National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA
August 2004
Astrogram
Communication for the Information Technology Age

Innovative partnership to revolutionize NASA supercomputing

NASA is working with two major Silicon Valley corporations, SGI and Intel, to dramatically increase the agency's supercomputing capacity to meet critical national goals. The three organizations have formed a uniquely innovative partnership in which each is contributing resources and capabilities to the joint collaboration.

Project Columbia will integrate 20 SGI® Altix® 512-processor systems to dramatically increase NASA's supercomputing capability.

As part of 'Project Columbia,' NASA will integrate a cluster of 20 interconnected SGI® Altix® 512-processor systems, for a total of 10,240 Itanium 2 processors, to significantly increase the agency's capability and capacity through creation of 'the Space Exploration Simulator.' The new machine will be based at NASA Ames. It will provide an estimated ten-fold increase in NASA's current supercomputing capacity.

"NASA is excited to be working with industry in an innovative way to allow the agency to deploy a versatile capability in supercomputing," said NASA Administrator Sean O'Keefe. "This will enable NASA to meet its immediate mission-critical requirements for return to flight, while building a strong foundation for our space exploration vision and future missions," he added.

"NASA has a long history in supercomputing dating back to the origins of computational fluid dynamics in the 1960s," said NASA Ames Center Director G. Scott Hubbard. "It is exciting to join with an industry team in this innovative venture that will change the very way in which science and simulation are performed by providing researchers with capabilities that, until now, they could only dream about," he remarked.

The primary purpose of Project Columbia is to revitalize NASA's supercomputing capability through deployment of an integrated computing, visualization and data storage environment tailored to the NASA mission. Specifically, this project:

- Responds to the president's directive to federal agencies and to the Office of Science and Technology Policy's (OSTP) High-End Computing Revitalization Task Force; and
- Addresses current supercomputer resource limitations that became apparent during the Columbia accident investigation and shuttle return-to-flight activities.

The present collaboration builds upon the highly successful partnership that developed the world's first 512-processor Linux server, the SGI Altix at NASA Ames named 'Kalpana' after Columbia astronaut and Ames alumna Kalpana Chawla.

Work using that supercomputer has led to major advances in modeling of the shuttle, as well as in the Earth sciences in high-resolution modeling of the world's oceans. These advances demonstrated the power of simulation to significantly advance NASA's goals. NASA's powerful new supercomputer will allow the agency to continue this important work while simultaneously adding vital new projects in the space and life sciences, exploration systems, mission safety and aeronautics.

"NASA's indomitable spirit of exploration has led us to the moon, to the surface of Mars and even to the rings of Saturn," said SGI CEO Bob Bishop. "With Project Columbia, NASA will not only carry mankind further into space, but into new worlds of knowledge and understanding. After two decades of collaboration, NASA and SGI are on the cusp of a new age of scientific method and scientific discovery," he added.

"The exploration of the universe remains one of man's greatest challenges," said Intel Chief Executive Officer Craig Barrett. "The Project Columbia supercomputer designed by NASA, SGI and Intel will enable the world's brightest designers and scientists to look a little deeper and reach a little farther in their understanding of, and achievements in, space."

In line with OSTP recommendations, a portion of the new system will be made available on a broad basis to ensure that the nation's entire science and engineering community has access to this highly advanced supercomputer architecture.

The system will be built and integrated over the next three months. The first two nodes, in fact, were integrated June 28 to 30 and became operational in early July. This initial build doubled the current capacity at NASA Ames, allowing NASA to resume work in the sciences, while still aggressively pursuing its engineering objectives in support of the space shuttle program's return to flight.

BY DAVID MORSE AND ANN SULLIVAN

Presidential rank and NASA honor awards presented

The 2004 presidential rank and NASA honor awards ceremony for NASA Ames was held in July.

Ames presented presidential rank and NASA honor awards to the 27 employees who were selected for individual awards and to the managers of the 14 groups, which were selected for the NASA Group Achievement Award. The names of the honorees are listed below.

NASA photo by Tom Trower

The NASA Ames presidential rank and NASA honor award recipients for 2004 assemble on the stage at the recently held ceremony.

Presidential Rank of Meritorious Senior Professional

Heinz Erzberger

Presidential Rank of Meritorious Executive

Clifford C. Imprescia (retired)
J. Victor Lebacqz
(presented at NASA Hqs)

Outstanding Leadership Medal

Terry T. Allard
Walter F. Brooks
Dallas G. Denery
Greg A. Josselyn
Christopher P. McKay
Carol J. Russo
Harry N. Swenson
Paul F. Wercinski

Exceptional Engineering Achievement Medal

Warren J. Gore

Exceptional Achievement Medal

David B. Ackard
Lisa Chu-Thielbar
Robert B. Ciotti
Beverly L. Davis
Mejghan K. Haider
Lynda L. Haines
Christopher S. Potter
April E. Ronca
Lynn J. Rothschild
Paul Wilde

Exceptional Service Medal

Mary M. Connors
Wendy W. Dolci
John W. Parks
David L. Peterson

Public Service Medal

James O. Arnold
Claire Smith
James R. Taft
Angela E. Wray

Group Achievement Award

Airspace Concepts Evaluation System (ACES) Development Group

Altix 512 Team

Carnegie Mellon University Lease Team

Data Assimilation Office (DAO) Transition Team

Hyperwall Team

Mars Exploration Rover (MER) Information Technology Infusion Team

Partnership for the Advancement of Agency Supercomputing Team

Personal Satellite Assistant, First Generation Team

SAGE III Ozone Loss and Validation Experiment Science Team

Shuttle Landing Facility Simulation Team

Space Technology Center Development Team

STS-107 Simulation and Analysis Team

V-22 Tiltrotor Shipboard Operations Research Team

Virtual Airspace Simulation Technologies Real Time Development Team

NASA, Salinas Valley Memorial join to advance medical imaging

Two major Bay area science facilities are now going to work together to develop highly advanced medical imaging technologies that could potentially revolutionize patients' diagnostics and treatment.

In July, NASA Ames' BioVIS Technology Center and Salinas Valley Memorial Hospital (SVMH) announced an exciting new agreement to collaborate on enhancing the quality, accuracy and utility of medical imaging in animal and human models.

"Developing new, accurate medical knowledge will enable us to create revolutionary, non-invasive ways to analyze animals and humans," said NASA Ames Center Director G. Scott Hubbard.

BioVIS' researchers will use their expertise in the development of image processing and 3-D modeling to develop high-fidelity digital models of the anatomy and physiological functions of animals.

The standard medical scanning techniques used today to image internal organs, bones, blood flow and neural function are magnetic resonance imaging (MRI) and computed tomography (CT) scans. MRI is an imaging technique used to produce high-quality images of the inside of the human body. CT is the process of generating a composite image of internal body structures from x-rays taken from different angles. By combining the data from CT, MRI and ultrasound, the newly developed Advanced Digital Animal Physiology Testbed (ADAPT) will help scientists acquire knowledge of cardiovascular anatomy and function without harming an animal.

"Once we're able to fuse the different modalities into one image set, the next logical step is to take that information and apply it to human health. That will be a huge breakthrough in the field of diagnostic imaging," said Thomas Burnsides, director of diagnostic imaging at the Salinas Valley Memorial Healthcare System.

The hospital will provide NASA scientists with existing medical data and assist in evaluating the new imaging and segmentation process.

"We take two-dimensional images from MRIs and CT scans and combine them into a three-dimensional model of the heart, for example," said NASA Ames' Xander Twombly, the technical lead for ADAPT. "The ADAPT system also will model 3-D structures as they deform over time, allowing MRI and CT data to be combined with 4-D cardiac ultrasound. This will allow NASA to generate a continuous time-step model of the heart through a full beat cycle based on a series of data provided by the SVMH."

All images provided by Salinas Valley Memorial to NASA will be from patients who have consented to participate in the research. The hospital then will remove the names from each image sent to the BioVIS center, so patient privacy is further protected.

"Developing a safer method to study animal and human anatomy without subjecting them to dangerous levels of radiation or magnetic fields may benefit scientific research and add important knowledge to help NASA ensure the health of astronauts traveling in space to other planets," said Director of BioVIS Technology Center Dr. Richard Boyle.

"The biomedical modeling research funded through the Human Research Initiative is aimed at addressing the bioastronautics critical path roadmap that defines questions that must be addressed for humans to execute the new Vision for Space Exploration," said Viktor Stolc, chief of the Gravitational Research Branch in the Life Sciences Division.

