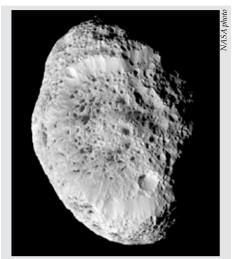


July 2007

NASA finds hydrocarbons on Saturn's moon Hyperion

NASA's Cassini spacecraft has revealed for the first time surface details of Saturn's moon Hyperion, including cup-like craters filled with hydrocarbons that may indicate more widespread presence in our solar system of basic chemicals necessary for life.



NASA's Cassini spacecraft's recent photograph of Saturn's moon Hyperion shows its spongelike appearance with craters that are filled with hydrocarbons.

Hyperion yielded some of its secrets to the battery of instruments aboard Cassini as the spacecraft flew close by in September 2005. Water and carbon dioxide ices were found, as well as dark material that fits the spectral profile of hydrocarbons.

A paper published in the July 5, 2007, issue of Nature reports details of Hyperion's surface craters and composition observed during this flyby, including keys to understanding the moon's origin and evolution over 4.5 billion years. This is the first time scientists were able to map the surface material on Hyperion.

"Of special interest is the presence on Hyperion of hydrocarbons - combinations of carbon and hydrogen atoms that are found in comets, meteorites and the dust in our galaxy," said Dale

Cruikshank, a planetary scientist at Ames and the paper's lead author. "These molecules, when embedded in ice and exposed to ultraviolet light, form new molecules of biological significance. This doesn't mean that we have found life, but it is a further indication that the basic chemistry needed for life is widespread in the universe."

Cassini's ultraviolet imaging spectrograph and visual and infrared mapping spectrometer captured compositional variations in Hyperion's surface. These instruments, capable of mapping mineral and chemical features of the moon, sent back data confirming the presence of frozen water found by earlier ground-based observations, but also discovered solid carbon dioxide (dry ice) mixed in unexpected ways with the ordinary ice.

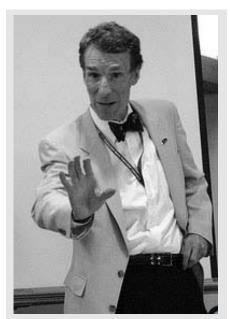
Images of the brightest regions of Hyperion's surface show frozen water that is crystalline in form, like that found on Earth.

"Most of Hyperion's surface ice is a mix of frozen water and organic dust, but carbon dioxide ice is also prominent. The carbon dioxide is not pure, but is somehow chemically attached to other molecules," explained Cruikshank.

Prior spacecraft data from other moons of Saturn, as well as Jupiter's moons Ganymede and Callisto, suggest that the carbon dioxide molecule is "complexed," or attached with other surface material in multiple ways. "We think that ordinary carbon dioxide will evaporate from Saturn's

continued on page 2

Bill Nye speaks at Ames summit



Bill Nye, 'the Science Guy,' spoke at Ames during the Participatory Exploration Summit held recently at the center.

Bill Nye, 'the Science Guy,' spoke recently at the Participatory Exploration Summit held in June at Ames. The event gathered technology experts, communications and thought leaders and NASA personnel to discuss how to use new technologies to make NASA's work more accessible through 'participatory exploration.' Participatory exploration is the way in which the public can actively engage in, and potentially contribute to, the exciting activities that NASA conducts.

On the Inside . . .

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Liquid-mirror telescope on moon might see deeper back in time

Someday, astronauts on the moon may pour liquid onto a disc-shaped mesh to make a huge mirror for a powerful telescope, according to a recently public technical article.

The liquid would include a silver-coated surface, and would be part of an optical-infrared telescope with a 66-foot (20-meter) to 328-foot (100 meter) aperture capable of observing objects 100 to 1,000 times fainter than the James Webb Space Telescope, the authors say. The technical paper appeared in the June 21, 2007, issue of the journal, Nature.

"In this case, we have shown how the moon is ideal (for) using liquid mirror technology to build a telescope much larger than we can affordably build in space," said Ames Center Director S. Pete Worden and a co-author of the technical paper. The lead author is Ermanno Borra, Laval University, Quebec, Canada. "Such telescopes, perhaps 100

meters in diameter, can see back to the early phases of the universe after the Big Bang," Worden added.

The authors envision making lunar, infrared telescopes to study normal and dwarf galaxies.

"The lunar, liquid-mirror project was supported by the NASA Institute for Advanced Concepts. It enabled a team of scientists including myself to show how the moon - our first target in the Vision for Space Exploration (VSE) - might support astronomy," Worden explained. "We hope that this or similar possibilities will excite the scientific community about the opportunities contained within the VSE," Worden observed.

According to the article, an uncoated mirror would be carried to the moon in a drum that astronauts would empty into a rotating mesh, robotically unfolded like an umbrella.

"Surface tension would prevent the liquid from falling through the small holes of the mesh," the authors said. The major advantages of liquid telescope mirrors include ease of shipping, assembling and maintenance, "which are far easier than for a solid



A 3.7 meter-diameter liquid mirror, such as this one at Laval University, someday might be used to create a huge mirror for a large telescope on the moon. Mercury is used in the liquid mirror. There are no detectable mercury vapors in the air because a thin transparent layer of oxide covers the mirror's surface. Shown from left to right are an unidentified undergraduate student; Remi Cabanac, a graduate student who did his Ph.D. thesis on liquid mirrors; Dr. Ermanno Borra (lead author of a technical paper entitled 'Deposition of metal films on an ionic liquid as a basis for a lunar telescope' published in the June 21, 2007 issue of the journal, Nature); and Gregoire Tremblay, who also wrote his Ph.D. thesis on the liquid mirror.)

mirror," the authors note.

