

Goldin lauds Ames during NASA FY2001 budget briefing

On February 7, a beaming Daniel S. Goldin announced to a crowded Washington, DC press conference "for the first time in seven years, the NASA budget is going up." And that wasn't the end of the good news. For Ames, the budget will rise a proposed 13 percent over FY2000 -- a gain of \$79 million or more than 18 percent of the total agency increase.

"This proposal represents the largest percentage increase for our Center that any of us can recall in recent years," declared Development and Communication Office Chief Michael Marlaire. "It continues our trend of more than five years of stable or increasing budgets at Ames," he said.

The bulk of the budget increase for the agency is in the science, aeronautics and technology area -- a whopping \$349M or more than 80 percent of the \$434.5M total NASA increase. This bodes well for a research center like Ames, budget analysts noted. Further, two specific R&D areas are in for much of the budget increase -- information systems and astrobiology -- both

Ames strengths and lead Center mission responsibilities. And nanotechnology, an-



NASA Administrator Daniel S. Goldin smiles during the recent press conference.

other Ames strength, is also in for a major boost.

"Today we take the next major step in

decreasing our involvement in operations and increasing our investment in cutting-edge R&D," Goldin announced. As evidence, the Administrator offered that NASA's science and technology investment will rise to 51 percent of the total agency budget over the next five years. "Biotechnology, nanotechnology and information technology are the key ingredients to our recipe for the future... the key interrelated technologies that will take NASA where it wants to go," he said.

Goldin also took time out to directly praise Ames and Center Director McDonald.

"As I tour around the country and the world, I use the workforce at NASA Ames as a perfect example of how an organization reinvented itself," he said. "NASA Ames was focused mainly on operating wind tunnels and doing aeronautical research. I challenged them within five years to be a world leader in information technology and they are almost there," Goldin declared.

"All across the agency we have come to depend on the technology out of NASA Ames to improve our aeronautical systems, our spacecraft systems, Shuttle upgrades, reusable launch vehicles -- its just an incredible story," Goldin continued. "I have tremendous pride in what has been accomplished at NASA Ames."

continued on page 2

Ames working with FAA to improve air safety and efficiency

NASA and the Federal Aviation Administration (FAA) are studying ways to reduce the concerns and inconveniences of the flying public by reducing airline delays, improving efficiency and making flying safer.

Researchers from both agencies are studying various human factors issues--involving air traffic controllers, flight crews and dispatchers -- that may occur as the FAA's Free Flight Program evolves during the next 10 to 20 years.

Free Flight is a new FAA and aviation industry concept designed to increase operational flexibility and reduce restrictions in the National Airspace System.

In the current environment, air traffic controllers are responsible for separating aircraft. The Free Flight concept, however, is intended to allow pilots more authority to choose and modify their own routes, in cooperation with controllers. This should

result in more efficient aircraft routing and reduced delays. Researchers are examining some of the operational issues associated with sharing that separation authority between pilots and controllers.

"The idea is to let the flight crews have more flexibility in resolving their own traffic conflicts and managing their own airspace," explained Sandy Lozito, research psychologist and the NASA project leader from Ames. "We give them several different kinds of traffic conflicts to examine pilot and controller procedures and communications."

continued on page 3

Ames to host 10,000 JASON students/educators

--see story page 4

Black History Month Luncheon set

Date: Feb. 29
 Time: 11:00 a.m. - 1 p.m.
 Place: U. S. Space Camp, Main Building
 Keynote Speaker: Reverend R. G. Moore, III
 Price: \$16.00
 Menu: BBQ ribs, potato salad, greens, corn bread, sweet potato pie

For tickets call: Robert Finnie, ext. 4-5230;
 Sheila Johnson, ext. 4-5054; or
 Christine Munroe, ext. 4-4695.

--see story page 3

NASA ER-2 overflies Russia

One of NASA's high-flying ER-2 aircraft, a civilian variant of Lockheed's U-2, completed its first science flight through Russian airspace today in support of the largest international ozone field experiment to date over the Arctic.

The six-hour flight passed southwest of Moscow and was closely coordinated with Russian observers. Based at NASA Dryden, the single-seat aircraft carried instruments to collect data for NASA's SAGE III Ozone Loss and Validation Experiment (SOLVE). SOLVE is managed by the Upper Atmosphere Research program of NASA's Office of Earth Science.