"This mutually beneficial collaboration will accelerate technology development for our own exploration initiative, while allowing the medical community to provide better health care on Earth," said Lisa Lockyer, chief of the Ames Technology Partnerships Division.

NASA photo by Victoria Steiner

NASA Ames Center Director G. Scott Hubbard (left) shakes hands with the president and CEO of the Salinas Valley Memorial Hospital, Sam W. Downing.

This agreement will be a valuable addition to already established collaborations between NASA Ames and hospitals across the country including Stanford, John Hopkins, Beth Israel Medical Center and the University of California, San Francisco hospital.

BY VICTORIA STEINER

New Web mail service available at Ames

The Applied Information Technology Division (Code JT) is pleased to introduce a new Web mail service to the Ames user community. You can now access your e-mail using a Web browser from anywhere. This 24-by-7 secure Web-based e-mail service is available to all users who have an active '@mail.arc.nasa.gov' e-mail account.

This new Web mail service also allows you to set up your vacation message without going through the IT support center.

You may use your current e-mail account ID and password to log in your Web mail account on the Web site https://mail.arc.nasa.gov/ and check your Web mail now.

The Applied IT division also offers the following services to Ames staff:

- The Ames internal homepage at http://arcweb.arc.nasa.gov/
- Ames software downloads at http://arclib.arc.nasa.gov/
- Remote dialup and VPN at http://apptech.arc.nasa.gov/ras_vpn.asp
- Web calendar (Oracle) at https://calendar.arc.nasa.gov/
- Web site hosting at http://web.arc.nasa.gov/services-hosting.cfm

You also may be interested in NASA's new internal Web site at http://insidenasa.nasa.gov/

For more information, contact the IT support center (ITSC) at ext. 4-2000 or e-mail at help@mail.arc.nasa.gov

NASA invites public to explore 'red planet' via Internet

NASA Ames scientists have modified a scientific Web site so the general public can inspect big regions and smaller details of Mars' surface, a planet whose alien terrain is about the same area as Earth's continents.

After adding 'computer tools' to the 'Marsoweb' Internet site, scientists plan to ask volunteers from the public to virtually survey the vast red planet to look for important geologic features hidden in thousands of images of the surface. The Web site is located at: http://marsoweb.nas.nasa.gov/landingsites/index.html

"The initial reason to create Marsoweb was to help scientists select potential Mars landing sites for the current Mars Exploration Rover (MER) mission," according to Virginia Gulick, a scientist from the SETI Institute in Mountain View who works at NASA Ames. "The Web site was designed just for Mars scientists so they could view Mars data easily," she added.

But when the first Mars Exploration Rover landed on Mars in January, the general public discovered Marsoweb. More than a half million 'unique visitors' found the page, and the Web experienced about 26.7 million 'hits' in January.

"An interactive data map on Marsoweb allows users to view most Mars data including images, thermal inertia, geologic and topographical maps and engineering data that includes rock abundance," Gulick said. Thermal inertia is a material's capacity to store heat (usually in daytime) and conduct heat (often at night). "The engineering data give scientists an idea of how smooth or rocky the local surface is," Gulick explained.

To examine a large number of distinctive or interesting geologic features on the red planet close up would take an army of people because Mars' land surface is so big. Such a multitude of explorers – modern equivalents of America's early pioneers – may well survey details of Mars through personal computers.

Researchers hope that volunteers will help with an upcoming Mars imaging experiment. NASA scientists are getting ready for the High Resolution Imaging Science Experiment (HiRISE) that will fly on the Mars Reconnaissance Orbiter (MRO) mission, slated for launch in August 2005. Gulick, co-investigator and education and public outreach lead of the HiRISE team, said that the experiment's super high-resolution camera will be able to capture images of objects on Mars' surface measuring about a yard (one meter) wide.

User-friendly 'Web tools' soon will be available to the science community and the public to view and analyze HiRISE images beginning in November 2006 and to submit image observation requests, according to HiRISE scientists. If all goes according to plan, a request form will be on the Internet for use by scientists and the public about the time of the Mars Reconnaissance Orbiter launch in 2005. Marsoweb computer scientist Glenn Deardorff, Gulick and other HiRISE team members are now designing Web-friendly software 'tools' to allow the public to examine and evaluate HiRISE images.

"We will ask volunteers to help us create 'geologic feature' databases of boulders, gullies, craters – any kind of geologic feature that may be of interest," Gulick explained. "Scientists or students can use these data bases to propose theories about Mars that could be proven by future exploration."

Preliminary details about Mars Reconnaissance Orbiter HiRISE's exploration of Mars are on the Web at: http://marsoweb.nas.nasa.gov/hirise/

The current Marsoweb site includes animated 'fly-throughs' of some Mars locations. The site also permits users to fine-tune Mars images for brightness, contrast and sharpness as well as make other adjustments.

BY JOHN BLUCK

O'Keefe welcomes interns to NASA

Each year, hundreds of future scientists, business leaders and researchers join NASA to explore the world of space science. Students from high school to post doctorate find challenges and gain valuable experience working side-by-side with people on the cutting edge of discovery. The diversity of culture and age in current students reflects our changing society and brings to NASA a variety of people. In July, Administrator O'Keefe held a televised meeting with students from all the NASA field centers.

The conference opened with a video entitled 'A Renewed Spirit of Discovery,' followed by a few remarks from O'Keefe about maximizing the interest of young people. He commented on the space shuttle return to flight, safety concerns, the completion of the International Space Station and return to the moon and later Mars, sending robot 'trailblazers' and humans. "The vision is a journey, not a race," said O'Keefe. "Our students will be the ones to live it and to do it."

He then took a seat in front of the students at NASA Headquarters and took questions from students around the country. Questions ranged from budget issues, federal funding, and possible privatization of NASA to the shuttle and changing culture. O'Keefe stated that public interest level is high and more than 12 billion hits have been received at NASA.gov. He mentioned that several requests for information (RFIs) are out to see who might want to run the agency's various programs. "But," he said, "we are engaged in the kinds of things people don't do."

The administrator said that NASA is still working through the Columbia Accident Investigation Board (CAIB) report and that many safety issues have been addressed or resolved. "What we do is dangerous," he said. "However, we must satisfy NASA scientists to minimize risk, though it will never be eliminated."

From the students' perspective, the agency is creating an educational strategy to inspire future generations. As for funding cuts, O'Keefe said the agency is in transformation, but it has a unified goal and will work as an organized unit to achieve it.

O'Keefe congratulated students for choosing NASA and recognizing the need for math, science, engineering and technical management. O'Keefe said that students challenge colleagues while they realize their own objectives and dreams.

O'Keefe concluded with, "How can we inspire the current generation of scientists? We don't need to; they are already energized. Those worried should know it's the nature of what we do. It's always changing. If it was static, unchanging, predictable, anybody could do it. If you like an atmosphere that is shifting, constantly changing, this is the place. Welcome to NASA."

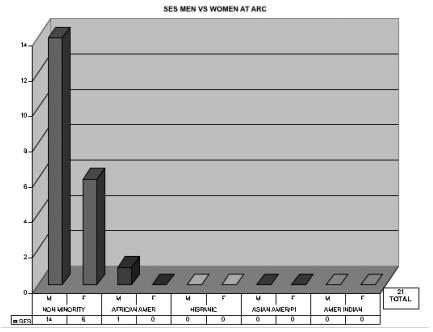
BY OLA MARRA COOK

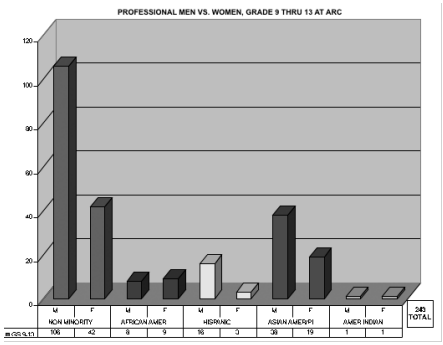
Women's Equality Day: a look at equality at Ames

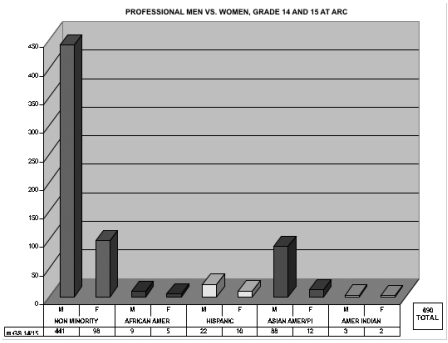
Aug. 26 marked the anniversary of the day on which women gained the right to vote in 1920 with the passage of the 19th amendment to the Constitution. The observance of Women's Equality Day not only commemorated the passage of the 19th amendment, but also calls attention to women's continuing efforts toward full equality in the workplace, government and society.