In laboratory experiments, the re-

searchers used a liquid made of 'ionic salts' that remains fluid at very low temperatures. The scientists deposited a fine layer of chromium particles on

the liquid and then added a layer of silver particles. The researchers say that the reflectiveness of the liquid mirror is not yet adequate, but "it is now only a matter of technological improvement."

The authors say they will continue to experiment to develop more ways to make liquid mirrors. The researchers predict that the first lunar, liquid-mirror telescope will be built no earlier than 2020.

Borra received a grant from the Canadian Space Agency to conduct his studies. The other authors include: Omar Seddiki of Laval University, Quebec, Canada; Roger Angel and Daniel Eisenstein, both from the University of Arizona, Tucson; Paul Hickson, University of British Columbia, Vancouver, Canada; and Kenneth Seddon,

The Queen's University of Belfast, U.K.

BY JOHN BLUCK

Hydrocarbons on Saturn's moon Hyperion

continued from front page

moons over long periods of time," said Cruikshank, "but it appears to be much more stable when it is attached to other molecules."

"The Hyperion flyby was a fine example of Cassini's multi-wavelength capabilities. In this first-ever ultraviolet observation of Hyperion, the detection of water ice tells us about compositional differences of this bizarre body," said Amanda Hendrix, Cassini scientist on the ultraviolet imaging spectrograph at NASA's Jet Propulsion Laboratory, Pasadena, Calif.

Hyperion, Saturn's eighth largest moon, has a chaotic spin and orbits Saturn every 21 days. The July 5 issue of Nature also includes new findings from the imaging team about Hyperion's strange, spongy-looking appearance. Details are online at: http://ciclops.org/view.php?id=3303

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the Cassini-Huygens mission for NASA's Science Mission Directorate, Washington.

More information on the Cassini mission is available at: http://www.nasa.gov/cassini

BY RUTH DASSO MARLAIRE

Astrogram July 2007

Nanotechnology space sensor test proves successful in orbit

NASA Ames recently designed and built the first nanotechnologybased electronic device that was successfully tested in space. The Ames-developed, Nano-ChemSensor Unit (NCSU) hitched a ride to orbit on the U.S. Naval Academy's MidSTAR-1 satellite on March 9, 2007, as one of the Ames the opportunity for a technology demonstration flight. Li proposed her sensor for that flight because of the maturity of its development. Julie Schonfeld, deputy director for the Ames' Center for Nano-Techonology at the inception of the project, was familiar with the capabilities of the En-

gineering Systems Division, having started her career there as an electrical engineer. She assisted in completing the project team by introducing Li to engineers Iim Hanratty and Mark Mallinson.

This collaborative effort between the researchers and engineers at Ames was kev to the success of this test. A close working relationship devel-

oped among the team. Researchers Li and Yijiang Lu built the nano-sensor chip that included 32 nano-sensors

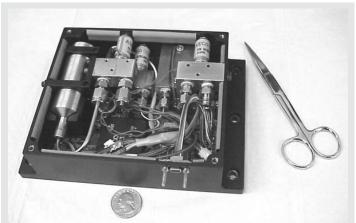
while electrical engineer Jim Hanratty, mechanical engineer Mark Mallinson and safety engineer Ken Zander worked directly with Li and Lu over the course of a year to design, prototype, build and space flight qualify three units, known

as the NCSU. Hanratty also served as the project manager while Mallinson served as the systems engineer. Ames' in-house shop's Sam Caires supported fabrication and the test lab's Jerry Wang supported qualification testing. The Ames team also demonstrated a successful collaboration between Ames, Goddard and the US Naval Academy (USNA) in manifesting the NCSU on MidSTAR-1.

The unit is essentially a tiny laboratory, which can be held in one hand and carries a canister with nitrogen dioxide (NO2), the sample gas, control valves, a custom hermetically sealed

nano-chip chamber, temperature and pressure sensors, custom electronics, software controls and communications. After waiting on the shelf for over a year to fly and three months on orbit to be powered, the unit automatically injected the on-board gas containing 20 parts per million NO2 in nitrogen over the nano-sensors during four experiments each day with three NO2 exposures in each experiment. The unit then recorded the data in on-board memory and downloaded it to the Navy's MidSTAR-1 communications system, which finally sent it to the USNA ground station. The unit will be powered for approximately 45 days. The first set of data was recently received by the team and after analysis, the NCSU is working properly, following the pre-programmed experiment. After Li's initial analysis, she found that some sensors did respond to 20ppm NO2 in N2 with three response curves from the data set. They look as expected. "I call it a success!" says Li.

The small team met weekly to discuss design requirements, issues, design trade-offs, schedule and budget

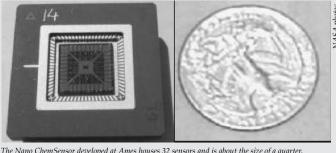


The Nano ChemSensor Unit is a laboratory in a box. This view shows the N2 gas canister on the left, injection valves for the gas to flow over the nano-sensor and electronics board. The actual sensor is not shown in this view.

experiments in a secondary payload. Because the experiments were turned on one-by-one, the sensor test was the last one powered on May 24.