Scientists are hoping the ER-2's stratospheric measurements will help them better understand the complicated chemistry involved with ozone loss. NASA is working with the European Commission-sponsored Third European Stratospheric Experiment on Ozone (THESEO) 2000. Research teams include scientists from NASA, Europe, Russia, Japan and Canada.

Another NASA flying laboratory, NASA Dryden's DC-8, also flew through Russian airspace in conjunction with the ER-2. The

DC-8 flew its first mission over Russia's Franz Josef Land during SOLVE's first phase last December.

The NASA planes and the field experiments are based north of the Arctic Circle in Kiruna, Sweden. A large hangar built especially for research, "Arena Arctica," houses the instrumented aircraft and the scientists.

Scientists have observed unusually low levels of ozone over the Arctic during recent winters, raising concerns that ozone depletion there could become more widespread as in the Antarctic ozone hole. Scientists also hope to forecast when Arctic ozone levels may return to normal.

"Handling all the hardware and coordinating the personnel, aircraft, balloons and ground observations involved in the campaign is an immense challenge," said project manager Michael Craig of Ames. More than 350 scientists, technicians and support workers are involved in the experiment.

The third phase of the SOLVE field campaign ends in March.

BY JOHN BLUCK

NASA College Scholarship Fund, Inc. available to qualifying employees

The NASA College Scholarship Fund, Inc., a Texas nonprofit corporation, was established to award scholarships to qualified dependents of NASA and former NASA employees, agency wide.

The scholarship fund was established as the direct result of a substantial unsolicited gift offer by the noted Pulitzer Prize winning author, James A. Michener. Saying he held the people of NASA in high esteem for their good work through the years, he funded the NASA scholarships to further US education. Other significant contributions have been made by the Freedom Forum to honor Shuttle crewmembers and by the Johnson Space Center chapter of the NASA alumni league. Many NASA employees have contributed to the fund directly or through the annual Combined Federal Campaign.

Eligibility requirements:

All applicants must, in addition to the NASA dependency requirement, be graduated properly from an accredited public, private, or parochial high school or be currently enrolled in college with good academic standing. An applicant must have a combined high school grade and college (if any) grade point average of 2.5 on a 4.0 scale or the equivalent. Applicants who are dependents of current or retired NASA employees must be dependents of NASA employees who are actually employed by NASA for a period of 2 years as of January of the scholarship year.

How to apply:

- Application forms are available at Ames in Bldg. 19, room 1013. Contact Janine Ciffone at ext. 4-4948 for the forms or for additional information on eligibility requirements. An electronic version of the application is available at the following URL address (however, hardcopies are required as the official application): http://hro.jsc.nasa.gov/Announce/scholarship/nasa_college_scholarship_fund.htm

- Applications should be prepared with black inked pen or be typewritten. All applicants are encouraged to provide complete information in all categories.

- All completed application forms, transcripts, scores or materials must be mailed in a sealed envelope directly to:

NASA Johnson Space Center
AH12/NASA College Scholarship
Fund, Inc.

Building 1, Room 840
2101 NASA Road 1
Houston, TX 77058

- Applications must arrive no later than March 31, 2000.

Selection of winners:

- Application forms and the students' scholastic records will be evaluated by the scholarship committee and the top candidates selected.

- All applicants will be notified by mail of the results by approximately May 16.

Goldin lauds Ames during NASA FY2001 budget briefing

continued from front page

Acknowledging that this is only a budget request and the first step in the funding process, when asked about his sense of budget priorities on Capitol Hill, Goldin responded that he is "cautiously optimistic." He argued that "there is a genuine acknowledgment in the Congress and in the Administration that NASA has done the right things and that what we are asking for reflects the efficiencies that we have provided." He said that he believes there will be significant support for the proposed budget "because we are doing the right thing for America, not just for the agency."

Goldin also took time out to announce several new key management appointments at NASA Headquarters. Sam Venneri becomes the new head of the integrated Aero-space Technology enterprise and the Chief Technology office. He replaces Sam Armstrong who moves over to become Goldin's senior advisor with responsibility for developing new relationships and strategic partnerships with progressive companies and academia.

Brian Keegan becomes NASA's chief engineer, with an emphasis on strengthening the engineering foundation while implementing NASA's commitment to "design for safety." Orlando Figuero is the new NASA chief systems engineer, and Mary Cleave is the new deputy associate administrator for Earth Science.

"With this new talent and our investment in the future, NASA will deliver on the promise of discovery and the excitement of exploration for generations to come," Goldin concluded.

