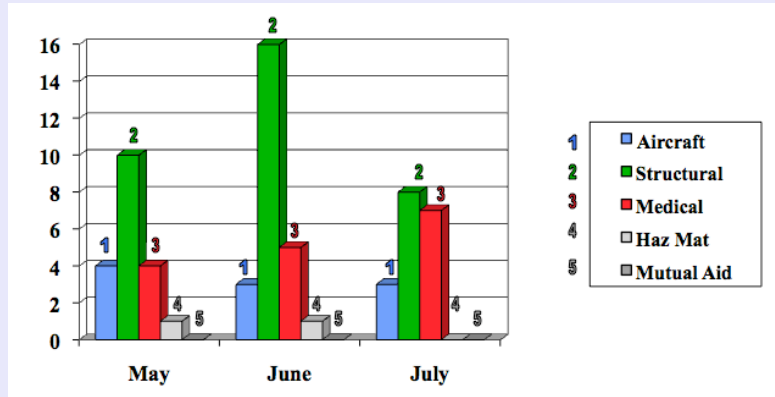
Protective Services monthly activity

A statistical summary of activities of the Protective Services Division's Security/Law Enforcement and Fire Protection Services units for the month of July 2010 is shown below.

Security/Law Enforcement Activity



Fire Protection Activity



Ames re-opens door to discovery

continued from page 8

NASA's 2009 Lunar Crater Observation and Sensing Satellite mission (LCROSS) has its own mock-up mission control center.

In addition, a 2013 NASA mission called the Lunar Atmosphere and Dust Environment Explorer (LADEE) features an interactive computer display that explains the mission and a mission instrument, called the spectrometer. This robotic mission will study the moon's atmosphere and the fine grains of dust made from the moon's surface rocks.

The Stratospheric Observatory for Infrared Astronomy (SOFIA) mission also has a computer display. It describes the SOFIA airborne observatory as a Boeing 747 airplane fitted with a 2.5 meter infrared telescope.

"The AEE exists to engage and challenge students and their teachers to participate in the excitement of discovery. These young students may soon become our nation's capable engineers, scientists, researchers, explorers and savvy leaders," said Tom Clausen, education specialist at NASA Ames. "The renovated AEE demonstrates NASA's commitment to keeping its doors open to our students and the fulfillment of their dreams."

National Aeronautics and Space Administration

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Newsletter of NASA Ames Research Center, Moffett Field, California

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