The data received from the unit showed that the nano-sensor could monitor trace gases in low-Earth orbit. "The nano-sensor worked successfully in space," said Dr. Jing Li, the Ames' principal investigator for the test. "We demonstrated that nano-sensors can survive in space conditions and the extreme vibrations and gravity change during launch," she added. The goal of the experiment was to prove that nano-sensors made of tiny carbon nano-tubes coated with sensing materials could survive the space environment to detect trace chemicals

The opportunity for this space flight test for the Nano-ChemSensor Unit was provided by Dan Powell, nanotechnologist, from the Goddard Space Flight Center, Greenbelt, Md., with whom Ames has had a long collaborative relationship. Powell, who has a passion for demonstrating the capabilities of nanotechnology, took advantage of Goddard's relationship with the Naval Academy to offer to



The Nano ChemSensor developed at Ames houses 32 sensors and is about the size of a quarter.

to ensure the test would be successful. It is close working relationships such as these among the Ames community, specifically between scientists and engineers, that make fast-paced, low-cost missions successful. The smash hit of the Nano ChemSensor Unit is yet another 'small' step towards getting Ames back in the space business.

BY THE NCSU TEAM AND JOHN BLUCK

Meyya Meyyappan wins two honors in one week

During the same week, Ames' Meyya Meyyappan learned two pro-



MASA photo Meyya Meyyappan, is the winner of the Institute of Electrical and Electronics Engineers, Inc., 2008 Judith A. Resnick Award and also an American Vacuum Society fellowship award for his nanotechnology work at Ames.

fessional organizations honored him

for his nanotechnology work. Meyyappan is the chief scientist for exploration technology at Ames' Center for Nanotechnology.

Nanotechnology is the creation of materials, devices and systems through the control of matter on the nanometer scale. A nanometer is one-billionth of a meter. Scientists say nanotechnology could lead to changes in almost everything from computers and medicine, to automobiles and spacecraft.

The Institute of Electrical and Electronics Engineers, Inc., (IEEE), granted Meyyappan the 2008 Judith A. Resnick Award, and the American Vacuum Society elected him as a fellow for, "outstanding and sustained contributions to processing and applications of carbon nanotubes, and plasma modeling and simulation."

"Meyya has put together a tremen-

dous nanotechnology program for Ames," said Charles A. Smith, chief of Ames' Space Technology Division. "It doesn't surprise me that he is being recognized for his exceptional nanotechnology work by his colleagues across the world," Smith added.

The Resnick award includes the citation, "For the development of nanoscience and technology in aerospace applications and his leadership in nanotechnology."

The IEEE Board of Directors established the Resnick Award in 1986 to recognize outstanding contributions to space engineering, according to an IEEE publication. The award honors IEEE member Resnik, who perished when the space shuttle Challenger, exploded in January 1986. The award includes a bronze medal, certificate and honorarium.

BY JOHN BLUCK

Ames' David Morrison discusses diverting mass extinction

Dr. Stephanie Langhoff, chief scientist at NASA Ames, beamed while introducing Dr. David Morrison to



Dr. David Morrison (above) speaking during the recent 'Impacts and Evolution' colloquium he presented to a full house of attendees (right photo) at the center.

NASA Ames employees who were gathered in the Space Sciences auditorium in early July to hear his colloquium, 'Impacts and Evolution.' During his presentation, Morrison highlighted numerous accomplishments and honors, such as having an asteroid, 2410

Morrison, named after him. Morrison, hands balanced akimbo on the lapel of his blazer, smiled at the great turn-out, and apologized to those unable to attend, due to lack of seating.

Citing the Alvarez Hypothesis, which claims an impact killed the dinosaurs, as an example of one of the many mass extinctions that punctu-

ate life on Earth, Morrison went on to explain how vast and sudden impacts affect the understanding of evolution. As opposed to Darwinism, where competition and gradual changes determine survival, he redefines evolution as an interplay between static survival and the ability to survive a catastrophe.

Morrison impressed attendees with the fact that Near Earth Asteroids

(NEAs) frequently enter the Earth's atmosphere with a force equal to "Hiroshima" and that detection is key to preventing a cataclysmic impact. According to Morrison, NASA's Space Guard Discovery Program has reduced the probability of the Earth being hit by an undetected asteroid by 75 percent. Impact disasters have

the greatest severity of all natural disasters, Morrison said, but because they are also the most predictable, an impact is avoidable by changing the NEA's orbit.

Because humans are not immune to the inevitable threat of a major impact, Morrison ended his presentation by asking who should assume or



NASA photos by Dominic Hart

be trusted with the responsibility of protecting the "stability of civilization itself" and how to affect planetary defense to reinforce that, without discovering and accounting for an NEA ahead of time, the only warning would be two seconds: a flash of light before the Earth shakes.

BY RACHEL PRUCEY

Astrogram July 2007

Ames scientists' book sheds light on airline accidents

Three Ames scientists have recently published a book that sheds new light on the causes of airline accidents and points to ways to reduce accident rates. 'The Limits of Expertise: Rethinking Pilot Error and the Causes of Airline Accidents,' (Ashgate, 2007), by Key Dismukes, Ben Berman and Loukia Loukopoulos, is the product of a five-year study in which the authors analyzed 19 recent major U.S. airline accidents in which accident investigators found crew error to be causal.