Studies have shown that companies with a higher representation of women in senior management positions financially outperform companies with proportionally fewer women.

One such study conducted by Catalyst entitled 'The Bottom Line: Connecting Corporate Performance and Gender Diversity' measured performance by examining return on equity and total return to shareholders of 353 companies on the Fortune 500 list from 1996-2000. The result of the study indicated that "the companies with the highest representation of women on their senior management teams had a 35 percent higher return on equity and a 34 percent higher total return to shareholders than companies with the lowest women's representation." Additional studies have found that there is a strong correlation between diversity in the workplace and the monetary success of the company.







	NON MINORITY		AFRICAN AMER		HISPANIC		ASIAN AMER/PI		AMER INDIAN		
	M	F	M	F	M	F	M	F	M	F	P
GS 14/15	441	98	9	5	22	10	88	12	3	2	
	NON MINORITY		AFRICAN AMER		HISPANIC		ASIAN AMER/PI		AMER INDIAN		
	M	F	M	F	M	F	M	F	M	F	P
GS 9-13	106	42	8	9	16	3	38	19	1	1	
	NON MINORITY		AFRICAN AMER		HISPANIC		ASIAN AMER/PI		AMER INDIAN		
	M	F	M	F	M	F	M	F	M	F	T
GS 14 & 15	6	0	0	0	0	0	0	0	0	0	
	NON MINORITY		AFRICAN AMER		HISPANIC		ASIAN AMER/PI		AMER INDIAN		
	M	F	M	F	M	F	M	F	M	F	T
GS 9-12	67	5	5	0	12	4	12	3	1	0	
	NON MINORITY		AFRICAN AMER		HISPANIC		ASIAN AMER/PI		AMER INDIAN		
	M	F	M	F	M	F	M	F	M	F	
SES	14	6	1	0	0	0	0	0	0	0	

A review of the representation of women at Ames in SES and professional positions is reflected in these charts. The Equal Opportunity Programs Office encourages all Ames employees to reflect on the impact these numbers may have on the vision and mission of the center and NASA.

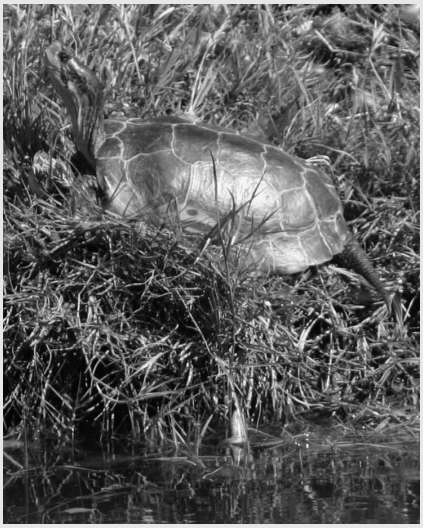
BY THE EQUAL OPPORTUNITY PROGRAMS OFFICE

Western pond turtle survey results show improvement

Each year, wildlife biologist Chris Alderete conducts a census of the western pond turtles inhabiting NASA Ames. The turtle is considered by the California Department of Fish and Game to be a 'species of special concern,' which means that its population numbers are decreasing but that it does not have formal legal protection.

The purpose of listing it in this category is to make people aware that the species numbers have declined significantly and conservation efforts are required, even though the size of current populations precludes it from being listed as an endangered species. The existence of the turtle at NASA Ames is significant because they are reported as being extant, or locally extinct, in the south Bay area.

Western pond turtles have declined in this area due to habitat alterations associated with human impacts such as stream channelization, pollution and stream maintenance. The results of Alderete's recently completed turtle survey provides positive results that the NASA Ames turtle population is breeding. Since the first survey in 2002, the population index at Ames has ranged from two turtles to 16 turtles.



An approximately 40-year-old turtle inhabiting the Ames golf course pond near Marriage Road ditch.

The western pond turtle is the only native aquatic turtle found in California. Adults can be from five to eight inches in length and have a khaki-colored shell. The hatchling and juvenile turtles range in size from one to four inches. Sexual maturity occurs between seven and 11 years of age. Female turtles lay an average of six eggs per nest and can lay more than one clutch of eggs per year. Females lay eggs on upland habitat and could be using levee tops at Ames. The turtle's average lifespan is 20-25 years, though they have been known to live over 50 years.

Originally, the study was conducted to support the Navy's future clean-up of the Northern Channel Superfund site. Although NASA Ames is not responsible for protecting the turtles as part of the Navy's effort, the Environmental Services Office has chosen to implement a program to protect and enhance the turtle population prior to clean-up activities. This program is part of NASA Ames' larger involvement in the Envi-

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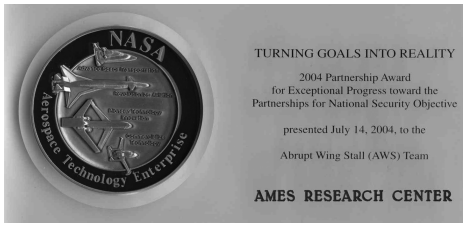
Supercomputing contribution recognized through TGIR award

Guru P. Guruswamy of Code INA was part of the Abrupt Wing Stall (AWS) group that received a 'Turning Goals into Reality (TGIR) 2004' award presented during a ceremony at NASA Headquarters in July. The AWS team was comprised of members from NASA Langley and NASA Ames, the Naval Warfare Center, the Airforce Academy, Boeing and Lockheed Martin. The citation on the award states "2004 Partnership award for Exceptional Progress toward the Partnerships for National Security Objective presented on July 14, 2004 to the Abrupt Wing Stall (AWS) Team." Associate Administrator of the Aerospace Enterprise Vic Lebacqz presented the award on behalf of NASA Administrator Sean O'Keefe.

Guru Guruswamy, winner of the Turning Goals into Reality (TGIR) 2004 award.

As part of the AWS team, Guruswamy led the numerical simulation effort of AWS phenomenon for an F18E/F aircraft in collaboration with David Rodriguez (former NASA Advanced Supercomputing (NAS) division support service contractor) and Professor Max Platzer of the Naval Post Graduate School. The flow phenomenon of wing stall was accurately and successfully simulated on a supercomputer at the NAS facility by using HiMAP software (winner of the NASA 2002 Software Release Award).



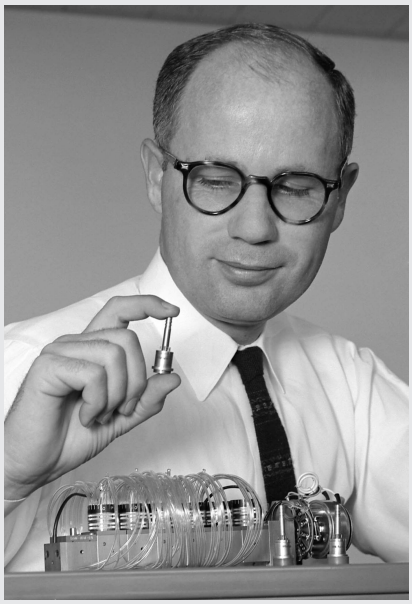
HiMAP, soon to be ported to the Columbia project for large-scale multidisciplinary simulations of NASA and DoD projects, was selected for the AWS project because of its unique unsteady aerodynamics and aeroelastic capabilities for complex geometries. Solutions modeled the full F18E/F configuration of 108 blocks with a total grid size of 15 million points. Using the unique load-balancing scheme available in HiMAP, several cases were run on 64 processors with a high-efficiency factor.

TGIR awards are presented by NASA Headquarters to recognize the most significant accomplishments toward achieving the agency's goals and objectives.

Richard Madison, former Ames engineer, dies

Richard Madison died suddenly on July 3 after two months convalescing from heart valve replacement.

Madison was born in San Jose on July 27, 1925. He and his two brothers were raised on a pear ranch living through the great depression. After graduating from high school, he set his sights on an engineering degree and graduated in 1949 with a B.S. degree in mechanical engineering with honors from the University of California at Berkeley.



Richard C. Madison

After graduation, Madison began his 30-year career at NASA Ames. He was an early member of the design team for the unitary plan windtunnel system. Once the tunnels became operational he became a project engineer contributing notably to the testing of the F-111 Aardvark. The Unitary Tunnels provided aerodynamic testing for a myriad of famous military aircraft including the SR 71 Blackbird, B-58 Hustler, F-4H Phantom and the B-70 Valkyrie. These windtunnels and their scientific contributions are preserved for posterity by the National Park Service.

