

THE AMES

# Astrogram

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AMES RESEARCH CENTER, MOFFETT FIELD

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on-line at: <http://amesnews.arc.nasa.gov>



## Landmark partnership kicks off NASA Research Park

Just over two years ago, NASA Administrator Daniel S. Goldin challenged Center Director Henry McDonald to make the NASA Research Park a reality at Ames. On October 23, he was on hand at a Moffett Training and Conference Center news conference to preside over the first major step in the process of achieving that goal.

On that historic occasion, Goldin and University of California President Dr. Richard Atkinson signed a commemorative document symbolizing their commitment to collaborate in the creation of a world-class educational research and development campus. The two partner organizations intend to focus their efforts in the areas of innovation and scientific discovery.

"The innovations and scientific discoveries of the future will not come from NASA, industry or universities alone. They will come from us working together and making the most of the special attributes that each of us brings to the table," Goldin said. "I am delighted that NASA Ames, which has critical R&D responsibilities in information technology, biotechnology and nanotechnology, is partnering with one of the world's best public higher education systems," he added.

Asked directly about Ames' role and the new NASA way of doing business, Goldin responded, "this is where we're going to plant the flag. This is the prototype" for the future.

As part of the agreement, a 40-acre parcel of the 200-plus acre NASA Research Park will be set aside for university partners, with 25 acres assured for the University of California in furtherance of collaborations with NASA in education, research and public service. UC also plans to work with San José State University and Foothill-DeAnza in its development efforts. UC anticipates building at least 600,000 square feet of new classrooms and lab space to accommodate at least 2,000 students by the end of their 10-year build-out period.

"UC and NASA scientists will work together on advances in science and technology that will drive new industries and provide new products benefiting California's economy," said Atkinson. "UC Santa Cruz will serve as a portal to the UC system for Silicon Valley to connect UC's intellectual resources with the specific interests and

needs of Silicon Valley, NASA, the state and the nation," he concluded.

UC Santa Cruz intends to establish a

include the creation and testing of new models for delivering education and conducting research that capitalize on Silicon Valley technology and the rich math and science environment at NASA Ames," she said.

Earlier in the day, NASA and UC representatives held a round-table session with visiting dignitaries from the private sector. The purpose was to inform and engage a select group of Silicon Valley leaders in the evolving vision for the NASA Research Park and the Silicon Valley Center.

Following the news conference, the parties celebrated their new collaboration with a luncheon in the MTCC ballroom. Sue Johnson, a UC regent from the office of Governor Gray Davis brought greeting on behalf of California's chief executive. The honorable Elaine Alquist also offered her support for the planned developments.

Groundbreaking at the new site is contingent upon successful completion of an on-going environmental review process being conducted by NASA and a similar one anticipated to be undertaken by the University of California.

BY MICHAEL MEWHINNEY



photo by Laura Lewis

From left to right, Dr. Richard C. Atkinson, President, University of California; Daniel S. Goldin, NASA Administrator and Henry McDonald, Center Director, signing a commemoration of the partnership to develop the NASA Research Park.

"Silicon Valley Center" at the proposed NASA Research Park, according to UCSC Chancellor M. R. C. Greenwood. "Our plans

## "Design for Safety" gets enthusiastic kick-off — bold thinking/approaches highlight new initiative

What can 65 speakers and more than 300 attendees accomplish in one three-day workshop? A great deal judging by the output and feedback from the recent kick-off of the Design for Safety (DFS) initiative held at Ames from October 10 to 12.

Ames' Silicon Valley location combined with curiosity and interest about the new initiative helped draw participation from a wide range of presenters and attendees alike — from across NASA, the aerospace industry and the academic community. They all came to learn about the new initiative, to share their expertise and, in

some cases, to offer their personal vision of what the Design for Safety program should encompass.

The workshop was structured around an opening session that presented the vision and goals of the new DFS initiative. It was followed by nine technical sessions, and a closing panel during which chairpersons reported on the deliberations and lessons learned in individual working groups. The technical sessions spanned a range of topics, from current risk assessment tools and methodologies to software safety,

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## Center Briefs

### NASA technology could save vanishing native American languages

The most up-to-the-minute language-instruction technology, used in the space program, may come to the rescue of some venerable old languages and cultures.

Native American educators are looking at technology from NASA's Johnson Space Center, Houston, TX, in their efforts to preserve and teach their peoples' languages. Johnson's Language Education Center, one of the largest and most advanced of its kind, teaches astronauts, Russian cosmonauts and others English, Russian and Japanese.

Vernon Finley and Johnny Arlee, language instructors at Salish Kootenai College on the Flathead Indian Reservation at Pablo, in northwestern Montana, recently visited the language center.

### It's "2001 Mars Odyssey" for NASA's next trip to the red planet

As NASA's next spacecraft to the red planet begins a crucial round of testing in preparations for launch next year, the mission has been given a new name: 2001 Mars Odyssey.

"The year 2001 has a special significance to many of us who recall the thrill of reading the book and watching the movie '2001: A Space Odyssey.' We looked forward to the exciting future of space exploration that the year 2001 promised," said Scott Hubbard, Mars Program Director at NASA Headquarters, Washington, D.C. Hubbard added that Arthur C. Clarke, author of "2001: A Space Odyssey," enthusiastically endorsed the new mission name.

The orbiting spacecraft is designed to find out what Mars is made of, detect water and shallow buried ice and study the radiation environment.

### Entangled photons could promise lightning-speed computers

Defying traditional laws of physics, researchers may have found a way to blast through imminent roadblocks on the highway to faster and smaller computers.