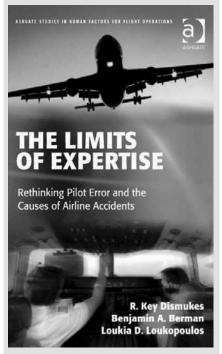
Most aviation accidents are attributed to pilot error, but this is often misinterpreted as evidence of lack of skill or discipline by the accident pilots -- "they lacked the right stuff." This misinterpretation has been an impediment to improving aviation safety. The authors show that errors made by experts, such as airline pilots, are best understood as the result of the ways in which task demands, events, human cognitive processes and organizational factors interact.

The cockpit crews in these accidents appear to have been representative of the population of non-accident pilots in experience, training, and skill, and were generally well-regarded by

their peers. Thus, the approach of this book was to ask why might any highly experienced crew involved in a similar situation as the accident crew, knowing only what the accident crew knew at each moment, been vulnerable to performing in much the same way as the accident crew.

Each accident is examined in a separate chapter that describes the sequence of events and actions step-by-step and analyzes the cognitive processes and organizational forces likely to have influenced the accident sequence. The last chapter identifies themes that cut across the set of accidents, discusses the role of chance, criticizes simplistic concepts of causality of accidents, and suggests ways to reduce vulnerability to these catastrophes. The book begins with a foreword by Carl Vogt, former chair of the National Transportation Safety Board.

Although focusing on pilot performance and airline accidents, the principles developed in the book apply to any area of skilled performance, such as medicine or nuclear power plant operation. The analysis of organizational factors is relevant to any organization, including NASA, that must



The recently published book 'The Limits of Expertise: Rethinking Pilot Error and the Causes of Airline Accidents,' was written by three Ames scientists, Key Dismukes, Ben Berman and Loukia Loukopoulos. The book discusses the causes of airline accidents and how to reduce them

conduct missions safely in the face of diverse and not always predictable threats.

BY KEY DISMUKES

Girl Scouts 'Launch into Technology' day held at Ames



Friends celebrate anniversary of the passing of Paul Callahan

This year is the second anniversary of the passing of Dr. Paul X. Callahan, the former NASA Ames Life Sciences Data Archive project manager and



Dr. Paul X. Callahan

Science Directorate computer security officer, who passed away on July 14, 2005 at the age of 71. His family, friends and many NASA colleagues gathered soon after, at the Duggan Funeral home, for a memorial service that fittingly had the spirit of an Irish wake - a mix of faith, tears, stories and above all, humor. In tribute of his 39 years of service to NASA, Callahan's colleagues would like to share some of his life achievements.

Callahan was born in Kearny, N.J. and grew up in a close, traditional, Irish family. In 1959, he received a Ph.D. in chemistry from the University of Louisville. He began his career at Ames in 1966, following research fellowships at the University of California at San Francisco and Stanford University. At Ames, he served as a research scientist, animal colony director, student space biology research program director, life sciences facility safety manager, life sciences payload project manager for Spacelab Mission-3 (SL-3), chief of the Science Operations Branch and Life Sciences Data Archive (LSDA) project manager.

These many roles suited him well, as evidenced by his becoming an Eagle Scout during his youth. Callahan always had unlimited curiosity and the desire to pursue and under-

stand new things. His reputation for this became known across Ames and he was invited to be on a large number of flight payload review teams and contractor competition reviews - a task not relished by many people, because of the long hours and extensive study of documents required. Callahan and NASA were truly a good combination.

During his career, Callahan published more than 60 papers and abstracts in the areas of chemistry, physiology, enzymology, hardware design and project management. He was a member of numerous professional and honor societies and received several awards, including the NASA special achievement, performance, and group achievement awards, and the Federal Employee Distinguished Service Award.

His significant accomplishments included successfully managing the design, development and implementation of the first major Ames shuttle payload (SL-3); supporting design and development of prototypes for the Research Animal Holding Facility and the General Purpose Workstation; and for over a decade, managing the development of the Ames repository of life sciences data and reusable preserved biosamples.

Callahan recognized early on the need to capture and make available the expanding NASA-sponsored space life sciences research information and later worked with NASA Head-quarters to develop the LSDA. Visit http://lsda.jsc.nasa.gov for information about the archive. He became the Ames Life Science Data Archive project manager and led the collection effort over the next 10 years until his passing. For information about the Ames Life Science Data Archive, visit http://alsda.arc.nasa.gov. Through Callahan's dedicated efforts, the LSDA is now a mature archive and source for NASA flight and ground life science experiment information.

In addition to Callahan's many technical contributions, he also was a mentor and friend to many aspiring students. He was a tireless volunteer in numerous worthy causes, including judging youth science fairs, the Hertz Foundation Fellowship awards, troop leader for the Boy Scouts of America, a Pacific Junior Rifles instructor to several Olympic-level aspirants at Pacific Rod and Gun Club, task force member to preserve Lake Merced and a supervisor-teacher-counselor to many interns at Ames.

In tribute to Callahan, the Ames community extends their heartfelt thanks to Callahan's family, his wife Pat of 46 years; children Paul and Paulette; grandchildren Megan and Paul; sister Lynn Williams and niece, Jennifer Williams. He is greatly missed by his NASA Ames colleagues.

BY BARBARA NAVARRO

In Memory of . . . Edgar 'Don' Madden

Edgar 'Don' Madden, an employee of NASA Ames for 20 years, passed away Feb. 16, 2007, after complications from a debilitating stroke in July of 2003.

