NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
ASTROGRAM
Newsletter of NASA Ames Research Center, Moffett Field, California

November 2008

NASA restores historic Lunar Orbiter 1 image of Earth

BY KIMBERLY NEWTON

NASA recently released a newly restored 42-year-old image of Earth. The Lunar Orbiter 1 spacecraft took the iconic photograph of Earth rising above the lunar surface in 1966.

Using refurbished machinery and modern digital technology, NASA produced the image at a much higher resolution than was possible when it was originally taken. The data may help the next generation of explorers as NASA prepares to return to the moon.

In the late 1960s, NASA sent five Lunar Orbiter missions to photograph the surface of the moon and gain a better understanding of the lunar environment in advance of the Apollo program. Data were recorded on large magnetic tapes and transferred to photographic film for scientific analysis. When these images were first retrieved from lunar orbit, only a portion of their true resolution was available because of the limited technology.

The Lunar Orbiter Image Recovery Project, located at NASA's Ames is taking analog data from original recorders used to store on tape and 1,500 of the original tapes, converting the data into digital form, and reconstructing the images. The restored image released Nov. 13, 2008 confirms data from the original tapes can be retrieved from the newly-restored tape drives from the 1960s when combined with software from 2008.

"I'm glad that we could offer our services to the project team and play a part in the recovery of such an historic image of the moon," said Ames Center Director S. Pete Worden.

Future images will be made publically available when they are fully processed and calibrated. The intent of this project is to facilitate, wherever possible, the broadest dissemination and public use of these images.

"It's a tremendous feeling to restore a 40-year-old image and know it can be useful to future explorers," said Gregory Schmidt, deputy director of the NASA Lunar Science Institute at Ames. "Now that we've demonstrated the capability to retrieve images, our goal is to complete the tape drives' restoration and move toward retrieving all of the images on the remaining tapes," he added.

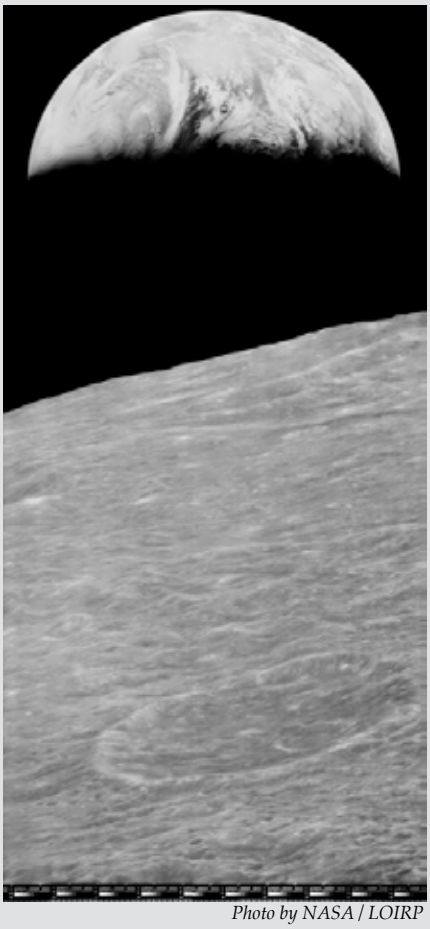


Photo by NASA / LOIRP

Newly restored 42-year-old image of Earth rising above the lunar surface in 1966, taken by the Lunar Orbiter 1 spacecraft.

As the images are processed, they will be submitted to the Planetary Data System, which NASA's Space Science Mission Directorate in Washington sponsors in cooperation with NASA's Jet Propulsion Laboratory in

continued on page 5

Zeppelin completes journey to Moffett

NASA photo by Eric James

The Airship Ventures Zeppelin ended its dramatic cross-country trek and landed at its new base location at Moffett Field on Oct. 25, 2008 in the early afternoon. This airship is the first to fly over the U.S. for more than 70 years. NASA and Airship Ventures entered into an agreement to use the airship to assist with disaster response agencies, for scientific research and educational training with local science centers and museums. A festive dedication ceremony was held Nov. 21, 2008. See page 5 for story and photos.

On the Inside . . .

NASA Ames collaborates to develop robotic lunar lander

by Michael Mewhinney

NASA Ames Research Center is collaborating with a commercial partner to develop a lunar lander for future low-cost missions to the moon.