Using modern quantum physics, a research team from NASA's Jet Propulsion Laboratory (JPL), Pasadena, CA, and the University of Wales in the United Kingdom has discovered that entangled pairs of light particles, called photons, can act as a single unit, but perform with twice the efficiency.

Using a process called "entanglement," the research team proposes that existing sources of laser light could be used to produce smaller and faster computer chips than current technology allows.

## ASF "Royalty" honored

"Jean, Jean, the Arc Jet Queen" Brian was recently honored by her co-workers in the Space Technology Division (AS), who purchased a specialized license plate for her to proudly display her reigning stature.

Jean Brian has been a key member of the Arc Jet team since 1977. The Arc Jet team is responsible for the operation and maintenance of the world-class Ames Arc Jet Facilities, which have performed re-entry testing on the thermal protection system components of nearly every United States spacecraft which has entered the atmosphere.

The team is a dedicated, hard-working group that handles tests for both Govern-



photo by Tom Reddy

Jean Brian with her new "ARCJTQN" license plate.

ment and commercial customers from around the world. The team performs in excess of 100 runs per year.

## Curt Laughlin retires

Curt Laughlin has retired after 12 years at Ames. After being hired in 1988 as a mission director for the Kuiper Airborne Observatory (KAO), Curt subsequently became the project manager for the KAO, and Chief of the Airborne Astronomy Missions Branch. After the Kuiper was grounded to make way for the Stratospheric Observatory for Infrared Astronomy (SOFIA), Curt joined the SOFIA Project Office management team, eventually relocating to Waco, Texas, to become the NASA/SOFIA representative at the USRA-Raytheon aircraft modification site.

Prior to his work with NASA, Curt served for 20 years as superintendent for the University of Texas McDonald Observatory. Earlier in his career, he worked at Rice University in Houston, as space science facilities payload manager, where he developed and implemented a research laboratory for the design, production and testing of space-oriented experiments. As a graduate student, research assistant and research physicist at the State University of Iowa, Iowa City, Curt was involved in satellite instrument development and was payload manager for satellites Injun I, II and III.

Friends and colleagues at Ames will remember Curt as a knowledgeable and levelheaded manager who saw the KAO through rough times, including the end of its 21-year mission in 1995. Curt's under-

stated style, his wisdom and his patience as a manager will be long remembered. Curt, his wife Fran, and their grandson, Jon, will continue to live in Texas.

BY WENDY DOLCI



## Come join Ames' carolers this year!

Each year, a group of Ames employees gets together during lunch to practice holiday carols. A date in December, usually the week before Christmas, is scheduled, where the group will walk throughout Ames and sing to employees. This has been a beloved, long-time tradition which will hopefully continue.

If you are interested in singing, then join in for practices to be held on Tuesdays and Thursdays, beginning November 14. If you play an instrument, bring it along as well. Practices will be in N244, Rm B5 in the basement. The time will be from 11:30 p.m. to 12:30 p.m.

For more information, contact Astrid Terlep at ext. 4-3347.

### Total Wellness Program presentation set

As a part of Ames' Total Wellness Program, Safety, Health and Medical Services invite you to a special presentation. It will be given by Andy Rymer and is entitled "Integrating Mind and Body." It will be held on November 7, from 10 a.m. to 12:30 p.m., in the Moffett Training and Conference Center, building 3, ballroom.

Andy Rymer's presentation has been specifically designed for Ames personnel to meet the extraordinary demands of their unique position. Attendees will experience immediate benefit because Rymer's presentation incorporates understanding, knowledge and experience that are directly practical and profound. Rymer's presentation will include the following subjects:

- Immediate transformation of stress and relaxation.
- Accessing the super creative state for creative problem solving.
- Dissolving negative feelings and

emotional states.

- How to create positive feelings and emotional states.
- Maximizing effective communication in all situations.
- Slowing time in order to accomplish more.
- How your cognitive system manifests your life experience.
- Discovering your cognitive system and how it directly effects your physiology and neurophysiology.
- Your cognitive system as an instrument verses being a prisoner of your own cognitive system.
- Using your cognitive system to manifest the life you desire.

Andy Rymer has lectured, taught and given workshops exploring the field of consciousness and human potential for 30 years. He has integrated and systematized his knowledge to assist corporations and

individuals to achieve objectives to evolutionary custom design and reengineering. During the last 10 years, over 65,000 people worldwide have attended Rymer workshops. These presentations and workshops are renowned for facilitating profound rapid transformational growth. He has been frequently interviewed on radio and television. He founded two successful businesses and is a successful investor and day trader. In 1997, he was tapped by the Omega Software Company to appear in daily-televised commercials on CNBC to advertise the company's investment and trading software products and seminars.

All contractors and civil servants are welcome and may bring a bagged lunch with them. Join us for this outstanding presentation. If you have any questions, contact the Health Unit at ext. 4-2595.

### Ames media day featured air scooter wind tunnel tests

Testing of a flying air scooter's lift power was the focus at an October 23 media day for reporters at Ames.

NASA Ames and Millennium Jet, Inc., Sunnyvale, CA, are working under a cooperative agreement during development of the company's SoloTrek XfV (Exo-skeleton Flying Vehicle), a one-person air scooter that someday may fly commuters above traffic jams.

"Our researchers are working with engineers from Millennium Jet to test one of the air scooter's two fan assemblies in a wind tunnel to determine if they can overcome gravity and raise the vehicle from the ground," said engineer William Warmbrodt, head of the Aeromechanics Branch at Ames. "We won't know if the two ducted fans, as now designed, can lift the pilot and vehicle off the ground until we do these tests."

"We have all been dreaming of such a vehicle for many years and now the dream is becoming a reality," Millennium Jet, Inc. founder Michael Moshier said.