Madison retired from service in 1980. Friends and family will remember him as someone who could build or fix anything. He was generous with his time and always willing to lend a hand. He will be greatly missed. He was preceded in death by his wife of 49 years, June, and is survived by their daughter Carol.

Memorial service set for Byron Wood

A memorial service to celebrate the life of Byron Wood will be held Sept. 9 from 3:00 p.m. to 6:00 p.m. in the Eagle Room in the NASA Ames Exhibition Hall (Bldg. 943). Wood, a former senior research scientist with Ames' Ecosystem Science and Technology Branch (Code SGE), passed away on Feb. 6 of this year.

A specialist in remote-sensing technologies, Wood was instrumental in the formation of the Global Monitoring and Human Health (GMHH) Program. This program, a collaboration between NASA Ames, U.C. Davis, the Mexican Ministry of Health and others, focused on using NASA science and technologies to model mosquito habitat distribution for use in models of malaria transmission risk. The technologies and expertise that were developed in the GMHH program led to the formation of the Center for Health Applications of Aerospace Related Technologies (CHAART) at Ames. CHAART's purpose is to extend disease modeling to other vector-borne diseases, such as Lyme disease, leishmaniasis, filariasis and schistosomiasis. As CHAART director, he traveled to various 'disease hot spots' around the world, including Mali, Bangladesh, China, Peru, Australia and Brazil.

Wood established collaborations with the World Bank, NOAA's Office of Global Programs and the Centers for Disease Control and Prevention, as well as a memorandum of understanding between Ames and the National Institutes of Health. These joint projects en-

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NASA Ames' security training goes high-tech

It's in the middle of the night and you are on the corner of DeFrance and King when flashing red lights appear behind you. With the heightened security concerns as a result of 9/11, you wonder how the officer will react to you.

If you are a researcher working on a last-minute report for NASA Headquarters about your project's technology readiness level, everything will be fine. On the other hand, if you are an intruder, be prepared to be apprehended,

Recently, NASA's Ames and Kennedy Space Center began training their special agents, law enforcement and security personnel using the state-of-the-art Range 3000, use-of-force training simulator.

"Training with the Range 3000 XP4 begins with classroom theory and progresses to interaction with real-life scenarios that require appropriate reactions as the officer traverses the use-of-force continuum," said special agent Dirk Meier.

The system comes with 600 pre-installed scenarios that have a minimum of four possible outcomes depending on the officer's reactions within the scenario. The result is a total of 2,400 different decision-making scenarios.

"The Range 3000 gives the trainer the ability to change a scenario's outcome while the officer is engaged in the scenario, such as changing the suspect's compliance to the officer's verbal commands," said Meier.

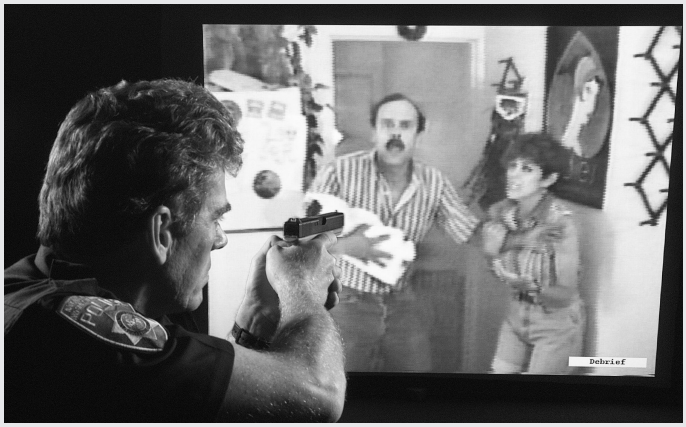
The system consists of a specially modified service weapon (handgun, shotgun or pepper spray) fitted with a laser, a large projection screen, sensors and a scenario station for the trainer. Trainers say the Range 3000 is a vast improvement over previous training simulators that required the training weapon to be attached to a hose in order to register shots, making the training less realistic.

To further increase realism, the system can be customized and allows users to add Ames-specific scenarios. "The system permits you to make your own, site-specific training scenarios. This affords the student the opportunity to learn in his / her own environment instead of using a canned program," said Roger Higby, training specialist.

For team training, the Range 3000 has the ability to register three different trainees. Each officer can take turns at point or at the rear, with all actions captured for evaluation, including weapon accuracy.

"You can video tape the students as they respond to the scenario being played and critique their actions afterwards," said Higby. "This affords the instructor the ability to go back and review each student's response to the scenario and make necessary adjustments in their training."

Each shift supervisor will eventually be taught how to operate the system so they can run their personnel through the system on a routine basis. This will keep their officers' skills at the highest possible level, especially in situations dealing with human life.



Lieutenant Rich Dixon, Protective Services Division, interacts with the state-of-the-art judgmental 'use of force' simulator currently being used at Ames.

"I have been a firearms instructor for over 30 years in both civilian law enforcement and the military and this system is, without a doubt, the best seen to date," said Higby.

All Ames security and law enforcement personnel are conducting training on a continuing basis on the new system.

BY JONAS DINO

Saturn's rings are the things

Jeff Cuzzi gave a talk entitled 'The Rings are the Things' about the latest Cassini-Huygens mission results on July 14 to a packed auditorium of scientists and interested Ames observers in Building 245. Cuzzi serves as interdisciplinary scientist for rings on the Cassini mission, overseeing broad issues of ring science goals and planning. He also works with several of the instrument teams designing and analyzing specific observations.

Jeff Cuzzi at the recent 'The Rings are the Things' talk, discusses the recent Cassini Huygens mission results from July.

Cuzzi discussed three recent Cassini findings, which are intriguing scientists:

• Six months before arriving at Saturn, Cassini detected a large, puzzling oxygen pulse in the region of the faint E ring that is associated with the small, icy moon Enceladus. The huge blast contained as much mass as all of Saturn's visible E-ring particles and has since dissipated;

• In early June, scientists observed that Saturn's magnetic field showed a rotation rate that was six minutes slower than it was when Voyager visited the planet. This startling finding has researchers scrambling for answers -- it's nearly inconceivable that Saturn itself could have changed its rotation period so much;

• A massive solitary crater, about 1400 km in diameter, was observed on Titan, Saturn's bigest moon, with non-crater 'flow' features seen on the surface in other regions:

Cuzzi and the Cassini team are anticipating a lot of 'instant science,' with years of analysis ahead. Cuzzi's research focus is the color, composition and origin of Saturn's rings, including how meteoroid bombardment changes the composition of the rings over time by 'polluting' them.

What's next for Cassini, Cuzzi said, is a close pass to Saturn in late October and then, the long-awaited Huygens probe descent into Titan, Saturn's largest moon and the only one in our solar system with an atmosphere. Titan is larger than the planet Mercury and may have lakes of liquid ethane and organic material on its surface.

On Jan. 14, 2005, the probe will penetrate the moon's foggy atmosphere and take measurements down to the sur-

continued on page 11

Young minds design for living in space

Going to space has been an adventure only a select few have experienced, but students from around the world are dreaming of ways to change this.

Seeking to harness this creative energy, NASA developed the annual Space Settlement Design Contest.

The contest builds upon the students' fascination with space and exploration by challenging them to develop a permanent orbital space colony that is fully enclosed and self-sustaining. Students must account for the colony's basics: design, resource management, environmental controls, transportation, but also the inhabitants' recreational needs.

In 2004, the contest received 122 submissions from 444 students sponsored by 29 teachers. Entries came from Germany, India, Japan, Malaysia, Pakistan, Romania and the United States, California, Colorado, Florida, Illinois, Missouri, New Hampshire, New Mexico, New York, Tennessee and Virginia. The contest has grown considerably since its inception in 1984.

"The contest is designed to spark a student's interest in math and science and to develop the ideas and skills that will make orbital colonies a possibility," said Al Globus, NASA scientist and a founding member of the contest.

Students in grades six to 12-can enter into the individual, team or large group categories with the best of the category winners chosen as the grand prizewinner.

This year, the grand prizewinners were Flaviu Valentin Barsan, Andrei Dan Costea and Carmen Maria Sigovan from Constantza, Romania with their entry 'LEDA.' The three are high school students mentored by Ion Bararu.