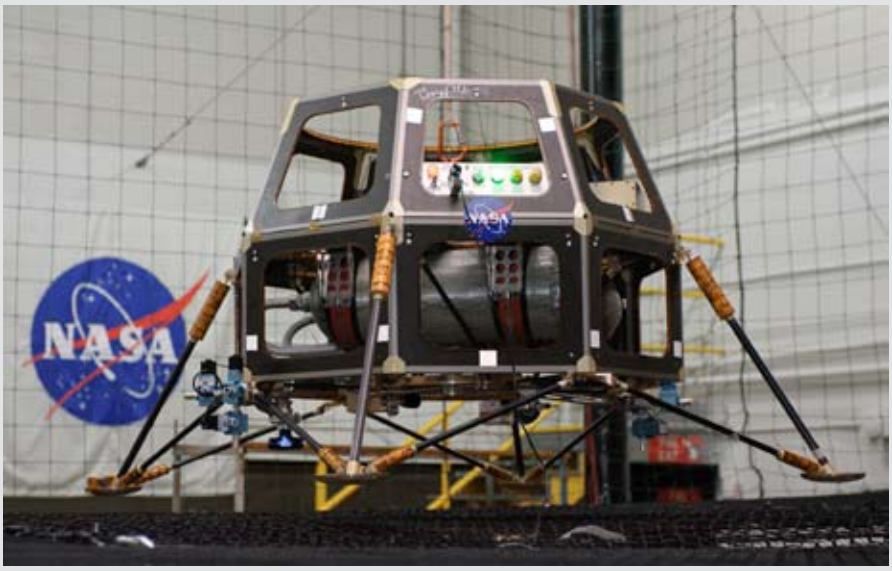
Under the terms of a Reimbursable Space Act Agreement with Odyssey Moon Ventures LLC, Henderson, Nev., NASA Ames will share its small spacecraft technical data and expertise with the company. In return, Odyssey Moon Ventures will reimburse NASA Ames for the cost of providing the technical support and will share its technical data from its engineering tests and actual lunar missions with NASA.

"NASA is a big supporter of developing the commercial space sector, and is interested in developing small spacecraft for future lunar exploration," said NASA Ames Research Center Director S. Pete Worden. By making these designs available to commercial enterprises, we hope to spark rapid development of low-cost, small spacecraft missions."

As part of the agreement, NASA will share data from a small spacecraft system under development at NASA Ames called the Common Spacecraft Bus, which uses a modular design adaptable to a variety of mission configurations as either an orbiter or a lunar lander. NASA also will share data from the Hover Test Vehicle, an engineering prototype of the Common Spacecraft Bus developed at Ames to evaluate hardware and software systems.

Odyssey Moon Ventures LLC is a U.S. company focused on the development of commercial systems for lunar exploration. The company is headed by Jay Honeycutt, a veteran space executive with more than 40 years of experience, including serving as director of NASA's Kenney Space Center, Fla., and president of Lockheed Martin Space Operations.

In addition to the work associated with this collaboration, Odyssey Moon Ventures will be responsible for the U.S. launch operations and ground processing of spacecraft that will be used in future commercial flights to the moon. Odyssey Moon Ventures LLC is headquartered in Nevada, with offices in Washington DC and Cocoa Beach, Fla. The firm collaborates with Odyssey Moon Limited, a company headquartered in the Isle of Man, with offices in Toronto, Canada, London, and Washington DC.



NASA photo by Dominic Hart

NASA's Hover Test Vehicle, an engineering prototype of the Common Spacecraft Bus developed at Ames, is used to evaluate hardware and software systems.

For more information about Odyssey Moon Ventures, visit: www.odysseymoon.com

Combined Federal Campaign extended

NASA photo by Eric James

The 2008 Combined Federal Campaign (CFC) Kick-off and Keyworker Training took place on Oct. 15 in the Auditorium, with a reception following the program in the lobby of N-200. Standing left to right, Danielle Sutton (guest speaker), Miriam Glazer (CFC deputy chair), Lupe Sanchez (CFC team), Dee Sutton (United Way of Santa Clara), Diana Frontella (CFC team), Paul Pinaula (CFC chair), Paul Espinosa (CFC team). Kneeling: Gerald DePerio (CFC team) and Don Durston (CFC advisor). To date, contributions total $191,000. The campaign has been extended until Dec. 12. If you have not yet contributed, please contact your keyworker or campaign team member.

NASA supercomputer ranks among world's fastest

by Michael Mewhinney and Jill Dunbar

NASA's newest supercomputer at Ames has garnered the number three spot on the Top500 list of the world's most powerful computers. The announcement was made Nov. 17, 2008 at the International Conference for High-Performance Computing, Networking, Storage, and Analysis (SC08) in Austin, Texas.

The Pleiades supercomputer is an SGI® Altix® ICE system with 12,800 Intel Xeon quad-core processors (51,200 cores, 100 racks) running at 487 trillion floating point operations per second (teraflops) on the LINPACK benchmark, the industry standard for measuring a system's floating point computing power. One of the most powerful general-purpose supercomputers ever built, Pleiades also features the world's largest InfiniBand® interconnect network.

The LINPACK run also measured electrical power consumption—an increasingly important consideration in high-end computing. Using a total of 2.09 megawatts, or 233 megaflops per watt, Pleiades is among the most energy-efficient supercomputers in the world.

"Pleiades represents a significant engineering achievement in several ways," said William Thigpen, Pleiades project manager at the NASA Advanced Supercomputing (NAS) Division at Ames. In addition to its power and InfiniBand record, "Pleiades can run NASA codes with minimal modifications, and is compatible with standard desktop engineering workstations so our users can migrate codes easily from their desktops. Users from all key mission areas will have an enormous resource to meet their critical milestones," Thigpen added.