"NASA is interested in further developing vertical flight technologies — from large transports to personal transportation systems," said Warmbrodt. "NASA is supporting the company's efforts in engineering, technology and testing and giving advice when asked."

"We are doing this test in a wind tunnel because it's safe (a person does not have to pilot the vehicle). The test will result in accurate lift-force data, and we can evaluate the duct and fan system throughout its operating envelope under carefully controlled conditions," Warmbrodt said.

"Each of the five-bladed fans is about 3 feet in diameter and rotates in a housing

called a fairing or duct," explained Warmbrodt. The air scooter tests are taking place in the 7-by-10-foot wind tunnel operated for Ames by the U.S. Army and the Army/NASA Rotorcraft Division. By mid November, engineers hope to have final statistics to indicate if the current ducted fans are strong enough to lift the air scooter.

"The air scooter has a tripod-stand-like structure and the pilot stands on footrests. The engine mounts to a tripod frame behind the pilot's back," Warmbrodt said.

Aeronautical engineers see the potential for such air scooters to be future personal transportation systems. These vehicles could be built for one or multiple passengers with the ability to take off and land vertically and to be operated either autonomously or manually with "car-like" controls. The military could use such vehicles to bypass obstacles like land mines, blocked roads, impassable bridges or large areas of water and for search and rescue missions.

Other potential uses for such vehicles include providing "instant-response" medical attention, adding a third, vertical dimension for sport utility vehicles, and rapid package delivery and transportation to and from airports. Workers could use these vehicles to help construct and maintain power lines, bridges and multi-story buildings. Additional uses for larger air scooters might include planting, spraying and harvesting crops, detecting and extracting land mines, conducting search and rescue missions in adverse weather and participating in major chemical and biological cleanups.

Further information on the Millennium Jet air scooter can be found at:

<http://www.solotrek.com>



photo by Tom Trower

Steve Chan, wind tunnel mechanic, Research Support division, U.S. Army Aeroflightdynamics directorate, seen here adjusting the air scooter ducted fan test assembly.

Details of Ames' Aeromechanics program can be found at:

<http://halfdome.arc.nasa.gov>

BY DAVID MORSE



### Combined Federal Campaign kick-off a success

The NASA Ames Research Center Combined Federal Campaign started on October 18, in the N201 auditorium, with a bang! After the 2000 CFC film, speaker, Ray Siawleski, a Goodwill Job Training Graduate, gave a touching speech about a motorcycle accident he was in in 1986 and in how, with the help of CFC sources, he regained his ability to be a productive citizen. Herb Finger, Ames liaison to the Santa Clara and San Benito counties CFC office, explained the campaign procedures and forms to the many directorate coordinators, division captains, and key workers in attendance. Chairperson Grace Ann Weiler, and deputy chairs, Jean Nozaki and Roe Christensen, want to thank the generous people who donated door prizes and all of the audience members who gave of their time to attend the event. The Combined Federal Campaign is available on line at <http://cfc.arc.nasa.gov> to help you make your decision about your donation. Re-



photo by Tom Trower

From left to right: key worker, Nancy L. Johnson; chairperson, Grace Ann Weiler and guest speaker, Ray Siawleski at the CFC Kick off on October 18 in N201 auditorium.

member, you have "The Power of One, you Can Make a Difference."

### Flu vaccine has arrived!!

Safety, Health and Medical Services is pleased to offer the influenza vaccine to all resident staff (contractors and civil servants) and recent retirees; namely, those that have retired within the past three years. We regret that we cannot offer the vaccine to spouses or other family members.

We are encouraging all employees to get the vaccine. However, as previously announced, the country is experiencing a shortage/delay of flu vaccine due to problems with production with one component of the vaccine. At this time, we have received a small portion of our order of the flu vaccine. We will first begin giving the vaccine to those who would be most severely impacted were they to become ill with the flu. If we do receive our entire allotment, expanded vaccination schedules will be distributed. We are not able to give the vaccine at times other than those announced.

The priority and dates for vaccination groups have been sent out in a centerwide email and updates will be sent out regarding our schedule for future flu clinics. If you cannot make the time assigned for your group, you may come to any subsequent session. Wear short or loose fitting sleeves to eliminate the need for privacy. All flu clinics will be held in the Ames Health Unit and the information sheet and consents will be available there. Arrive a few minutes early to allow yourself enough time to read and sign the forms.

As a part of our Total Wellness Program, you are also invited to join us for a lecture on cold and flu prevention presented by Dr. Richard Petersen. This informative talk will be held 12:15 p.m. to 1:15 p.m. on November 1 in Building 233, Room 172.

For more information, feel free to contact the Health Unit at ext. 4-5287. We are located in Bldg. 215.

### NASA, SGI to collaborate on new 1,024 Processor Origin 3000

On August 23, Ames and SGI announced plans to build a 1,024-processor SGI Origin 3000 for the NAS Systems Division at Ames. Used by NASA researchers for aeronautics, Earth and life science studies, it will be the largest single-system (SSI) image computer in the world. (An SSI system consists of a number of processors attached to globally shared memory and an input/output subsystem, all of which are controlled by a single operating system).

The Ames research community is anxious to run a number of important applications on the new system. "We want to run computational fluid dynamics codes, like OVERFLOW and NASA climate models on the 1024 and see if they scale – the faster we can run code, the more rapidly we can solve problems vital to NASA missions," says Jim Taft, a senior scientific consultant at NAS.

Based on SGI's NUMAflex modular technology, the new 1024-processor system, scheduled to be completed by February 2001, will complete jobs substantially faster than NAS's previous 300

megahertz 512-processor SGI Origin system, *Lomax*.