"The goals of NASA's Space Settlement Design Contest are to spark a students interest in math, science and space-related disciplines as well as to inspire the next generation of explorers. This year's grand prize winners were particularly impressive in this pursuit. Barsan, Costea and Sigovan enthusiastically presented their design entitled 'LEDA' to the assembled group of scientists, parents, students and instructors in the Mars Theater in June. Their detailed Power Point presentation was well received by the entire group including members of the local media. The students were accompanied by their instructor, Bararu, who should be commended for motivating and inspiring his students in this international contest," stated Bryan Yager.

As part of the contest, the winners are invited to NASA Ames to tour the center and meet the NASA experts. In June, the grand prizewinners and 12 other prize-winning students, from as far away as Romania and India, visited Ames.

During the visit, contest winners started the day at the NASA Exploration Center and were greeted by the contest's organizers and were given presentations by some of NASA's leading scientists in the field of life sciences. Team LEDA then presented their winning concept for an orbital space colony followed by a presentation by another Romania team, SEEDS. After a presentation about Mars and lunch, the winners visited several Ames facilities including the 20-G centrifuge, FutureFlight Central, the Hyperwall and the NAS supercomputing facility.

The NASA Space Settlement Design Contest is administered by the Fundamental Space Biology program funded by NASA's Office of Biological and Physical Research, investigates fundamental biological processes through space flight and ground-based research. Bringing together state-of-the-art science and technology, the program seeks to answer the most basic questions regarding the evolution, development and function of living systems.

To view the winning submissions and more information about the Space Settlement Design Contest, visit: http://www.nas.nasa.gov/About/Education/SpaceSettlement/Contest/ For information on the Fundamental Space Biology program visit: http://fundamentalbiology.arc.nasa.gov/ For information on NASA's Office of Biological and Physical Research visit http://spaceresearch.nasa.gov/

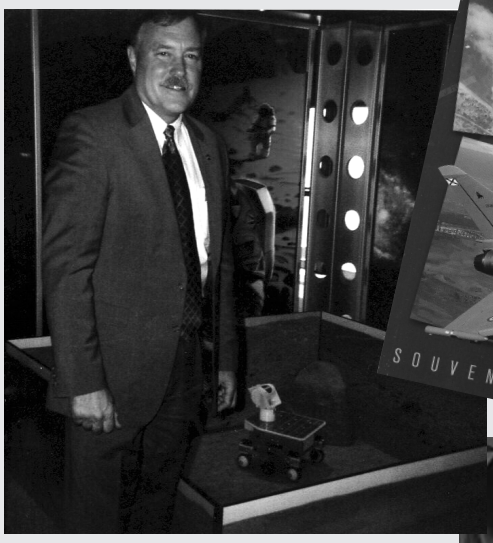
BY JONAS DINO

Hubbard presented with robotics award

NASA photo by Dominic Hart

From left to right: Dennis Cunningham, Karen Petraska, Steve Kyramarios, Alan Federman, Mark Leon and Edwin Sabathia present Ames Center Director G. Scott Hubbard with the FIRST Robotics Competition Chairman's Award. Hubbard said that the success of programs like NASA's Robotics Education Project will ensure that the United States produces the required advanced degrees in robotics engineering. "Winning the Chairman's Award is the greatest honor that any team in the FIRST Robotics Competition could hope to get. It's taken us six years to achieve it," said Mark Leon, education deputy chief. "The Chairman's Award is our team's greatest achievement. It recognizes the efforts of our mentors and students to build our once smallest team in the nation into a team that is able to give back to the community," stated Chris Ishisoko, team president and current Ames intern.

NASA wows Farnborough International Airshow visitors



After a 10-year absence, NASA returned to the Farnborough International Airshow to a tumultous welcome.

The NASA booth wsa staffed by personnel from Headquarters and across NASA's field centers. It featured the Vision for Space Exploration and 'OneNASA' themes, including Ames' Personal Exploration Rover and Personal Satellite Assistant.

The NASA booth was the most visited exhibit at the airshow during its seven-day run.

NASA photo by Bill Anderson, NASA HQs

The magic of co-op/internship -- *how mine enhanced my career goals*

"Having a passion for what you do, a sense of mission that comes from the heart – gives you energy, drive, and enthusiasm that is contagious and essential for leadership…"

– Senator Elizabeth Dole

When my engineering position became a casualty in the economic downturn in 2001, I knew in my heart that I yearned for the sense of passion and mission Senator Dole describes. The loss of my steady income and what had become a draining work schedule forced me to reevaluate my goals and career interests. After working almost 10 years as an engineer, my career had reached a plateau. It was time for change and a new direction.

I have a bachelor of science degree in physics with electrical engineering from the Massachusetts Institute of Technology and have worked primarily in RF/microwave and medical linear accelerator technology. Since 2001, I have been seeking to supplement my technical background by strengthening and developing some skills that would both build on my science and engineering background but also be transferable into education and business. With my physics background, I have had the opportunity to gain some teaching experience in mathematics and science in the classroom and learning center settings. I have also been taking statistics and financial accounting courses at Foothill Community College. It was in this process that I applied to the internship program at NASA Ames and was accepted as an intern in the Office of Technology Partnerships (OTP).

The opportunity to work at NASA Ames, as well as the way that my interests have fit into the work that takes place in the OTP, has been revitalizing. It is exciting to be working in an environment where the space program has not only inspired many to go to new heights in exploration and discovery, but has also given people a new awareness of the world, the cosmos, and even our place in the universe. I hear the passion people have in their work as I listen to a researcher who has spent years working on the mission to Mars, to a scientist whose invention is being used on the international space station, or to an astronaut who has returned from a successful shuttle mission. My work at the OTP has exposed me to many new and interesting technologies, and has also shown me different ways in which I can apply my previous work experience. Currently, I'm learning about the business side of technology as I work on projects that transfer and commercialize space-related technologies into the American public through the patenting and licensing processes. I'm also learning how to 'harvest' new inventions and technologies that have potential commercial applications and to foster academic and commercial partnerships in new leading fields such as nanotechnology, biotechnology and information technology.

My interest in education has also been stimulated through my internship experience. The fact that NASA has a vested interest in education and is also developing a research park at Moffett Field had also sparked my interest in applying to the program. To supplement my internship stipend, I have also been tutoring junior high and high school students in math and science. Therefore, it was validating to see math and science concepts that I had recently been explaining to my students being brought to life in the Exploration Encounter. In early December 2003, I also had the opportunity to serve as a volunteer in the 'Aero Expo IV: Centennial of Flight' event where over 4000 5th through 8th grade students explored exhibits, viewed demonstrations and participated in hands-on educational activities related to aerospace technologies. I was assigned to the 'Smart Skies' exhibit which used the distance-rate-time concepts students were learning in school as they participated in a hands-on simulated air-traffic control experience. It was a rewarding and enjoyable experience.

Since the time my internship started, I also had applied to a master's degree program at Carnegie-Mellon West, which is also located at Moffett Field. I have now been accepted into the program in information technology and learning sciences and am grateful to be able to go to graduate school at this time. I am also excited to be able to participate firsthand in the academic partnerships that have been developing between Ames and some of the universities and local community colleges. I am grateful for my educational experience at NASA Ames. It has renewed my interests in technology and education, provided me experience in business, and given me a new vision as I launch into the next step in my career.

BY LIANNE WONG

Professors give Ames colloquiums

Right: Steven Squyres, professor of astronomy at Cornell University, presents the latest science results from the Spirit and Opportunity rovers on Mars during his recent colloquium at Ames.

NASA photos by Tom Trower

Left: Professor Larry Smarr presented a director's colloquium in August. His presentation was entitled 'The OptIPuter: Using Optical Networks to Create a Planetary-Scale Supercomputer.'

Ames Safety Awards Program
-- second trimester awards presented

Under the Ames Safety Awards Program (ASAP) II, Ames recognized 40 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, with tier four being the highest level of achievement. The ASAP II board evaluates each nomination and selects the tier level that best represents the actions and accomplishments of that nomination.

A group of nine individuals from the Bionetics Corporation received this trimester's highest team award. They were recognized for their effort in establishing and maintaining a safe working environment, commitment to continuous safety improvements, the accomplishments of the Animal Care Facility Safety Committee and over four years of work without a reportable mishap.