Among the scientific and engineering projects accepted for computer time on Pleiades:

- Extensive simulations of large computational problems for future space vehicle design;
- Development of increasingly detailed models of large-scale dark matter halos and galaxy evolution;
- Running coupled atmosphere-ocean models to assess decadal climate prediction skill for the Intergovernmental Panel on Climate Change.

Photos by David Robertson

The Pleiades supercomputer at NASA Ames has attained the number three position on the Top500 list of the world's most powerful computers.

"Over a record-making few weeks, NASA has again deployed one of the most powerful supercomputers in the world," said Eng Lim Goh, chief technology officer at SGI. "In the race to achieve superior computational power, NASA's knowledge of rapid yet productive deployment is a rare advantage. We are proud to be part of NASA's ongoing journey to show the world what is possible."

"We look forward to seeing the science breakthroughs enabled by Pleiades," said Stephen Wheat, senior director for high performance computing at Intel Corp. "It's rewarding to see that the performance features of the Intel® Xeon® quad-core processors meet the growing computational challenges of the nation's space program."

The InfiniBand® fabric interconnecting Pleiades' 6,400 nodes requires more than 20 miles of double data rate cabling. InfiniBand® is also used as the primary local-area network backbone that interconnects computing, storage, and visualization systems, and to facilitate cross-system data file access. This enables scientific visualization and data analysis to execute concurrently as computer jobs run, producing ultra-high-fidelity results for the enormous datasets used in NASA mission projects.

Pleiades was acquired to augment the space agency's Columbia supercomputer (ranked No. 2 on the Top500 list in November 2004) in supporting NASA's four key mission areas: aeronautics research, exploration systems, science, and space operations.

NASA Ames conducts 2008 earthquake emergency drill

BY MICHAEL MEWHINNEY

In preparation for a major earthquake striking the Bay Area, emergency response teams at NASA Ames underwent two days of disaster response training in November.

Conducted Nov. 5-6, 2008, the Great Worden Quake II emergency exercise featured several events designed to train and sharpen the skills of the center's emergency and disaster assistance responders. In addition, the drill also provided an opportunity for the entire center's workforce to participate and become familiar with specific procedures they would need to follow in the event of a major earthquake.

The emergency drill was developed to respond to a 7.3 magnitude earthquake striking the Hayward and Rogers Creek faults, which if real, would undoubtedly cause numerous injuries and major damage not only at Ames, but also throughout the entire Bay Area region.

"As we all know, one of these days we're going to be experiencing a major earthquake," said Phillip Snyder, deputy chief of Protective Services at NASA Ames. "It's not a question of whether it will happen, but when. This emergency drill will help us prepare for and respond to the real thing.

During the drill, all center employees participated in a mass evacuation of their buildings when the earthquake exercise got underway. Employees assembled in various evacuation zones established throughout the center. The evacuation zones are designed to keep center employees away from hazardous areas, assist in personnel accountability and improve communication. Meanwhile, fire and medical crews treated simulated injuries, while search and rescue teams assessed structural damage and rescued trapped victims. Damage and utility control teams also practiced securing and repairing damaged utilities.

Another scenario during the drill featured a simulated crash landing of a C-130 cargo aircraft at Moffett Field. Members of the NASA Ames Fire Department responded to the crash, along with security forces of the 129th Rescue Wing of the California Air National Guard. In yet another scenario, law enforcement personnel of the NASA Protective Services Office responded to a law enforcement event.

The center activated its Emergency Operations Center (EOC) and staffed it with employees trained to coordinate and support all the simultaneous events occurring throughout the center. As part of the EOC activity, periodic teleconferences were held with EOCs at other NASA centers, assisted by Web-based disaster tracking tools, to help identify how other NASA centers could assist Ames in its disaster response and recovery.

On the second day of the drill, members of the center's Disaster Assistance and Rescue Team (DART) participated in a rescue scenario in the Collapsed Structure Training Facility to practice rescuing victims trapped in a building that had been extensively damaged during the earthquake. Members of NASA's Jet Propulsion Laboratory (JPL), Pasadena, Calif., search and rescue team were deployed to assist the NASA Ames DART search and rescue team during this grueling activity.

continued on page 6

Ames employees participated in the Great Worden Quake II Nov. 5 -6 , 2008 which included an emergency drill evacuation of all center buildings, mock injuries and periodic teleconferences activated by the Emergency Operations Center. Employees were later treated to a lunch outside of Mega Bites Cafe.

NASA photo by Dominic Hart

NASA photo by John Schultz

NASA photo by Dominic Hart

NASA photo by John Schultz

NASA photo by Eric James

NASA photo by Eric James

NASA Ames celebrates 75th anniversary of Moffett Field

Top left photo, from left to right, Ames Center Director S. Pete Worden, Brian and Alexandra Hall of Airship Ventures, and retired U.S. Marine Corps Col. William Moffett III, grandson of U.S. Navy Admiral William Moffett, just after revealing the name of the Airship Ventures Zeppelin airship "Eureka," during the dedication ceremony held at the center Nov. 21, 2008. Top right and bottom left photos, Ames Center Director S. Pete Worden addresses the audience during the event celebration.