Madden was a 21-year Navy veteran and a Pearl Harbor survivor and who also served in the South Pacific and the Korean war. He also participated in atomic bomb testing, along with tours of duty in the Philippines and China. Later, Madden was stationed at the Pearl Harbor

submarine base.

He was employed at NASA Ames from 1957 through 1977 as an electronic technician in the electronic instrumentation shop. Madden enjoyed his years there and was proud to be a part of the many different and interesting projects that he particiapted in. He is survived by his wife of 63 years, Jo Madden, and his sons, Ed and Dwain, and Dwain's friend, Ginger.

IT systems administrator retires after four decades at Ames

More than 30 friends and colleagues from across Ames gathered at Michaels at Shoreline on June 13 for a farewell luncheon to honor Danny Sallas, an information technology systems administrator for Perot Systems, who retired June 15 after 40 years of service.

Bill Preston, senior Airspace Operations specialist for Perot Systems, presented Sallas with a congratulatory letter from President and Mrs. George Bush. "As you celebrate this milestone, I hope you will take pride in your accomplishments and dedicated service," the letter reads. "Laura and I send our best wishes for an enjoyable retirement."

Sallas also received a congratulatory letter from Representative Zoe Lofgren (D-San Jose) and an American flag. The flag was flown for Sallas over the U.S. Capitol Building on May 24 in recognition of his retirement after 40 years of service to NASA Ames. An inscribed Movado desk clock was also given to him as a special gift from his friends and colleagues.

Michael Swiger, program manager for Perot Systems, presented Sallas with a letter of appreciation from Ross Perot, chairman Emeritus of the board of Perot Systems Corporation. "I want to thank you personally for your service to our country and to NASA," the letter reads. "Forty years of dedication to the noble goals of the foremost space exploration organization in the world is an impressive legacy. If memory serves, you would have started when NASA itself was only nine years old, and your service spanned the entire Apollo program, through the space shuttles, myriad unmanned exploration programs and the International Space Station."

Aeronautics Projects Office Branch Chief Lynda Haines presented Sallas with a NASA plaque in recognition of 40 years of service to Ames. Haines praised Sallas for "his years of dedication and countless nights and weekends" and called him one of the "most talented people I know."

Mike Landis, project manager for the Next Generation Air Transportation System (NGATS) Air Traffic Management (ATM) Airspace Project, presented a NASA Certificate of Appreciation signed by Ames Center Director S. Pete Worden and thanked Sallas for his "superb work" supporting NASA research activities.

The 58-year-old Sallas first began working at Ames in 1966 as a 17-year-old intern with the Neighborhood Youth Corp work study program while still attending Cupertino High School. Sallas subsequently joined Computer Usage Corporation as

a full-time employee at Ames on June 2, 1967, immediately following graduation. Over the years, he has also



photo by Nicola Windmueller Danny Sallas, an information technology systems administrator for Perot Systems at Ames, retired recently after 40 years of service at the center.

worked for Programming Methods, Informatics, Sterling Software, Raytheon, QSS Group and Perot Systems.

Sallas said he is excited about his retirement and is "so looking forward to starting the next phase of my life." "The dance at Ames was fantastic. I now look forward to new adventures in the future."

An avid gardener, chef, baker, and do-it-yourselfer, Sallas plans to remodel parts of his San Jose home and is already enrolled in classes this fall to learn more about his passion in interior and landscape design. He also hopes to achieve his re-certification with Apple Computer. With homes in Maricopa, Ariz., San Jose and Hemet, Calif., future plans include more frequent travel, including to his father's homeland in Juana Diaz, Puerto Rico and to his mother's birthplace in Kaui, Hawaii. He also plans to spend more time with his brothers, John, Jim and Joe and sister, Mary, as well as with friends, his son Johnny, daughter-inlaw Dina and three grandchildren.

"Life has been, and is good, and by nature I only look forward not back," he said. "The future looks amazing indeed."

BY PATRICIA CARROLL

Popular annual AAAG BBQ held



The African American Advisory Group (AAAG) barbecue was held at Chase Park on June 28. The menu consisted of ribs, chicken, baked beans, green salad, garlic bread and an variety of desserts. As a very special welcome to all the Ames students, the Office of the Director and the Ames Exchange sponsored students at the center to attend the BBQ. Door prizes were also available for students. A great time was had by all who attended and enjoyed the great music and delicious food.

Ames Safety Awards Program (ASAP) II awards presented

Recently, Ames recognized 29 employees for their outstanding accomplishments in improving health and safety.

ASAP II was established to recognize employee actions, behavior and/or job performance that result in improved health and safety conditions at the center.

There are four levels of awards, tier four being the highest level of achievement. The ASAP II board evaluates each nomination and selects the tier level that most represents the actions and accomplishments of that nomination.

Three different teams received a Tier Level 3 award, the highest team award for this semester.

The Nanomaterials Safety Committee nomination, which consists of four employees, was recognized for their collaborative research with safety and health professionals to develop guidance for safe handling of new materials.

The Tessada/SCSC Safety and Occupational Health Committee is a five-member team, from three different contracts. The committees commitment and on-going efforts in employee safety and health have culminated in the Tessada/SCSC contract operating a full year without incurring any reportable/recordable injuries or vehicles mishaps. This is a particularly outstanding achievement when you review the "hands-on" types of jobs, requiring daily physical exertion, this includes: mail services, shipping and receiving, moving services, transportation management and janitorial services.