"According to our projections, the new SGI Origin 3000 architecture is going to deliver about six times the performance at 1,024 processors as the 512-processor system," says NAS Division Chief Bill Feiereisen. SGI NUMAflex enables reconfiguration of the machine's architecture with the addition or removal of CPUs, depending on the desired scalability for an application.

The system utilizes the IRIX 6.5 operating system and is built on SGI's "third-generation" NUMA architecture. It is designed to work with existing application software and is fully compatible with other IRIX operating system-based servers and workstations.

"Like all other large CPU count SGI Origin systems, the new 1024 will continue to use the same IRIX operating system and compilers as other machines at NAS. This will be a distinct advantage to NAS researchers, who will be able to transition codes with a minimum of effort to the new system," says Taft.

BY HOLLY AMUNDSON

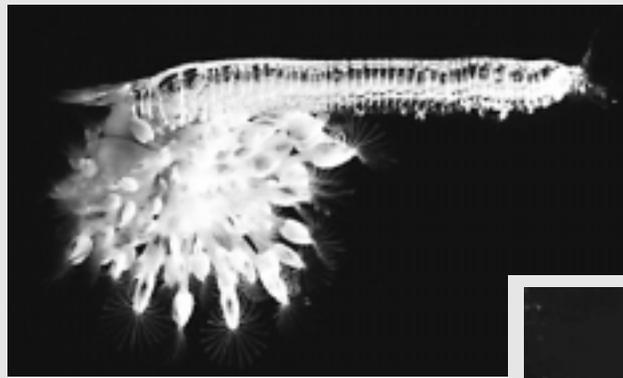
## Ames Exhibits

### New Visitor Center exhibit to be unveiled

A new Astrobiology exhibit entitled: "Astrobiology and the Water Worlds" is being created for the NASA Ames Visitors Center. The opening of "Astrobiology and the Water Worlds" is November 15 from

and chemical limits for life as part of the astrobiology effort at Ames. Trained as a marine biologist, Trent spent nine years exploring the open ocean using SCUBA.

"If we lived on another planet and sent probes to Earth to look for life with video cameras like the ones on the Sojourner, we'd undoubtedly splash down in an ocean somewhere and what we'd see is unlike anything you read about in science fiction," Trent said. "I think the portraits my research col-

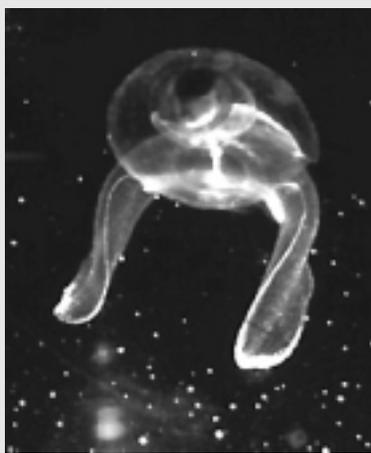


4 p.m. to 8 p.m. Everyone at Ames is invited in addition to the public. Dr. Jonathan Trent of the Astrobiology Technology Branch, Code SSR, will lecture on his photographic exhibit and research. We will also use the special events room to screen a new video made for the exhibit. It is a short video entitled: "Earth, the Water World." Created by Trent, Theresa Summer (Code SSR), Barbara Beck and Jesse Carpenter of the Documentation Technology Branch (Code JIT), it reveals the plankton from the photographs in motion and includes Astrobiology and Extremophile segments.

The exhibit features information on Astrobiology and the three known planets in our solar system that have had water; namely, Earth, Mars and Europa. Water is a necessary ingredient for all life on earth and may be one possible signature in the search for extraterrestrial life. Three made-to-scale, internally illuminated globes will provide a walk around view of these water worlds.

The exhibit will also feature a photographic exhibit entitled "Portraits of Life in the Earth's Oceans." The series of photographs dramatically illustrate the extraordinary macroscopic life forms that dominate our water planet, Earth. Although these organisms are visible to the naked eye and more numerous than trees and shrubs, they are completely unfamiliar to most people because they are living in a water world that is nearly as remote to us as Mars and Europa. These unfamiliar faunas of the open seas are more alien in form and lifestyles than some of the most fantastic science fiction versions of aliens.

The photographs were taken by Trent who is currently investigating the physical

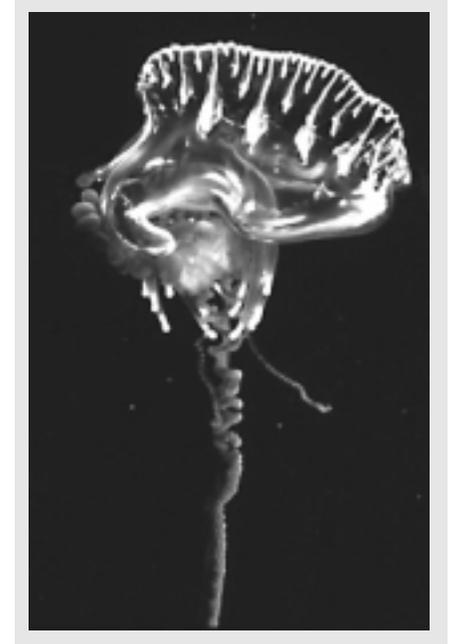
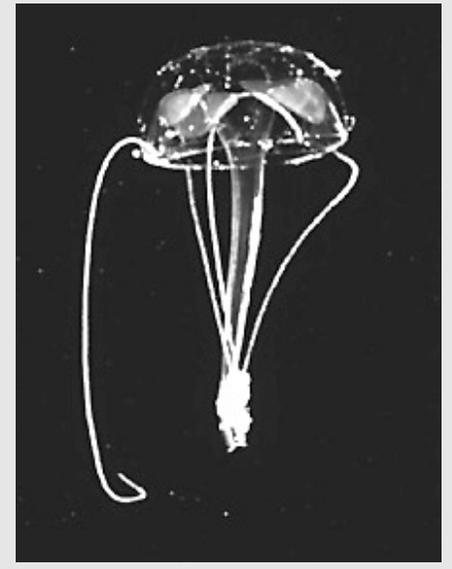