Tier Level 3 – Individual awards

Sergio Castellanos, Stuart Jaquez

Tier Level 2 – Individual awards
Bryan Biegel, Joe Gippetti, Fred Jones, Nicholas Scott, Jon Talbot

Tier Level 2 – Team awards

Improving the Safety in the Animal Care Facility:
Edwin Agustin, Juan Calderon, Jose Casem, Danielle Galindo, David Garcia, Anthony Johnson, Raymond Montuya, Cathy Nguyen, Carolyn Reed

Tier Level 1 – Individual awards

Peteris Graube, Bill Lee, AC Mosher

Tier Level 1 – Team awards

Design and Construction of Safety Upgrades to Various Buildings:
Szuchuan Chang, Victor Coquilla, William Lee, XinXin Nee, Raymond Schuler

Employee Involvement in Improving Safety in the Division:
Desiree Barrientos, Lena Contreras, Dana Davidson, Myrna Espinosa, Mary Perez, Lita Que

Evacuation of N241 Basement:
Lena Contreras, Dana Davidson, Kristie Dunbar, Lynette Forsman, Michael Forsman, Lourdes Hammett, Gail James, Diane Kanally, Mary Perez, Lita Que

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.

Turtle survey

continued from page 5

ronmental Protection Agency's National Environmental Performance Track (NEPT) program. NEPT is a voluntary partnership comprised of public and private organizations designed to encourage members to go beyond compliance with regulatory requirements to proactively implement beneficial environmental programs. Through this program, NASA Ames has committed to increase western pond turtle habitat by: 1) setting out basking logs on which the turtles can sun themselves; 2) conducting habitat maintenance that includes mowing, creating pools and pulling cattails in the ditches; and, 3) providing protection from ongoing activities.

NASA Ames plays an important role in fostering western pond turtle growth in the Bay area. The NASA Ames habitat is unique in that it is the only western pond turtle habitat in the area with purely western pond turtles. In comparison, other bodies of water in this lower river system, such as the San Tomas Aquino Creek, Guadalupe River and the Calabazas Creek, all have a combined population of the western pond turtle with the non-native red-eared slider species that is commonly found in pet stores. The red-eared slider is considered detrimental to the western pond turtle because it will out compete the western pond turtle and further contribute to its population decline.

Thanks to the knowledge obtained through the surveys, Alderete forecasts the continued growth of the western pond turtle population at NASA Ames.

BY STACY ST. LOUIS

Saturn's rings

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face. Huygens' descent will take about three hours, give or take 30 minutes. Huygens was built by ESA, but the first studies of Titan entry probes were done at Ames in the 1970s and 1980s. The probe will collect aerosol and surface data, and Ames scientists Chris McKay and Bill Borucki will study those results as mission co-investigators.

Cassini will complete 74 orbits over its four-year nominal mission, changing its course by using 44 more close flybys of Titan - each 10 times closer than the recent first one - and using its telescopes, radar and other instruments to study Titan's surface and atmosphere further. During the tour, the spacecraft will conduct more than a dozen 1000-kilometer flybys of Saturn's icy satellites. Dale Cruikshank of Ames, who specializes in satellite composition - in particular their organic molecules - will be closely involved in interpreting these results.

The Cassini mission has been extended two additional years and, if all goes well, will run through 2009. The end-of-mission plan is for Cassini to ultimately be pushed into Saturn, as Galileo dove into Jupiter's atmosphere when its mission ended, or toward one of the rings where it will collide and become just another ring particle.

BY KATHLEEN BURTON

Ralph W. Lewis passes away

Ralph Lewis of San Jose passed away in May. Lewis was born in Salt Lake City, Utah and lived in San Jose for 35 years. Lewis managed the technical information services branch at NASA Ames and later worked in the same capacity for Lockheed. In retirement, Lewis enjoyed dancing, writing and travel.

Lewis was widowed by his wife of 48 years, Dorothy lewis, in 2000 and was predeceased by his daughter Amy Lynn Lewis in 2001. He is survived by his daughter Shelley Boose of San Jose and his son, Mark Lewis of Phoenix. He leaves behind five grandchildren, three sisters and numerous nieces, nephews and cousins. He will be deeply missed.

Ames launches airborne air pollution research monitor

What do you get when you combine a dozen aircraft, three satellites, a couple of balloons, a ship and a hundred scientists? You get a recipe for an historic event.

In July, NASA Ames scientists kicked off INTEX-NA, the first of two missions to collect and observe the movement of gases and aerosols across North America to the Atlantic Ocean. INTEX-NA stands for Intercontinental Chemical Transport Experiment, North America. The mission's main objective is to investigate the trans-oceanic transport of air pollutants from North America to Europe and, later, from Asia to North America.

NASA's DC-8 which is used to monitor how trends in airborne pollution affect the global climate.

During the mission, NASA's DC-8 and P3-B aircraft and 12 other planes will fly from four locations across the country to monitor how trends in airborne pollution affect global climate. The researchers also want to know how global conditions affect regional air quality, understand the transport and chemical changes of these gases over the Atlantic Ocean, and assess the global impact of this 'flow' on air quality and climate

"This is a major NASA science campaign to understand the transport and transformation of gases and aerosols on transcontinental and intercontinental scales and to investigate their impact on air quality and climate," said Hanwant Singh of Ames, lead project scientist. Ames leads and manages the field campaign.

The study is being conducted under an international umbrella called ICARTT, Intercontinental Chemical Transport Experiment. NASA and NOAA scientists from the U. S. are closely collaborating with those from Canada, the United Kingdom, Germany and France. Three NASA centers and some dozen U. S. universities (including UC Irvine, UC Berkeley, and Caltech from California) are participating in INTEX-NA. The multi-agency mission involves satellites launched by NASA (Terra, Aqua, Aura) and the European Space Agency (Envisat) and enhanced O3-sonde balloons that will measure atmospheric chemistry.

The field experiment is the first time that multiple aircraft will work together to maximize overall scientific output. The DC-8 aircraft is the principle NASA flying laboratory, and is equipped with highly sensitive and sophisticated detection equipment supplied by NASA and INTEX-NA's university partners. The experiment, which will run in two phases, will provide the foundation for future international policies on pollution control.

Concurrent scientific missions are being conducted from bases at Dryden Flight Research Center, at Mid America near St. Louis, MO and at Pease Tradeport, Portsmouth, NH. The first phase of the mission lasted from July 1 to mid-August. A second phase of the experiment, which focuses on the transport of Asian pollution into North America, will be performed in the spring of 2006. Additional specially equipped aircraft will launch from Mascuda, Ill., St. Louis, Mo., and Pease Tradeport. The NASA aircraft will log approximately 327 hours of flight time. Additional information on INTEX-NA is available on the Web at http://cloud1.arc.nasa.gov/intex-na/.

By Ola Marra Cook and Kathleen Burton

How to be an inspiration

In January 2004, President Bush announced to the world the new national Vision for Space Exploration. NASA employees have a huge responsibility to help let the world know who NASA is and what NASA is trying to achieve. Many people are aware of NASA's charge for space exploration, but they may not understand the science and technology associated with it. Are they conscious of how NASA improves the quality of our lives?

Speaker Terry Pagaduan staffs the NASA exhibit at the Sunnyvale Arts and Wine Festival in June 2004.

For several decades, the NASA Speakers Bureau has sought to share how the space program affects you, your children and future generations. It is comprised of NASA employees, contractors and retirees who volunteer to share NASA's vision and goals with the community. Speakers provide an invaluable service to the public by presenting programs and information to the educational community, libraries and museums as well as to professional, technical, civic and social organizations. Speakers also participate in conferences, workshops and lectures and staff NASA exhibits at local community events. The only 'requirement' to become a NASA speaker is that you enjoy talking to people and that you are willing to share your knowledge and passion for our mission.

The NASA Ames Speakers Bureau needs you. With the new school year in full swing and more NASA programs becoming a matter of public interest, the need for speakers has risen. The NASA Ames Speakers Bureau supports our Public Affairs Division, providing services to the 11 state regions of Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming.

To become a speaker, contact Sheila Johnson at ext. 4-5054 or Jennifer Kremer at ext. 4-3970. It's a call that can change your life, and that of your fellow citizens by inspiring the next generation of explorers…as only NASA can.

by Jennifer Kremer

Bike locker announcement

The Ames Commute Alternatives Program (ACAP) is in the process of revamping bike lockers around campus.

If you have a key to a bike locker and have not been contacted by ACAP in the last two months reconfirming your use of the locker, then call Christina Reed at ext. 4-6105.

If you have a key to a locker that you are no longer using, let her know so that it can be reassigned. Your assistance with this effort is appreciated!

Erzberger granted highest AIAA award

NASA's Heinz Erzberger was recently honored with the Reed Aeronautics Award. Named for Dr. Sylvanus Reed, an aeronautical engineer and founding member of the organization that became the AIAA, the award is the highest granted within the aeronautical science and engineering community.