NASA photos by Dominic Hart

The public and media were invited to attend Moffett Field's 75th Anniversary celebration on Nov. 21, 2008, commemorating the airship's return to Moffett Field.

As part of the celebration, NASA joined Airship Ventures in the dedication and naming of its new Zeppelin airship, "Eureka" now based at Moffett Field.

Retired U.S. Marine Corps Col. William Moffett III, grandson of U.S. Navy Admiral Moffett, was in attendance to pay tribute to this historic event as well as Wolfgang von Zeppelin, great-great-grand-nephew of Count Von Zeppelin and honorary dignitaries with connections to World War II airship operations, including former pilots. The celebration also included included music and exhibits.

NASA restores historic Lunar Orbiter 1 image of Earth

continued from front page

Pasadena, Calif. The images also will be calibrated with standard mapping coordinates from the U.S. Geological Survey's Astrogeology Research Program in Flagstaff, Ariz.

NASA will launch the Lunar Reconnaissance Orbiter in 2009 to map the moon's surface. The restoration of the Lunar Orbiter images to high quality images will provide the scientific community with a baseline to measure and understand changes that have occurred on the moon since the 1960s. These data could help mission planners assess the long-term risk to lunar inhabitants from small meteor impacts and establish longitude and latitude lines for lunar mapping.

"This effort was made possible by the vision and dedication of Apollo-era NASA employees, independent researchers, and a true veteran team of engineers and young students," said Dennis Wingo, the program lead for the project.

NASA's Exploration Systems Mission Directorate and Innovative Partnerships Program Office in Washington provided initial funding for the project.

NASA photo by Dominic Hart

The Lunar Orbiter Image Recovery Project panel discussion recently held at the center featured, left to right, Ames Center Director S. Pete Worden; Image Recovery Project Lead Dennis Wingo; Lunar image expert Charles Byrne; and Deputy Director NASA Lunar Science Institute Greg Schmidt.

To view the image and for more information about the Lunar Orbiter Image Recovery Project, visit: http://www.nasa.gov/topics/moonmars/features/LOIRP

Meyyappan receives NSEF award for nanoscience advancements

The Nanoscale Science and Engineering Forum (NSEF) of the American Institute of Chemical Engineers (AIChE) recently announced that Meyya Meyyappan, chief scientist for exploration technology at NASA Ames, is one of the 2008 recipients of its major NSEF forum award. Meyyappan received the award in recognition of his outstanding contributions in the advancement of nanoscale science and engineering through scholarship, education or service.

"Dr. Meyyappan is receiving this award not only for his strong technical work at NASA and across government agencies, but also for his outstanding efforts to promote nanoscience and nanotechnology education at all levels," said Bill Grieco, chair of NSEF.

Until June 2006, Meyyappan served as director of the Center for Nanotechnology at the Ames. He is also an adjunct professor at Arizona State University. A founding member of the federal government's Interagency Working Group on Nanotechnology, established by the White House Office of Science and Technology Policy, he participated in the launch of the National Nanotechnology Initiative. He has received numerous awards including a Presidential Meritorius Award and NASA's Outstanding Leadership Medal.

Established by the American Institute of Chemical Engineers, AIChE, in 2003, the Nanoscale Science and Engineering Forum is a technological community for engineers and applied scientists operating at the atomic, molecular or macromolecular levels. Members of NSEF come from a broad spectrum of industries and disciplines such as chemical, biological, and materials processes and production.

NASA photo

Meyya Meyyappan is the recipient of the Nanoscale Science and Engineering Forum (NSEF) forum award for his contributions in nanotechnology.

Public invited to watch Endeavour's launch

NASA photos by Eric James

Ames employees were invited to join members of the public at the Ames ExplorationCenter (Bldg. 943A) to observe the live televised broadcast of the launch of space shuttle Endeavour, STS-126, from Kennedy Space Center on Friday, Nov. 14, 2008. A capacity crowd attended the program that began at 4 p.m.,with a presentation from Jack Boyd, senior advisor to the center director, about NASA Ames' history. Attendees also heard from Alonso Vera about NASA Ames' software technology contributions to the space shuttle and International Space Station programs. Also featured was former astronaut Karol "Bo" Bobko, who described launch activities and answered questions from the audience.

Earthquake drill

continued from page 4

During another scenario, the NASA Ames Fire Department and the NASA Ames Safety, Environmental and Mission Assurance organization responded to a hazardous material incident simulating a chemical leak.

Also during the drill, several Ames senior executives flew down to NASA's Dryden Flight Research Center, Edwards, Calif., to participate in a Continuity of Operations (COOP) exercise. The COOP objective is to rapidly recover the center's essential operations and business functions.

This is the second year in a row that NASA Ames has conduced the Great Worden Quake emergency exercise that is named after NASA Ames Center Director S. Pete Worden.