*photos by Dr. Jonathan Trent*

*These photos depict some of the various macroscopic life forms that exist in our oceans.*

leagues and I took during the many years diving in the open ocean gives us a new perspective on the diversity of life on Earth." The photographs show creatures that are up to tens of meters long. They are collectively called "plankton" because they are moving with the ocean currents, but there are species from all major taxa represented. The photo's and the video provide a new perspective on "our" Earth, which is indeed a water planet.

In addition, Roger Ashbaugh and others from the Documentation Technology Branch will be assisting and creating two permanent backlit display units for the Visitors Center. One will be discussing the water features on Mars and Europa as compared with Earth and the other will explore the goals of Astrobiology. Jeff Cross, of the Development and Communication Office and curator of the Visitor Center, assisted by many in the astrobiology community, compiled the images for the units. One of the



innovations in these display units is that the pictures and images will be easy to replace, keeping the exhibit current with new findings.

Summer, the exhibit coordinator, hopes that everyone at Ames and in the local community will come and enjoy the exhibit.

"Ames is a world leader in astrobiology research. Hopefully, this exhibit will educate and inspire the public about the exciting work we do here at the Center," Summer said.

BY ASTRID TERLEP



# Safety & Quality Week

## Safety and Quality Week 2000 highlights

The Center celebrated Safety and Quality Week the week of October 16 through 20 with something for just about everyone. The focus of the week revolved around the



account of personally-led, heroic rescue attempts. Captain Brudnicki skillfully interwove a tale of risk and cost/benefit analysis into his thought-provoking presentation, which had the audience riveted to his every word.

The week's activities were designed to raise the awareness of Center staff to the importance of quality and safety in the workplace. This commitment was showcased at the Center's FY 2000 safety awards presentation. Codes C and F tied for the title of "Most Improved Performance," while Jana Coleman accepted the Code J award for "Best Overall Performance." The week, which was sponsored by Code



photo by Lucjan Szewczyk

"The People's Choice" award for "Best Overall Chilli" went to the contestants "Death by Chilli."

Center-sponsored, 2-day Quality Forum and Voluntary Protection Program kick-off events.

Stand Down Training day helped fuel the week's training offerings. Other scheduled events included the Fall Fun Run and Street Fair with its chili cook-off and tasty safety cake as well as interesting and informative speakers who addressed Ames throughout the week. Former Astronaut Mike Mullane and adventurer/environmentalist Robert Hoffman kicked off the week while the Captain of the ship portrayed in the "Perfect Storm," Captain Lawrence Brudnicki, wrapped up the week's events on Friday with a thoroughly enjoyable, moment-by-moment



photo by Dominic Hart

Ames fun run participants at the start of the Fall Run Run race.



photo by Tom Reddy

California Lieutenant Governor Cruz Bustamante (left) meets with participants following his keynote presentation at the Quality Forum 2000, hosted by Ames. The morning's events also featured an earlier presentation by Astronaut Rick Searfoss.

Q and the NASA Exchange, helped to give clarity to the slogan "Mission Success Through Safety."

As depicted in the accompanying pictures, management, union, employees and OSHA representatives, worked together as a team in bringing the message of safety to the forefront of Center awareness in kicking off the Voluntary Protection Program (VPP) activities. Whether it be stirring a pot of winning chilli or working towards improving a quality and safety goal, involvement of all members of Ames' family remains a key element at Ames future success as a Center. By all measures, the week was a success, thanks to employee interest and involvement in Safety and Quality Week 2000.



photo by Dominic Hart

Lon Hatamiya, California Secretary of Trade and Commerce addresses industry and commerce leaders in an afternoon session on October 17 at the Quality Forum 2000.

# Safety & Quality Week



photo by Dominic Hart

Mike Mullane, former astronaut (center), speaks with Warren Hall, Chief, Safety, Environmental and Mission Assurance Office (left) and Henry McDonald, Center Director (right), prior to his (Mullane's) kickoff for Safety and Quality week presentation on lessons learned from Challenger.



photo by Dominic Hart

Captain Lawrence Brudnicki, rescuer portrayed in the movie "The Perfect Storm" relays true-life adventures during his visit to Ames on October 20.



photo by Dominic Hart

Robert Hoffman, Mount Everest environmentalist, chats with members of the audience prior to his presentation discussing recent clean-up efforts of Mount Everest.

## Ames kicks off its Voluntary Protection Program (VPP)

Management, union officials, employees and OSHA are the ingredients for the success of the Ames safety program.



photo by Dominic Hart

Henry McDonald, Center Director, addresses the Ames audience.



photo by Tom Reddy

Marc Cohen, Ames Federal Employees Union (AFEU) representative speaks during the VPP kick-off event.



photo by Tom Reddy

Bill Berry, Deputy Center Director, presents Jana Coleman, Director, Center Operations, with "Best Overall Code Performance" award.



photo by Tom Reddy

Ames employees at the VPP kick-off event.



photo by Tom Reddy

Gabe Gilotti, OSHA representative speaking at the VPP kick-off.