Heinz Erzberger

"It is widely recognized that Dr. Erzberger's early research in trajectory optimization contributed directly to the evolution of flight management systems used on most of today's commercial transports," said Ames Center Director G. Scott Hubbard in Erzberger's letter of nomination. While this was a considerable accomplishment, Erzberger continued in his quest to make air traffic control efficient. To maximize efficiency, he reasoned, air traffic controllers ought to have access to the same information on an aircraft's performance as pilots have. So Erzberger came up with the idea of automation aids, designed to quickly provide the controller with information about the aircraft's preferred trajectory based on its performance characteristics. The goal was an increase in system capacity and reduction of both delays and operating costs.

Erzberger turned his ideas to action, gathering a group of scientists and developing a successful research team. "He developed the team by bringing together engineers, computer scientists and human factors specialists, sharing his vision, challenging the group, and then mentoring them until they themselves had become leaders. Several of these individuals have gone on to industry and academia to expand this new area of engineering and assist in deployment of the technology," said Hubbard. And together, they created the Center TRACON Automation System (CTAS). CTAS comprises a variety of specialized tools that the controllers can choose from to solve problems that arise during various stages of flight. Realizing their goal, the CTAS has been credited with increasing the efficiency of air traffic control through advanced computer intelligence.

While a great achievement, it meant nothing without the FAA's support. Erzberger is credited with masterminding the strategy for FAA acceptance and implementation. "After decades of failures by others to automate air traffic control functions, the system and approach developed by Dr. Erzberger and his group is the first to gain acceptance by both controllers and the airlines," said Hubbard. Erzberger's strategy was to introduce his ideas and new technology in baby steps. He reasoned that presenting new concepts gradually would make customers more receptive to them in the long run. This thinking paid off, as the FAA soon opened its eyes to new ways of managing air traffic.

"The traffic management advisor and other CTAS tools are the cornerstone of the FAA's free-flight program and will provide the foundation for the future air transportation system. The CTAS development has clearly positioned NASA and in particular the Ames Research Center as the world leader in air traffic management," said Hubbard. It is because of his successes that we have the capability to meet increases in demand for air transportation today and in the future. Erzberger recently indicated that this technology has paved the way for an eventual doubling, or even tripling, of the capacity of airspace. It seems everyone is interested in Erzberger and his team. Invitations to speak around the world and visitors to Erzberger's office have poured in. "His approach and ideas are being adopted by much of the industry and are being put into practice to improve capacity at a number of our airports," said Hubbard.

"I have followed Heinz's research from its beginning. It is great to see that the significance of his work is being recognized. His vision and leadership have given birth to a new technology that is indispensable to the future health and growth of air transportation," said Dallas Denery, chief (acting), Aviation Systems Division.

BY ALYSSA FRIEDLAND

Woods memorial set

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abled NASA to demonstrate how remote sensing and geographic information system technologies could be integrated with other data and epidemiologic factors to answer research questions, aid with disease surveillance and focus control activities. In recognition of his endeavors, a center for implementing GIS technologies in the use of disease modeling has been established in Nigeria and dedicated to Wood.

All those who wish to attend are asked to RSVP to Honoris Ocasio at hocasio@mail.arc.nasa.gov, ext. 4-2866, or with Gailynne Bouret at gbouret@mail.arc.nasa.gov, ext. 4-4187, no later than Sept. 2.

Silverman helps scouts earn patch

NASA photo by Astrid Terlep

Ken Silverman, NASA Ames' chief of security, Protective Services, Code JP, (center) is seen here recently with Girl Scout Troop 142 from Mountain View. Silverman assisted the scouts in earning their 'Working it Out' patch by explaining to them what his previous Secret Service and current protective services jobs entailed. Chief Silverman described situations where he had to think of the best way to come up with conflict resolutions to obtain the best and safest outcomes possible for everyone involved.

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 Bowling League, Palo Alto Bowl on Tuesday nights. Seeking full-time bowlers and substitutes. Questions to sign up: Mike Liu at ext. 4-1132.

Ames Child Care Center Board of Directors Mtg, every other Thursday (check Web site for meeting dates: http://accc.arc.nasa.gov), 12 noon to 1:30 p.m., N-210, Rm. 205. POC: Cheryl Quinn, ext 4-5793.

Ames Contractor Council Mtg, first Wednesday each month, 11 a.m., N-200, Comm. Rm. POC: Anita Fogtman, ext. 4-4432.

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

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: Julie ext. 4-4694 or 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 (Feb through Nov), from 11.30 a.m. -1 p.m. in the special events room in the Ames Visitor Center in N-223. All are welcome. POC: Jeff Smith, ext. 4-2586.

Environmental, Health and Safety Information Forum, first Thursday of each month, 8:30 a.m. to 9:30 a.m., Bldg. 221/Rm 155. URL: http://q.arc.nasa.gov/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: Becky Brondos at ext. 4-1959, bbrondos@mail.arc.nasa.gov or Bob Hilton at ext. 4-1783, bhilton@mail.arc.nasa.gov.

Nat'l Association of Retired Federal Employees, (NARFE). Former and current federal employees. Your only contact with Congress. Join to protect your federal retirement. Chptr #50 meets the first Fri. of each month at HomeTown Buffet, 2670 El Camino (at Kiely), S. Clara, 11 a.m. lunch. POC Earl Keener (408) 241-4459 or NARFE 1-800-627-3394.

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.

Chili cook-off set for Oct. 7

The Ames Exchange is pleased to announce the 8th Annual Chili Cook-Off to be held on Thursday, Oct. 7 from 11 a.m. until 1p.m. This year's theme is 'Mardi Gras.'

The chili cook-off has proven to be very popular and successful in the past. It's expected to be no different this year.

All Ames personnel are invited to form teams, try out their special chili recipes, and compete for trophies in each of the four categories: peoples choice, judges choice, five alarm and best presentation.

The exchange will provide a total of $50 per officially-entered team (to a maximum of 20 teams) to help defray the costs of preparing adequate supplies of your recipes to feed small samples to the potentially hundreds of expected attendees.

Teams are encouraged to exercise creativity in recipes, presentation, condiments, team naming and other, related areas.

For information about entering the contest and to submit the required paperwork, contact Julia Horner at: jhorner@mail.arc.nasa.gov or ext. 4-4017.

At this event, chili sampling is free for all NASA employees, contractors and other on-site personnel and visitors. Each taster will be given the chance to cast his or her vote for the 'peoples choice' award.

A select panel of judges will choose the other categories. Trophies will be presented to the winning team in each category. Prizes are in the form of trophies only; there are no cash prizes for this event.

Schweickart to speak at Foothill

The Silicon Valley Astronomy Lecture Series presents Apollo 9 astronaut Russell Schweickart, giving a non-technical, illustrated talk on:'Asteroid Deflection: Hopes and Fears'

Date: Oct. 6
Time: 7 p.m.
Location: The Smithwick Theater Foothill College, El Monte Road and Freeway 280, in Los Altos Hills
Cost: Free and open to the public. Parking on campus costs $2.

The event is co-sponsored by NASA Ames, the Foothill College Astronomy Program, the SETI Institute and the Astronomical Society of the Pacific.

Schweickart, lunar module pilot on Apollo 9 and the first person to step outside a spacecraft without an umbilical cord, also served as Commissioner of Energy for the state of California. He was the founder and president of the Association of Space Explorers, the professional organization of astronauts and cosmonauts. Schweickart is currently chairman of the board of the B612 Foundation, dedicated to protecting the future of humanity by developing and demonstrating ways to deflect asteroids that are heading our way.

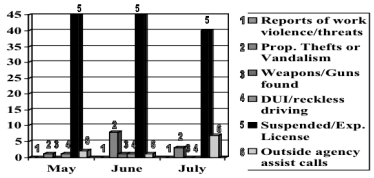
He will discuss what we know about the threat of cosmic rocks and the various ways that have been suggested for saving the Earth from large asteroid impacts, including both nuclear and non-nuclear alternatives.

Come early as a full house is expected for this very special program. Call the series hot-line at (650) 949-7888 for more information.

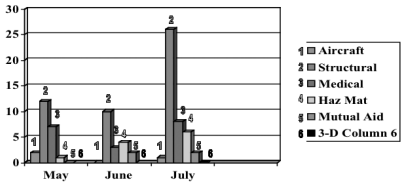
Protective Services monthly activity

A statistical summary of activities of the Protective Services Division's Security/Law Enforcement and Fire Protection Services units for the month of July 2004 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

2bd/1ba house at186 S. Pastoria Ave, Sunnyvale. Lndry, yard, recent remodel, gardener. Near downtown, 5 miles from Ames. Outdoor pets only. $1,600 per mo. Call (408) 746-8260.