"NASA Ames is very fortunate to have senior managers who recognize the value of not only planning how to respond to disasters, but also practicing the implementation of those plans," Snyder said. "By involving not only the emergency responders, but also the center's general population, we learn a variety of lessons which will allow us to respond more effectively to a real event."

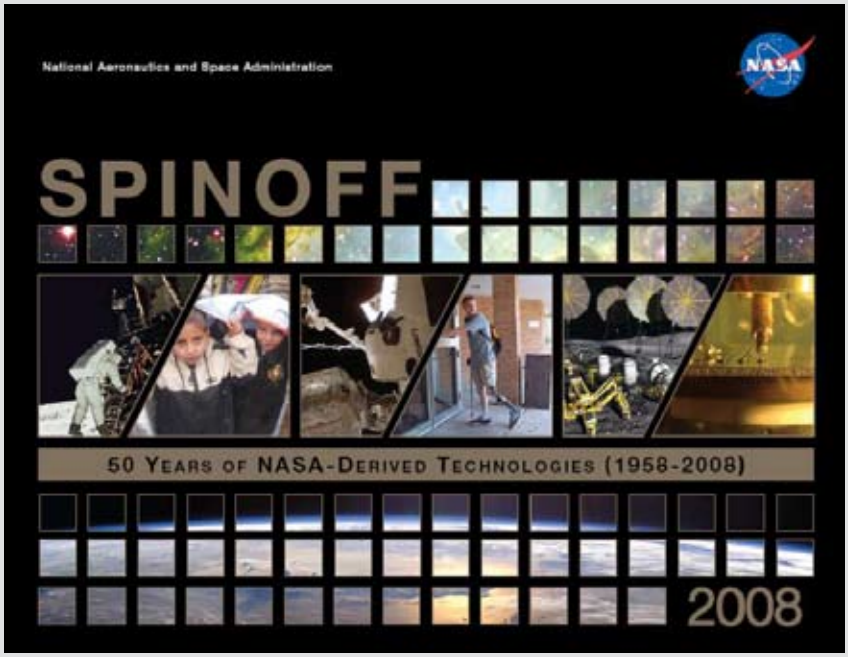
NASA Spinoff 2008 available to Ames employees

by Dina Salazar

The 2008 issue of NASA Spinoff is hot off the press and available for Ames employees. This annual publication documents the outcome of successful commercial partnerships from the NASA Innovative Partnerships Program. Spinoff 2008 highlights new products on the market in the areas of health and medicine; transportation; public safety; consumer goods, homes and recreation; environmental and agricultural resources; computer technology; and industrial productivity.

This edition celebrates NASA's 50th Anniversary with some unique features, such as a 50-year timeline of NASA-derived technologies from historical programs and projects, a summary of award-winning NASA technologies that have been featured in Spinoff over the years, and a partnership news section highlighting successful collaborations with private industry, academia and other government agencies.

This edition contains 50 highlights of NASA-derived technologies applied to commercial products, of which eight success stories originated from Ames. There are also two successful Ames partnerships highlighted in the partnerships news section.



Photographs taken from the Hubble Space Telescope and the International Space Station border a collage of past, present and future NASA missions and spinoffs are depicted on the NASA Spinoff 2008 edition.

To request a free copy of Spinoff 2008, please contact Dina Salazar at e-mail Dina.A.Salazar@nasa.gov or call ext. 4-5238. The full text is available for download at www.sti.nasa.gov/tto .

Ward Cunningham holds discussion about Wiki technology

NASA photo by Eric James

In early November, Ward Cunningham, inventor of the Wiki technology and currently chief technology officer of AboutUs, recently presented a brief introduction to Agile Methods and Wiki technology to employees at Ames. Following the introduction, he took part in a park-bench style, question-and-answer type discussion on the use of Wikis to improve group productivity. Wikis are powerful collaboration tools that allow rapid creation, editing and searching of content. Many people are familiar with Wikipedia, but are not aware of Wikis being used in the workplace; for example, the SharePoint software being piloted by Code I. This event was hosted by OpenAmes and sponsored by the Exchange Council.

Contractors recognized for work excellence at awards ceremony

NASA photo by Dominic Hart

This year's Ames Contractor Council Excellence Awards ceremony was held Nov. 20, 2008, recognizing this year's outstanding contractor teams and individuals who contribute daily to critical missions at Ames. Photo at left is of one of this year's group award recipients, Jacobs Technology.

Sixth annual Hispanic heritage golf tournament held at Ames

Over 100 golfers participated in the recent 6th Annual Hispanic Heritage Golf Tournament sponsored by the Ames Hispanic Advisory Committee for Employees (HACE). Eric Kristich, co-chair of HACE was the master of ceremonies for the event. Frances Busby began the festivities by singing "Proud To Be An American," followed by Dr. David Lopez, president of the National Hispanic University (NHU) and Paul Agnew, Ames' chief financial officer, signing a Memorandum of Understanding (MOU) between NASA and NHU. Karen Bradford represented Ames' Center Director S. Pete Worden and the tournament closed with Mariachis playing into the evening.