## “Design for Safety” gets enthusiastic kick-off — bold thinking/approaches highlight new initiative

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knowledge engineering, organizational and human factors, vehicle health monitoring and modeling and simulation.

“We were able to successfully bring together current practitioners of risk management and system safety as well as academic and industry visionaries in the field,” said Matthew Blake, program manager for Design for Safety based at Ames. “The workshop was extremely productive and highlighted many interesting technical approaches. The program office now has significantly more contacts and information to use in formulating the program plan.”

That view was apparently shared by a wide cross-section of participants. “Several attendees came up to me to say how well they thought the workshop was organized and to comment on the quality of the speakers,” said Mike Gaunce, chair of the workshop’s technical program. “It was clear they were impressed with the breadth and expertise of the invited speakers, and the diversity of viewpoints the speakers brought to the workshop.”

“It was very rewarding to chair the first session of the workshop,” said Bill Wessel, Director of the Office of Safety and Assur-

ance Technologies at the Glenn Research Center. “Clearly, information technology is the link for the timely application of integrated health management, knowledge engineering, data mining, and smart materials and sensors to the design of our programs across their complete lifetime. It is exciting to be involved in this dynamic new initiative that can advance aeronautics and space technology to a new level of robustness and productivity.”

“The Design for Safety workshop really clarified the many dimensions of Agency requirements for the DFS program,” added Terry Allard, Chief of the Ames Human Factors Research and Technology division and also a session chair at the workshop. “There seems to be a real opportunity to exploit human-system performance models at the individual, team and organizational level and incorporate human information processing requirements into the systems engineering process. There is also the promise of integration of human and organizational models in estimating, managing and avoiding risk in design and operations.”

In addition to speakers from Ames and across the NASA field centers, a sampling of the speakers included technical leaders from the United Space Alliance (USA), Honeywell, Loral, Lotus/IBM, Sverdrup, Lockheed Martin, Boeing, In-Q-Tel Corporation, MIT, Stanford, Carnegie-Mellon, Rutgers, Georgia Tech, UC Berkeley, DOD, NSF, USAF and the FAA. The topics were equally diverse and ranged from Apollo 13 lessons learned, the development of maintenance systems for the Boeing 777, software survivability analyses, discussion of engineering models of human performance, computational aspects of non-destructive evaluation and risk assessment for the International Space Station.

Readers are advised to keep abreast of evolving DFS activities by making frequent visits to the DFS web site at: [www.dfs.nasa.gov](http://www.dfs.nasa.gov)

Proceedings from the workshop are currently being produced in CD-ROM format for distribution to all workshop participants.

BY LINDA LEE



## SAFETY SNAPSHOTS



*This feature is one in a series intended to inform the Ames community about facets of Ames’ Safety and Environmental programs.*

### Personal Protective Equipment Program

#### PROFILE

Hard hats, respirators, ear plugs and gloves -- standard equipment for working in many hazardous locations at Ames. But it takes the correct equipment -- carefully selected eye protection or gloves, for example, to ensure that employees are protected on the job. Ames provides over 100 personal protective equipment (PPE) items in Stores Stock, and the Safety Office (QH) provides training in selection and use of PPE items, as part of the Center’s PPE program.

#### CLOSEUP

David King, Chief of the Safety, Health and Medical Services Division, personally supervised a re-evaluation of PPE in stores stock. You can be confident that PPE from Supply meets current OSHA standards and manufacturers’ published specifications and criteria. However, you may not be protected from workplace hazards unless your PPE has been specifically selected for your job. It is important to know the limitations of PPE. For example, solvents like acetone and methylene chloride can quickly permeate through many types of gloves to your skin. Selection guides from glove manufacturers are essential to making the best choice. Because it is so important, OSHA requires PPE hazard assessment and selection to be documented in writing. If you use PPE on the job, training is required; however, all employees, especially those who perform activities such as home repair, are encouraged to attend the QH class.

For more information, go to chapter 33 of Ames Health and Safety Manual under safety at [q.arc.nasa.gov](http://q.arc.nasa.gov), or enroll in the Personal Protective Equipment class via the web. For help in selecting PPE, call the Safety Office at ext. 4-5602.

## Event Calendar

**Model HO/HOn3 Railroad Train Club** at Moffett Field invites train buffs to visit & join the club in Bldg. 126, across from the south end of Hangar One. Work nights are usually on Friday nights from 7:30 p.m. to 9:30 p.m. Play time is Sunday from 2 p.m. to 4 p.m. For more info, call John Donovan at (408) 735-4954 (W) or (408) 281-2899 (H).

**Jetstream Toastmasters**, Mondays, 12 noon to 1 p.m., N-269/Rm. 179. Guests welcome. POC: Samson Cheung at ext. 4-2875 or Lich Tran at ext. 4-5997.

**Ames Ballroom Dance Club**, Tuesdays: Nightclub 2-step 10/3, 10/10, 10/17, Waltz 10/24, 10/31, 11/7, Hustle 11/14, 11/21, 11/28. 3 levels of classes, from Beg. to Int., 5:15 - 6:45pm. Classes in Building 944, the Recreation Center. Women dancers are especially encouraged to join. POC: Helen Hwang, hawang@dm1.arc.nasa.gov.

**Ames Bowling League**, Tuesdays, at 6 pm at Palo Alto Bowl. Bowlers needed. POC: Mina Cappuccio at ext. 4-1313 or Carmen Park at ext. 4-1215.

**Ames Child Care Center Board of Directors Mtg**, Every other Thursday (check website for meeting dates: <http://acc.arc.nasa.gov/>), 12:00 noon to 2:00 PM, N269, rm. 201. POC: Katharine Lee, ext 4-5051.