2bd/1ba apt in four-plex for rent in Sunnyvale near El Camino and Wolfe. Includes one car garage plus one parking space, patio/balcony, updated kitchen w/walk-in pantry and dining area, pool privileges. $1,200 per mo. Call (408) 732-0829 or (408) 720-9879.

San Jose condo, 2 bd/2ba. Attached sgl car garage, fireplace, W/D, pool, D/W. Rent $1,350 plus $1,350 dep. Will consider small pet, w/add'l dep. Nice, quiet complex. Immediately available. Call (831) 333-9627.

Room for rent in Los Altos. Furnished room w/shared bathrm in v. nice Los Altos home. Home owner is a 60+ woman. Female renter only between ages of 18-30. Use of kitchen, W/D allowed. Utils inc. $550 per mo. Avail. now. Stacy (408) 378-8123.

Room for rent in quiet Los Altos close to Ames. Share with professional males/females. Large luxury house and yard w/gardener. W/D, N/S, no pets. Available now. $575/mo + dep. and 1/4 utils. Call (650) 964-2913.

Miscellaneous

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

Queen oak bedroom set (platform bed w/ storage, bookshelf headboard, 2 attached nightstands, 9-drawer dresser, trifold mirror) plus mattress. Excellent condition. $650. Call (650) 494-7050.

Recliner-rocker chair. Light skygrey, all leather, $100. Shirley (408) 234-0025 (cell).

Credenza, 20in x 30in x 46in, beautiful honey-laquer finish, excellent condition, $350. Call (650) 473-0604.

2000 Yamaha Waverunner. 1200 cc 155 HP. Only 45 hours of operation. Like new with new trailer, cover, etc. Steve (650) 224-0679.

Dell Dimension Windows 98 computer system, including: 450 MHz Pentium II, 128 MB RAM, 2x14 GB HDs, CD reader/burner, 17" monitor, graphics and sound cards, speakers, MSOffice S/W. $50 takes it all. Tom (408) 446-3922.

Ready-to-fly, Xtra Easy 2 (XE2) gas model airplane. Flown twice; never wrecked! Includes airplane and all equipment needed to fly it: 5 channel multi-data computer controller; manual fuel pump; 1.2v NiCad glow plug battery with AC adapter; 12v power starter; 12v battery battery and charger; field box for equipment/tool storage. Best offer. Call (408) 422-1572.

Astrogram deadlines

Deadline:	*Publication:*
Sept. 9	*Oct 2004*
Oct. 7	*Nov 2004*

All Ames employees are invited to submit articles relating to Ames projects and activities for publication in the *Astrogram*. When submitting stories or ads for publication, submit your material, along with any questions, in MS word by e-mail to: astrogram@mail.arc.nasa.gov on or before the deadline.

Safety Data

	Civil Servants	Contractors
Not recordable first aid cases	1	2
Recordable no lost time cases	1	1
Lost time cases*	0	1
Restricted duty days	0	2
Lost work days	0	0

Data above is as of 07/27/04. May be subject to slight adjustment in the event of a new case or new information regarding an existing case.

Note: Under new OSHA rules, lost time is defined as lost work days, restricted duty or job transfer.

Ames Contractor Council

Golf Event

September 10, 2004

at The Santa Clara Golf & Tennis Club

Don't let the sun go down without one more round of fun!

Location: 5155 Stars & Stripes Dr. Santa Clara
Registration: noon ~ shot gun 1:00
Entry Fees: $80

Everyone welcomed!
Team up with your friends or come and join a team.
Social hour/Hors d' oeuvres will be served at 5:30pm

Entry forms and contest information available online at
http://contractorcouncil.arc.nasa.gov
For additional information call 650-604-1291
Entry deadline **August 27, 2004**

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 N-235 (8 a.m. to 2 p.m.) ext. 4-6873

Ask about NASA customized gifts for special occasions. Make your reservations for Chase Park

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

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

Visitor Center Gift Shop N-943 (10 a.m. to 4:00 p.m.) ext. 4-5412

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

Tickets, etc...(N-235, 8 a.m. to 2 p.m.) ext. 4-6873

Check web site for discounts to local attractions, http://exchange.arc.nasa.gov and click on tickets.

NASA Lodge (N-19) 603-7100

Open 7 days a week, 7:00 a.m. to 10 p.m. Rates from $40 - $50.

Vacation Opportunities

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

South Lake Tahoe cottage w/wood fireplace, hot tub. Rates $50 to $130 per night. Call (650) 967-7659 or (650) 704-7732.

Vacation rental, Bass Lake, 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.

Tahoe Donner vacation home, 2 bd/2ba. trees, deck, sun, fun. Access to pools, spa, golf, horseback riding, $280 wkend, $650 week. Call (408) 739-9134.

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 bd/2ba, sleeps 8. Fireplace, TV/VCR/DVD, MW, W/D, jacuzzi, sauna, pool. Walk to Lake, close to ski areas. Visit Web page for pictures: http://www.ACruiseStore.com. $120/night low season, $155/night high season (holidays higher) plus $156 cleaning fee and 12% Nevada room tax. Charlie (650) 355-1873.

Disneyland area vacation rental home, 2 bd/1ba. Nearing completion completely remodeled w/new furniture. Sleeps 6 (queen bed, bunk beds, sleeper sofa). Air hockey and football tables. Introductory rate $600/wk, once completed rate will be $1000/wk. Security deposit and $100 cleaning fee required. Call (925) 846-2781.

Ski Park City Utah, NASA Ski Week XIV, Feb 5 - 12, 2005. Space is limited. For more info, e-mail Steve at e-mail exnasa@sbcglobal.net or call (408) 432-0135.

‘Art of Leadership Mastery’ group participants graduate

The ‘Art of Leadership Mastery’ cohort group participants recently completed their nine-month program. Here are the participants in the above photograph. They ended their program with a graduation ceremony, with Ames Center Director G. Scott Hubbard presenting each graduate with a certificate of mastery.

The Human Resources Development Branch currently has a list of those who are intersted in applying for the program that begins this September. If interested in the program, e-mail Janice Shook at jschook@mail.arc.nasa.gov

Ask the ‘export expert’

Question:

What is ‘publicly available’? What does ‘public domain’ mean?

Answer:

The Export Administration Regulations (EAR) define ‘publicly available information’ as ‘information that is generally accessible to the interested public in any form and, therefore, not subject to the EAR.’

‘Publicly available technology and software’ is defined as ‘that technology and software that are already published or will be published; arise during or result from fundamental research; are educational; or are included in certain patent applications.’

The International Traffic in Arms Regulations (ITAR) definition of ‘public domain’ is long so it is summarized here as ‘information which is published and which is generally accessible or available to the public: through sales at news stands and bookstores; through subscriptions which are available without restriction; at public libraries; through patents; through unlimited distribution at a conference which is generally accessible to the public in the US; through fundamental research in science and engineering at accredited institutions of higher learning in the US where the resulting information is ordinarily published and shared broadly in the scientific community.’

Do you have a question for the export expert? If so, send it to Kimberly Wall at kwall@mail.arc.nasa.gov. And, visit the Internet at http://jp.arc.nasa.gov/EC/EC.html.

Associated Industries for the Blind
Value, Service, Convenience

Announcing our
Customer Appreciation Day!! Sept. 8, 11 a.m. to 1 p.m., B255

Join us
at your Service Store
in Building 255
on Wednesday, 09/08/04
from 11:00 A.M. to 1:00 P.M.

> FREE Refreshments
> Prize Drawings
> Meet Manufacturers Representatives

A.I.B. Service Store

* Office Products you need, when you need them
Our fully stocked inventory of supplies will keep your department running smoothly at guaranteed low prices.
* Tools and Hardware
Check out our expanded tools, hardware and maintenance products inventory.
* Employees at Your Service
You can be assured of finding knowledgeable and friendly employees to assist you from 8:00 A.M. to 4:00 P.M. daily.
* Speedy Desktop Delivery
Fax or phone your order to us, and the supplies you need will be delivered to your desk or work station.
* Special Orders are our Speciality
Can't find what you want? We can bring our warehouse of over 30,000 items to you in just a day or two - and at deeply discounted prices!

Please stop by and help us celebrate as we salute YOU, our valued customers, with food and refreshments from 11:00 to 1:00 on Wednesday, September 8!!

650-604-6801 650-604-6802 (F)

Astrogram

National Aeronautics and Space Administration

Ames Research Center
Moffett Field, CA 94035-1000

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