The Emergency Disaster Support team consists of three employees who were recognized for their efforts in the preparation and creation of pre-assembled emergency preparedness kits, which could be readily available for quick deployment with emergency responder personnel. This included the receipt of 89 pallets of materials, inventory, sorting, assembly, storage preparation and storage of materials.

Tier Level 3 - Individual awards
Tony Baca
John Thomas
Al Vitali

<u>Tier Level 3 - Team awards</u>

Nanomaterials Safety Committee

Tomoko Ishihara Alan Cassell Jessica Koehne David Loftus

Tessada/SCSC Safety & Occupational Health Committee

Greg Bennett Terry Reichert Jon Talbot Steve Perry Shawn Puma

Emergency Disaster Support Team

Gregory Descoteau Claudio Martinez Stephen Burns

<u>Tier Level 2 - Individual awards</u> Steve Frankel Nicola Windmueller Tier Level 2 - Team awards
Systems Administration Team

Costandi Wahhab Oleg Mitine Nick Bartos Lester Barrows Samir Khouri Sam Kim

Carson Little Ryan Nelson

BEAP Update Team

Merle Simbe John Segreto

<u>Tier Level 1 - Individual awards</u> Vytas SunSpiral Bob Lopez

<u>Tier Level 1 - Team awards</u> None

Each of these employees and teams was nominated by their colleagues for their outstanding actions and accomplishments in improving health and safety conditions at Ames.

Potter discusses global warming



Recently, Dr. Christopher Potter, a senior research scientist in the Earth Science Division, recently presented a Director's Colloquium entitled 'Studying Global Warming's Impacts and the Uncertain Future of the Biosphere.' This was the third in a series of 10 colloquia in the Director's Colloquium Summer Series. Potter summarized the scientific evidence for past, present and future changes in Earth's biosphere related to global warming. He also discussed applications of satellite data analysis and computer simulation modeling at NASA Ames to climate impact studies.

Ames improves bicycling safety at the center

"My commute is just about perfect. It takes only nine minutes by CalTrain express to Mountain View. Then, I just bike down Moffett Boulevard with an old bike I bought on the Web on Craigslist for \$100. It is definitely



The replaced bike grate at the center improves safety for bike riders at Ames.

quicker and cheaper to leave the car at home and I get a little exercise too," said Mark McKelvey of Code S.

In support of biking commuters and Ames' numerous biking enthusiasts, NASA Ames management, organizations and the Ames Bicycling Club (ABC) have spent considerable effort to make the Moffett Research Park and Ames friendlier to bicylists.

The past few months have seen significant safety improvements, thanks to the efforts of Steve Frankel, Plant Engineering branch chief (Code RCM); John Panella, Occupational Safety Team Lead (Code OH) and the

Ames Safety Committee, which arranged replacements of several dangerous storm grates on Moffett Research Park roads.

"The old grates were a considerable hazard to bikers and anyone who rode into one of these was in danger of flipping instantly. It is great to be rid of them and we owe a huge thanks to the Facilities Group for this considerable safety improvement," said Pat Grant of the ABC.

A covered bike area now serves Santa Clara VTA light rail commuters just inside the Ellis gate, thanks to Steve Eisele, of Facili-

ties Group, AMTI/CSC (Code TN). Eisele arranged for the donation of the shed from Sunnyvale Toy's-R-Us and volunteers from Ames and the ABC disassembled and reassembled it and added rain shields on the sides. In agreement with Dirk Meier of the Ames Security Office, any Moffettbound commuter may store his or her bike there. Meier said that "all bike

bags and panniers must be removed. Only wire racks and baskets that can be seen through are allowed to stay on bikes" for security concerns.



The newly installed bike shelter at Ames located just inside the Ellis gate.

For those needing bike routes, the ABC maintains bike route information in the library. To provide education on safe biking, the ABC provided Code Q with a copy of 'Street Smarts,' a bike safety video that is used as part of safety orientation for summer students, interns and new employees. For further information about the ABC, visit http://www/geocities. com/abc bike club/amesbicycleclub. html.

BY TED ROUSH AND PATRICK GRANT

New e-mail system is here!

NASA Ames employees have started the migration to the NOMAD (NASA Operational Messaging and Directory) system. Code JT volunteered to migrate first and is now on the new e-mail system. The NOMAD migration process will be implemented in a phased approach by organiza-

• Phase I (June 2007 through October 2007):

Client installation (Outlook/Entourage) is accomplished, e-mail continues to be obtained locally and optional Eudora e-mail migration will be at user's discretion and cost.

• Phase II (July 2007 through November 2007):

E-mail accounts are migrated to agency NOMAD servers and e-mail is obtained from an agency data center.

- Phase III (September 2007): Individuals migrate Oracle Calendar data to Microsoft Calendar
- November 2007: Project completed! Everyone at the center is on NOMAD, Oracle Calendar is decommissioned and the Eudora client is no longer supported.

There are numerous benefits of the NOMAD system across the agency including unified messaging and calendaring, instant messaging, file-sharing capabilities and an agency-wide global address list. In addition, the new system will provide single password sign-on for calendar, e-mail and file sharing capabilities.

Start getting prepared:Non-ODIN systems - check that your system meets desktop configuration standards http://desktop-standards.nasa.gov

- Review X.500 information and make any necessary corrections at AR-
- CAPPS https://arcapps.arc.nasa.gov.
 Start using your OneNASA (First. M.Last@nasa.gov) e-mail address for business cards and e-mail.
- Obtain a Satern account to access Web based training https://satern.
- Review additional training materials posted on ARC NOMAD Web site http://nomad.arc.nasa.gov.