The purpose of HACE is to support Hispanic youth, education and community. The MOU signing will launch an array of activities to bridge NASA and the NHU in a focused mission to support diverse communities and the NASA vision; as well foster and plant the dreams of success in the minds and hearts of many Hispanic youth.

Singer/Songwriter Frances Busby, left, began the festivities at the recent 6th Annual Hispanic Heritage Golf Tournament by singing a soul- stirring rendition of "I'm Proud to be an American."

Paul Agnew, Ames chief financial officer, left, and Dr. David Lopez, President of National Hispanic University, right, recently signed an memorandum of understanding between NASA and NHU. (Initially published on front page of October 2008 Astrogram.)

NASA photos by Eric James

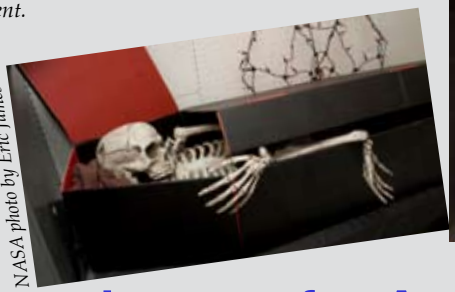
Goblins, ghouls and more appear at Ames' Fall Festival

Ames employees and their friends and families were invited to the NASA Ames Fall Festival on Oct. 30 in the lobby and basement of Bldg. N-200. Light refreshments were served, organized games were held, and raffle prizes were awarded. Other festival attractions included a pumpkin patch, a pumpkin hunt, a 'looney laboratory' and science archive, a castle treasure room and dungeon, and a graveyard, crypt and morgue. Everyone received door prizes and raffle tickets with those wearing a costume receiving an additional five raffle tickets. Raffle prizes included silver eagle silver dollars, small meteorites, amber with insects, trilobites, pumpkins and more. Bev Girten, along with her dedicated group of support staff organized the event.

NASA photo by Eric James

photo by Leticha Hawkins

Daughters of Leticha Hawkins, chief, Workforce Development Branch, Niambi and Naomi Hawkins, are seen here as fellow pirates with Ames Center Director S. Pete Worden during the recent Fall Festival held Oct. 30 in Bldg. 200 in celebration of Halloween.



NASA photo by Eric James

NASA photo by Eric James

...and return for Ames' Halloween Costume Contest

On Oct. 31, the Ames Exchange hosted the annual Halloween Costume Contest, with the top four entrants receiving gift certificates. Also featured was a pumpkin-carving contest and ghouly treats were distributed to Ames employees at Mega Bites Café.

NASA photo by Eric James

NASA photo by Eric James

NASA photo by Eric James

NASA photo by Eric James

NASA photo by John Schultz

photo by Astrid Olson

NASA photo by John Schultz

Colloquium explains microgravity and how it affects lungs

Recently, the Human Tended Suborbital Science Program, in conjunction with the Space Biosciences Division, co-hosted a colloquium by Dr. G. Kim Prisk of UC San Diego entitled, "Gravity and the Lung: Lessons from Microgravity." The lung is exquisitely sensitive to gravity with large differences in alveolar size, ventilation, blood flow and gas exchange induced by gravity. It comes as no surprise that in weightlessness, there are significant changes in lung function when gravity is removed. In addition, because the lung presents the largest surface area of the body to the environment, it is sensitive to inhaled pollutants and especially particulate matter. Since the deposition of inhaled particulates depends on gravity, profound changes are expected in reduced gravity (such as on the lunar surface). This colloquium summarized many of the fundamental studies pertaining to lung function and aerosol deposition in the lung performed in both transient microgravity (parabolic flight), sustained microgravity (on the space shuttle) and long-duration microgravity (International Space Station).

NASA photo by Eric James

Ames hosts info tech expo

The 16th Annual Information Technology Expo took place at Ames in the Mega Bites Cafe in early November. A variety of exhibitors representing today's leading small businesses, technology and services companies, were on hand to answer questions and to demonstrate their products. The event was hosted by the Office of Small Business Programs at NASA Ames.

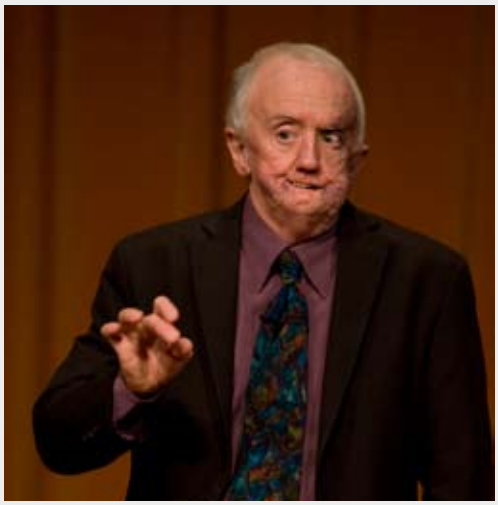
NASA photo by Eric James

Prominent economists discuss issues facing U.S. economy

NASA photo by Eric James

Recently, a panel of prominent economists discussed the most pressing issues facing the U.S. economy. "Jobs, Health, and Business: Elections and the Economy," was the subject of the discussion and was moderated by Russell Hancock, president and CEO of Joint Venture Silicon Valley, shown speaking at the event. Panelists included University of California at Santa Cruz economics professors Robert Fairlie, Lori Kletzer and Nirvikar Singh, as well as Larry Levitt of the Kaiser Foundation.