**Ames Contractor Council Mtg**, Nov 1, 11 a.m., N-200 Comm. Rm. POC: David Lawrence at ext. 4-6434.

**Environmental, Health and Safety Monthly Information Forum**, Nov 2, 8:30 a.m. to 9:30 a.m., Bldg. 19/Rm 1078. POC: Linda Vrabel at ext. 4-0924.

**Hispanic Advisory Committee for Employees**, Nov 2, 11:45 a.m. to 12:30 p.m., N-241/Rm 237. POC: Mary R. Valdez, at ext. 4-5819.

**Ames African American Advisory Group Mtg**, Nov 2, 11:30 a.m. to 12:30 p.m. POC: Robert Finnie at ext. 4-5230. Contact Robert for meeting place.

**Nat'l Association of Retired Federal Employees, (NARFE), San Jose Chapter #50 Mtg**, Nov 3, at Hometown Buffett, Westgate Mall, 4735 Hamilton Av, San Jose. Prog. & bus. mtg. at 9 a.m., followed by lunch, \$6.27, in a reserved area. Program starts at 9:30 a.m. followed by lunch. POC: Mr. Rod Perry (650) 967-9418 or NARFE 1-800-627-3394.

**Professional Administrative Council (PAC) Mtg**, Nov 9, 10:30-11:30 a.m., Bldg T27A, Rm. 115. POC: Leslie Jacob, ext. 4-5059.

**Ames Sailing Club Mtg**, Nov 9, 11:30 a.m. to 1 p.m., N-262/Rm. 100. POC: Stan Phillips, ext. 4-3530.

**NFFE Local 997 Union General Mtg**, Nov 15, noon to 1 p.m., Bldg. 19/Rm. 2017. Guests welcome. POC: Marianne Mosher at ext. 4-4055.

**Ames Multicultural Leadership Council Mtg**, Nov 15, 11:30 a.m. to 1 p.m., Galileo Rm/Ames Café. POC: Sheila Johnson, ext. 4-5054 or David Morse, ext. 4-4724.

**Ames Asian American Pacific Islander Advisory Group Mtg**, Nov 16, 11:30 a.m. to 1 p.m., N-237/Rm. 101. POC: Daryl Wong, ext. 4-6889 or Margaret Salas, ext. 4-6755.

**Ames Amateur Radio Club**, Nov 16, 12 noon, T28-N (across from N-255). POC: Michael Wright, KG6BPK, at ext. 4-6262. URL: <http://hamradio.arc.nasa.gov>

**Native American Advisory Committee Mtg**, Nov 28, 12 noon to 1 p.m., Ames Café. POC: Mike Liu at ext. 4-1132.

## Ames Classifieds

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

### Housing

Visiting Yale Professor at Stanford Univ. seeks Palo Alto/Mtn View area short-term rental, house-sit or home trade (w/rural New Haven home) opportunity for period 11/6/00 thru 1/7/01. Dates flexible/negotiable. Desire to bring well-behaved & quiet golden retriever, but can arrange other hsg for dog if this presents a problem. Contact Stefan & Julaine Rosner (650) 320-0074, email: [Stefan\\_Rosner@yahoo.com](mailto:Stefan_Rosner@yahoo.com)

Sunny, pleasant room for rent in home in the Los Gatos/Campbell corner of San Jose for considerate, professional non-smoker or outside smoker. Tastefully furnished, utilities included. Long term preferred, shorter term possible. Shared bath. Lease/deposits required. Call (408) 266-7272 and lv. msg.

Roommate wanted: Non-smoking female to share 2bd/2ba, 1,000 sq feet w/ balcony, quiet sunny Mountain View apartment. \$800/mo plus 1/2 utilities. No pets. On-site laundry. Convenient to rail station (10 min walk to Castro St/Caltrain station/Ames shuttle), bus lines, and expressways. Across street from shopping. Kim Ennico (650) 625-1265 (eves).

### Transportation

'70 VW convertible classic, original owner, no smog needed; transmission ok; needs work on top & possibly engine. \$1,800. Esther or Art (650) 961-2732.

'75 Datsun pickup truck, long bed, white, 89K mls, 4-speed manual, 2 liter-4cyl, tow hook, new upholstery, auto-choke AM/FM stereo, service records. Clean truck, runs strong. \$1,500. Call (408) 295-2160.

'93 Mustang LX, automatic, air, fully loaded, 93K mls, great for your teenager, low insurance, wheels and more. \$5,595 or B/O. Call (408) 446-5475.

'94 Corvette, LT1-8 cyl., leather int., power windows, doors, driver seat, A/C, am/fm cassette quad sound, rare 6 speed, dealer maintained & always garaged, red burgandy, 49K mls, Kelley blue book is \$21,940, will let go for \$19,995 (Great deal, great car -- too many cars & kids so the fun one has to go) Nita (408) 232-0238 days, or Jeff/Nita (650) 941-1721 (eves).

'94 Kawasaki ZX9R, 10K miles, new Michelin Pilot tires, super clean - red, black, grey. Asking \$5,000 or B/O. Mike (650) 599-9080. lv. msg.

Harley Davidson 85FXWG, custom Harley Davidson, custom paint, custom rims, lots of chrome, lowered, dual front discs/rear disc, engine rebuilt last year, cams/carb work. Less than 1,000 miles after rebuilt. Asking \$13,500 or B/O. Gary (408) 246-8496 or email [gjoiner@kranderson.com](mailto:gjoiner@kranderson.com). To see what the bike looks like go to: [www.geocities.com/gjoiner\\_66](http://www.geocities.com/gjoiner_66)

### Miscellaneous

Black beveled glass dining room table, seats six, excellent condition, \$50. Roger (650) 965-2666.