Employees will continue to receive communications regarding the NO-MAD system including scheduling specifics for your migration. For more information or to submit questions, please refer to the Ames NOMAD Web site at http://nomad.arc.nasa.gov. There will also be events to offer demonstrations of features and assistance to all users. Stay tuned for your code migration schedule!

BY VONNIE SIMONSEN

Here's how to spare the air -- and your wallet

With recent temperatures soaring into the triple digits, you may be wondering what you can do to get relief. Before heading into the nearest air-conditioned building, consider the answer at your fingertips: reducing your car use.

Each year, cars contribute significantly to heat-trapping pollution. An average household with two mediumsized sedans emits more than 20,000 pounds of carbon dioxide (CO2) annually; pollution that can stay in the atmosphere for decades. Visit the site FightGlobalWarming.org at http:// www.fightglobalwarming.com/page. cfm?tagID=263

How much does your commute cost and much does your commute affect the environment? Use this commute cost and emissions calculator to do the math: http://rideshare.511. org/calculator/default.asp?

Want to reduce your car use and save money? Local counties and state agencies have teamed up to help you find convenient ways to commute.

Spare the air and ride for free!

To promote transit use this summer, the Air District and MTC are partnering with 29 transit operators to offer four free commute days. Between now and Oct. 12, on the first four Spare the Air, non-holiday weekdays, ride free on BART, CalTrain, ACE Train and all Bay Area ferries until 1:00 p.m., and on Bay Area bus systems all day! For details, visit 511.org.

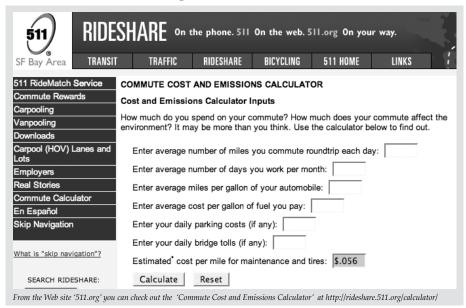
Carpool and earn \$\$ toward gas

Cut your monthly commute costs and time in half. Carpooling is a flexible and convenient way to get where you need to go, and if you commute over Bay Area bridges, you can cross toll-free. Carpool as many days as you want, one-way or roundtrip. All you need is one or two other people to make it work. Carpool with neighbors, co-workers, family, friends from the gym, or sign up free with the 511 RideMatch Service to instantly locate people who live and work nearby to share commutes.

Occasionally, counties offer special promotions providing money-saving gas cards to carpoolers who carpool three or more days to work each week. See the Web site 511.org for informa-

Take advantage of auto insurance discounts

Often insurance companies give



discounts to drivers who drive below the average number of miles per year. You may be eligible for a discount, if

- Carpool
- Use public transportation
- Drive an economy car or offset some of your car use by biking

Consult your insurer for eligibility and savings.

Save with new FasTrak-only lanes and free tolls

This month, more cash lanes convert to FasTrak-only lanes on stateowned bridges in the Bay Area (Antioch, Benicia-Martinez, Carquinez, Dumbarton, Richmond-San Rafael, San Francisco-Oakland Bay and San Mateo-Hayward Bridges).

Open a new FasTrak account before Aug. 31 and receive \$5 in free tolls. Pick up your toll tag at select Safeway or Costco stores and receive even more free tolls offered by American Express for customers who opt to use an American Express® Card to replenish their new FasTrak account. Visit 511.org.

To learn more about Ames environmental sustainability initiatives, go to http://q.arc.nasa.gov/qe/

BY APRIL NEILSON

ACCC to host Charity Golf Tournament

Ames Child Care Center (ACCC) is holding it's 11th Charity Golf Tournament on Aug. 17 at the Moffett Field Golf Course. The ACCC is a National Association for the Education of Young Children (NAEYC) accredited child care and preschool serving the NASA Ames and surrounding communities.

Registration fee for the golf tournament is \$75 per person, with registrations due Aug. 10. The fee includes a round of golf, lunch before the tournament and one raffle ticket per player. Registration forms can be downloaded from the ACCC Web site: http://accc.arc.nasa.gov. Corporate sponsorship information is also available on the Web site.

Tournament format will be a fourperson scramble (best shot from each team used for each stroke.) Prizes will be awarded to the teams with the lowest three net scores and the lowest gross

- 12:00 p.m. Registration1:00 p.m. Shotgun start
- 5:00 p.m. Hors d'Oeuvres and Post-Tournament Raffle

The proceeds from this tournament will be used towards playground construction and improvements at the ACCC

Visit the ACCC Web site at http:// accc.arc.nasa.gov or e-mail saverma@ mail.arc.nasa.gov for more information about the tournament, or send an email to mhdavis@arc.nasa.gov for more information about the ACCC.

Ames remembers the 'Great Worden Quake' of 2007

On May 11, the Ames Protective Services Office, at the request of Center Director Pete Worden, held a center-wide disaster drill known as the Great Worden Quake, a simulated 7.3 earthquake. Ames photographers Eric James, Dominic Hart, Cesar Acosta, John Schultz and Paul Langston captured the action throughout the day. The feedback and 'lessons learned' from that day are being reviewed and will be presented to staff in the next few weeks, as preparations get underway for the Great Worden Quake of 2008.



Members of DART remove an 'injured' person following the simulated 7.3 earthquake on May 11.