David Roche gives inspiring talk about overcoming life's challenges



The Employees with Disabilities Advisory Group invited center employees to a special event sponsored by the Office of Diversity and Equal Opportunity with David Roche as the guest speaker. This event was held in recognition of National Disability Employment Awareness Month for October. Roche inspires, entertains and teaches with remarkable warmth, humor and dignity. He has transformed the lessons of a lifelong facial disfigurement into a compelling message that leaves audiences prepared to face their own challenges and better understand differences in others. The story of Roche's heroic journey from shame to strength has been an inspiration, from appearances at the White House to corporations and academic facilities throughout the country. Roche was born with a facial disfigurement called Cavernous Hemangioma (a benign tumor consisting of blood vessels). Without the knowledge of the advanced removal treatments known today, he was left with radiation scarring and the remains of much primitive reconstructive surgery. Roche does not hesitate, however; to call his face "a gift from God."

NASA photo by Dominic Hart

Ames' Coronagraph Experiment explained

NASA photo by Dominic Hart

Ames for Exoplanet Studies recently hosted a colloquium entitled, "Imaging other Earths and High Contrast Coronagraphy at Ames" featuring Ruslan Belikov, an astrophysicist at Ames. Belikov serves as the technical lead for the Ames Coronagraph Experiment lab, where he is developing coronagraph technologies for exo-Earth imaging. The field of exoplanet detection has exploded over the past decade, and the indirect detection of exo-Earths is tantalizingly within reach (notably by the Kepler mission launching next year). Belikov described Ames' plans in this field and gave a progress report of the Ames Coronagraph Experiment.

Kuchner discusses exozodiacal dust

Marc Kuchner of NASA's Goddard Space Flight Center recently hosted a colloquium entitled,"Exozodiacal Dust and Direct Imaging of Extrasolar Planets." Direct imaging of extrasolar planets means contending with dust from extrasolar asteroids and comets. This "exozodiacal dust" creates a structured background light that can easily outshine the light from an exoEarth and confuse a planet-search mission. But exozodiacal dust can be both friend and foe: planets can stir dust clouds into patterns that reveal the presence of the planet and constrain its mass and orbit. Kuchner described some recent research about the topic of 3-D dynamical models of dust clouds with planets and searches for exozodiacal dust with the Keck Interferometer.

NASA photo by Dominic Hart

PM Challenge 2009 is a go!

Mark your calendars for NASA PM Challenge 2009, Feb. 24-25, 2009 in Daytona Beach, Fla.

The NASA Office of General Counsel has determined that the PM Challenge is an internal NASA training meeting. The PM Challenge is not subject to the conference reporting requirement or conference attendance restrictions associated with the 2008 NASA Authorization Bill.

The PM Challenge is focused on training, lessons learned, knowledge sharing, and new ideas in the areas of program/project management, systems engineering, risk management and related disciplines. "Connect and Discover" is the PM Challenge 2009 theme.

The PM Challenge is organized by the NASA Academy of Program, Project and Engineering Leadership within the Office of Chief Engineer and the Office of Safety and Mission Assurance.

For more information, please visit the PM Challenge Web site: http://pmchallenge.gsfc.nasa.gov/

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. 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: Kathleen Starmer, ext. 4-6959

Environmental Forum, first Thursday every other month, 9 a.m. - 10 a.m., T20-G conference Rm. 129. URL: http://q/qe/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: Miwa Hayashi, ext. 4-1397, mhayashi@mail.arc.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. N-241/Rm 237. 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.

Safety Data

NASA-Ames Occupational Illness-Injury Data for Calendar Year-to-Date 2008 Jan. 1, 2008 - Oct. 31, 2008

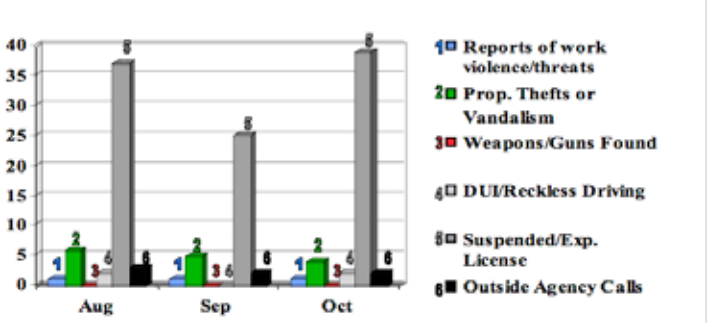
	Civil Servants	Contractors
First aid cases	20	16
Lost Workday cases	1	2
Recordable cases	3	5
Restricted duty days	0	3

Above data are as of Oct. 31, 2008. May be subject to slight adjustment in the event of a new case or new information regarding an existing case.