A pair of tickets for the San José Sharks hockey games on Nov 30, Jan 9 and Mar 29 are for sale. Call (408) 735-0524.

Catalina 25ft fixed keel sailboat, one owner, berthed in Alameda. Well equipped for bay sailing, good condition, \$7,000 or make offer. Dennis (408) 263-6393.

Wanted: Yorkie, 6 months to 1 year old female. Robert (408) 736-4039.

Valve cover gasket for 1981 Ford Escort. Fits 1.6 L 4 cyl engine 1981-85, and 1.9 L 4 cyl engine for 1985 (stamped steel cover). Free to someone who can use it! Mike (510) 276-9415, lv msg.

Mini motor-home, self-contained. 95K mls on '87 Ford Econoline engine. 14K or B/O. Call (415) 826-3041.

Fitness trampoline. Foldable, still in box. \$200. Call (415) 826-3041.

4 cockatiels; 2 males, 2 females; each ~1 year old. One male standard yellow and grey color, the other is 'lutino' color. \$40 ea. Sara (650) 948-2150.

5th wheel trailer, 25', 1985 Alpenlite, excellent condition, clean, loaded, no smoking, no pets, new batteries, new propane tanks. \$7,500. Joe (650) 369-0578.

Seeking good homes for Dwarf Lop-eared & Hotot rabbits. Ages range from 4-7 months. Docile, indoor or outdoor, family pets. Large pine hutches also for sale. For more information call: (408) 848-1884 or email: [jbischoff@mail.arc.nasa.gov](mailto:jbischoff@mail.arc.nasa.gov)

### Vacation rental

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

South Lake Tahoe cottage with wood fireplace and hot tub. Rates from \$50 to \$130 per night. Call (650) 967-7659 or (650) 704-7732.

### Carpool

Carpool wanted from Mission San Jose area of Fremont to Ames. Hours flexible. Contact Nancy at ext. 4-3258 or [ndorighi@arc.nasa.gov](mailto:ndorighi@arc.nasa.gov).

## Ames Retirements

Name	Code	Date
John Brilla	APT	10-03-00

## Shuttle Flight 100 Internet Gateway launched

To commemorate the historic 100th flight of America's space shuttle, a comprehensive web site has been launched by the Space Foundation, in partnership with United Space Alliance and the SPACE Council network of companies.

The "Lifting Our Dreams: 100 Missions of America's Space Shuttle" web site serves as an Internet gateway to this historic mission. It also contains links to scores of other NASA, industry and educational sites related to mission STS-92 and the space shuttle program. The site can be found on line at: <http://www.spacefoundation.org/flight100>

## Astrogram deadlines

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](mailto:astrogram@mail.arc.nasa.gov) on or before the deadline.

Deadline	Publication
Fri, Nov 17	Mon, Nov 27
Fri, Dec 8	Mon, Dec 18
Fri, Dec 29	Mon, Jan 8

## FY01 SDB high-tech expo set

The Center will be hosting its annual Small Disadvantaged Business High-Tech Expo on November 9. The expo will feature the latest in computing and communications technology and will take place in the Atrium of the Ames Café. The event will be open from 10:00 a.m. to 2:00 p.m.

Over 25 different small, and small, disadvantaged businesses and large businesses will be on hand to demonstrate the latest in

information technology hardware and software.

All personnel are invited. There is no registration fee to attend.

For more information, call the Federal Business Council at (800) 247-6353 or email at [krista@fedpage.com](mailto:krista@fedpage.com). Or you can also call Tom Kolis at ext. 4-4690 or email at [tkolis@mail.arc.nasa.gov](mailto:tkolis@mail.arc.nasa.gov).

## Special guest lecture --recycled and alternative paper products

America is blessed with bountiful natural resources and enormous wealth, allowing society to lose touch with the impact our everyday choices and habits have on the environment. Rethinking how purchases of paper are made can have a positive effect on the environment and help the Center fulfill Federal Agency mandates.

Do you consider the origin of the fibers used to produce the paper before making your purchase? Is the paper made of virgin wood fiber? What is the paper's recovered/post consumer content? Is the paper made from sustainably harvested wood? Is the paper tree-free?

Join the Environmental Services Office in celebration of "America Recycles Day". By attending this lecture you will learn about the wide variety of recycled and alternative types of paper available. Susan Kinsella of Conservatree will discuss the

common myths and obstacles present and how to overcome them. The lecture, "Recycled and Alternative Paper Products" - will be held on November 2 from 11:30 a.m. to 12:30 p.m., in Building 3, Moffett Training and Conference Center (Patio Room)

Kinsella, the Executive Director of Conservatree, and is nationally known as an expert on environmental paper and environmentally preferable product procurement issues. Kinsella has served on the executive committee of the board of directors for the National Recycling Coalition and is on the advisory board for the Recycled Products Guide. She has also served on the advisory board for Recycled Paper News, the scientific advisory board for Scientific Certification Systems and as a member of the ASTM D06.40 committee.

## Astrobiology lectures set



The second lecture in the Astronomy/Astrobiology Lecture Series, co-sponsored by Ames, Foothill College, the SETI Institute and the Astronomical Society of the Pacific, will take place at Foothill's Smithwick Theater on November 15 at 7:00 p.m.

The speaker, Dr. Sandra Faber of UC Santa Cruz, will discuss the latest images from the Hubble Telescope.

The third lecture will take place on January 24, featuring Dr. Peter Ward, author of "Rare Earth" and SETI's Dr. Frank Drank. All lectures are free.



National Aeronautics and Space Administration

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