A supervisor accounts for employees on her building emergency action plan roster.



Employees evacuate their building and walk toward the Hangar 211 tarmac after the simulated earthquake.



NASA photo by Dominic Hart



An injured earthquake 'victim' shows her 'injuries.'



DART members undergo decontamination following a simulated toxic chemical spill at Moffett in the aftermath of the Great Worden Quake.'



Moffett Field

ing at Moffett Field following

Quake.'

Employees on the Hangar 211 tarmac await additional details of the earthquake from Acting Center Director Steve Zornetzer.



Sporting black clothing and a 'skull and crossbones' tie, signifying that he was deceased, Ames Center Director S. Pete Worden observes the crowd on the tarmac.

NASA photo by John



Emergency Operations Center Director Phil Snyder talks to members of the Ames Executive Council about conditions at Ames after the 'earthquake.'



Employees enjoy an outdoor lunch sponsored by the Ames Exchange following the Great Worden Quake exercise.

11 **July 2007** Astrogram

Ames Ongoing Monthly Events Calendar

Ames Amateur Radio Club, third Thursday of each month, 12 noon, N-T28 (across from N-255). POC: Michael Wright, 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 3rd Wednesday of the month. The meeting location is Building N-245 Auditorium, 12 noon - 1 p.m. Contact Julie Nottage at jnottage@mail.arc.nasa.gov, ext. 4-3711. By-laws of Ames Bicycling Club can be found at http://zen.arc.nasa.gov; the link is right under the picture.

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

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

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

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

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

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

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

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

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

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

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

Ames emergency announcements

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

Safety Data

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

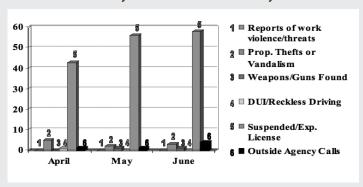
| Ci [·] Serva | | Contractors |
|--------------------------|---|-------------|
| First aid cases | 5 | 10 |
| Lost Workday cases | 0 | 1 |
| Recordable cases | 0 | 1 |
| Restricted duty days | 0 | 0 |

Above data are as of June 30, 2007. May be subject to slight adjustment in the event of a new case or new information regarding an existing case.

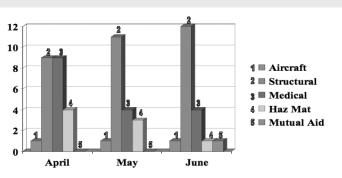
Protective Services monthly activity

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

Security/Law Enforcement Activity



Fire Protection Activity



Ames Classifieds

Ads for the next issue should be sent to astrogram@ mail.arc.nasa.gov 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!

Transportation

2000 Cadillac DeVille, burgundy 4 door with 76,000 miles for \$11,500. Exc. condition w/4 new tires and 75K dealer service. Exceptionally clean. Gets 25 mls/gal highway at speed limit, Northstar V-8, all accessories, air bags, A/C, power seats, windows, door locks (remote) and steering, leather, CD, tape, etc. Call (925) 933-8706.

Miscellaneous

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

Plastic dog crate with gate. Med. size. \$10. Optional wooden dog house enclosure for outside living. Nancy (510) 657-7543.

1933 Philco console radio, model 18L. Good condition. \$400 or B/O. E-mail acsullivan@comcast.net

Nordic Track Classic Pro. The classic cross country skier. New condition. Photos available. \$300 or B/O (\$600 new). Sony Trinitron TV. Great condition. 20". Call for details. \$150 or B/O. Call (831)419-6043.

Carpool

To and from San Francisco, near SF State, to Moffett Field, to start by October 2007. Looking to pay gas but not drive (night blindness). Please contact: Diane K. Martin at dmartin@mail.arc.nasa.gov, ext. 4-0162 or (415)337-7408.





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.

Vacation Opportunities

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Astrogram deadlines

Please submit articles, calendar and classified advertisements to astrogram@mail.arc.nasa.gov 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.

Human Capital Information Environment (HCIE) coming to Ames

On Aug. 13, 2007, the agency will roll out the Human Capital Information Environment (HCIE) Workforce Services Portal to all employees.

What is HCIE? It is an internet portal that provides comprehensive human resource information for employees. All the human capital information, systems and tools previously found on various Web sites, can now be accessed with the HCIE Workforce Services portal using a single point of entry, thanks to the password manager.

Once employees have set up their password manager, they will be able to:

Manage Personal Career with:

- SATERN System for Administration, Training and Educational Resources at NASA
- CMS Competency Management System
- NASA STARS NASA Automated Staffing and Recruitment System
- NASA Jobs and USAJobs

Manage Personal Benefits with:

• Employee Express - which now



includes:

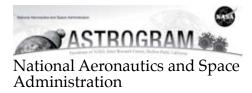
- Federal Employees Benefit System (FEBS)
- Emergency Contact Information (ECI)

View Personal Career and Benefits Profiles with:

- FEBS Federal Employees Benefit Statement
- NEPS NASA Employee Profile System

Ames will be holding town-hall meetings for supervisors and employees Aug. 1 and Aug. 2 in the Bldg. N-201 auditorium. Watch for a centerwide e-mail for more details. Drop-in clinics for help in accessing the portal will be available in August. Effective Aug. 13, employees can access the new site at: https://hcie.nasa.gov

BY SHARON MATHIS



Ames Research Center Moffett Field, CA 94035-1000



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