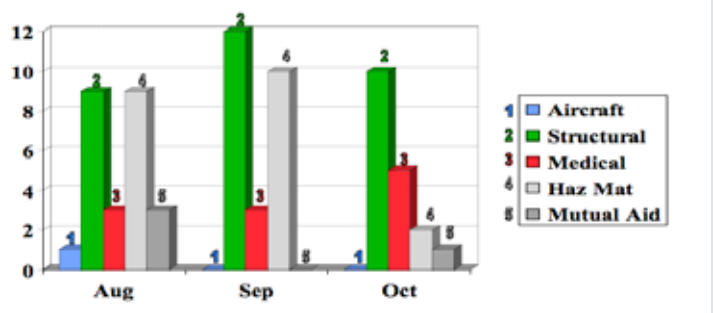
Protective Services monthly activity

A statistical summary of activities of the Protective Services Division's Security/Law Enforcement and Fire Protection Services units for the month of October 2008 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 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 in nice home in Santa Clara, Free wireless DSL, washer and dryer, kitchen privileges,central AC, heat. Free utils. 10 mins from Ames. Close to HW101, 237, 280, train stn, bus stop. Beautiful, safe, peaceful neighborhood, $750 a month. First, last and $400 deposit to move in. No drugs, N/S, no extended stay of friends or overnight guests. Month-to-month or long term. E-mail frank586@sbcglobal.net or (408) 247-7974.

Looking for housing within biking distance of Ames in the $500/month range. Quiet, neat, nice. Call (207) 253-9803.

Transportation

'08 Mazda 3, four-door, touring sedan. White with sand color interior. Under factory warrenty only 750 miles on it. Price: $15,800. Call (650) 787-1375 during evening hours after 6 p.m. Ask for Anna.

Drive in the carpool lane alone anytime in the most fuel efficient car in the country. 2000 Honda Insight, 5-speed manual, ~50 K miles, 60/70 mpg city/hwy. Carpool sticker. Battery warranty. Email: max.bernstein@nasa.gov

Miscellaneous

2006, 6HP Mercury outboard motor, four stroke, Less than three hours on motor, looks and is new, $1,595. Two Scotty downriggers, short arms, crank style, both for $80. Joe (650) 369-0578.

Two tickets to Celine Dion concert at HP Pavilion Feb. 20, 2009. Section 106, Row 13. $400. Email: acsullivan@comcast.net

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.

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.

Ongoing 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 apt. in 24 hour security fbldg. overlooking Washington Square Park, $1,000/week or 3,000/month, negotiable. Call (650) 430-6977.

Paris/France: Fully furnished studio. 5th arr, Latin Quarter, Notre Dame and Lie-St. Louis, $1,400/week, negotiable. Call (650) 430-6977.

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

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.

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.

National Association of Science Writers tour Ames

NASA photo by Dominic Hart

The National Association of Science Writers recently visited Ames to tour the NASA Advanced Supercomputer facility, FutureFlight Central, the Robotics Lab, Crew Vehicle Systems Research Facility, the Vertical Motion Simulator and the Arcjet.

Java open source software discussed

NASA photo by Dominic Hart

Dr. James Gosling, Fellow and vice president of Sun Microsystems, recently presented a Director's Colloquium at the center entitled, "The Impact of Open Source Software on Space Exploration." Attendees learned about open source software from the pioneer who created the Java programming language. Gosling discussed the importance of open source software, which has been a cornerstone of the Sun Microsystems business model. Today, NASA conducts research and development in software and software technology as an essential response to the needs of NASA missions. Currently, NASA has several options for the release of these NASA-developed software technologies, including using the NASA Open Source Agreement (NOSA). Gosling relayed his thoughts on what the impacts of open source software might be on NASA's space exploration program.

Kudos to Ames

BY ENAYAT FEIZZADEH

My name is Enayat Feizzadeh. I have been working at NASA Ames for more than 20 years. I am from Iran and I previously have worked for several companies there and also in Japan. Before I began working at NASA Ames, I worked for several companies in the United States.

As noted, I have worked for many different companies, but I have never worked in a place like NASA Ames. People who never worked outside NASA Ames do not understand how blessed or lucky they truly are. In other places, you could lose your job just because your child is sick and you have chose to stay home with the child.

When I was very young, I lost my good health due to a painful illness. One day during my youngest years, I wrote in my diary, "God, have you created any other person less lucky fortunate than me?" Last week, I found myself reviewing my diary and saw that same page I wrote decades ago. I smiled and added this quote to that same page: "God, thank you for giving me the opportunity to work at NASA Ames; I feel like I am the luckiest man in the world."

ASTROGRAM

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

Managing Editor.....Michael Mewhinney
Editor, Layout and Design.....Astrid Olson

You can reach the Astrogram Office at: astrogram@mail.arc.nasa.gov or by phone at (650) 604-3347. Astrogram Web site: http://www.nasa.gov/ames/astrogram.

Astrogram deadlines

Please submit articles, calendar and classified advertisements to astrogram@mail.arc.nasa.gov no later than the 10th of each month. If this falls on a 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.