BY DAVID MORSE

Errata

In the February 7 Astrogram, in the article entitled "Ames researchers take astrobiology field trip to Death Valley" on page 2, Ames physicist Wanda Davis was incorrectly identified as a geologist. The field trip took place January 14-16, 2000, not December 14-16.

Ames Events

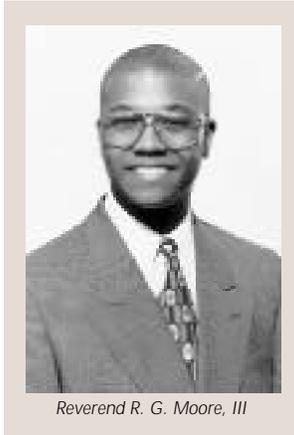
Celebrate Black History month

Once again, Ames Research Center is celebrating Black History month this February. To commemorate this annual event, the African American Advisory Group, the Equal Opportunity Programs office and the Multicultural Leadership Council are sponsoring a luncheon in conjunction with the Ames chapter of Federally Employed Women.

The luncheon will be held on February 29 from 11:30 a.m. - 1:00 p.m. This year, U.S. Space Camp will be our host. The event will feature displays of a variety of African arts and crafts. To add a festive note to the occasion, organizers request that attendees wear any afro-centric attire that they have in their wardrobe. The keynote speaker will be the Reverend R. G. Moore, III, from the Church on the Rock in San Jose. His message is one of "Unity of Spirit, Mind and Heart for the new Millennium."

Reverend Moore was first licensed to preach at the age of 11 in 1980. He was ordained in 1986 in Chicago at the age of 17 by his grandfather, the Rev. G. Moore Sr.

Born and raised in San Jose, he is the third generation of Baptist minister within his family. He has been featured on a variety of



Reverend R. G. Moore, III

national news networks (CBS, ABC and NBC), and in the San Francisco Examiner and Oakland Tribune. He has been a panelist at Bishop O'Dowd High School, for the Dallas Independent School district, and on the Phil Donohue and Sally Jesse Raphael television shows.

Tickets are \$16 per person, and are available from Robert Finnie, at ext. 4-5230; Christine Munroe, ext. 4-4695; or the author at ext. 4-5054.

The menu includes barbecued ribs, greens, potato salad, cornbread and sweet potato pie. Only 175 tickets are available, so get yours soon to avoid disappointment.

Please come out to support our African American employees and the multicultural heritage that we all share.

BY SHEILA JOHNSON



Ames working on air safety/efficiency

continued from front page

Tests are being conducted in Ames' Boeing 747-400 flight simulator, linked by computer with air traffic controllers in the FAA's Integration and Interoperability Lab at the William J. Hughes Technical Center in New Jersey.

Participants in the five-week air-ground integration experiment include qualified Boeing 747 pilots and air traffic controllers from the FAA's Memphis Air Route Traffic Control Center. NASA researchers are also collaborating with simulation and human factors engineers from the FAA's William J. Hughes Technical Center, Atlantic City, NJ, and the Volpe National Transportation Systems Center, Cambridge, MA, in the analysis of the data.

"We have five sets of participants, comprised of four controllers and two pilots," said Mark Rogers, FAA Chief Scientist for Human Factors. "We are evaluating their workload and their situational awareness during several traffic conflict scenarios they may face under Free Flight conditions." In addition to being able to identify opera-

tional issues that affect shared-separation tasks, researchers also hope to provide recommendations to the FAA for information requirements and procedures to be implemented in Free Flight.

To help them explore this concept, researchers provide both the controllers and pilots with automation and display technology improvements that are considered necessary for Free Flight. The controllers are using the User Request Evaluation Tool, an enhanced ground-conflict probe tool developed by the Mitre Corp., McLean, VA. This tool is designed to assist controllers in the early detection of traffic conflicts. Similarly, the pilots are provided with cockpit displays of traffic and airborne alerting logic to help them in conflict-detection tasks.

The \$1.5 million study, which concludes at the end of this month, is jointly funded by NASA's Aviation System Capacity/Advanced Air Transportation Technologies Program and the FAA.

BY MICHAEL MEWHINNEY



Astrobiology lecture at Foothill College

The Astrobiology-focused Spring Astronomy/public lecture series at Foothill College will kick off on March 1 with Ames researcher Chris McKay and SETI planetary scientist Margaret Race bringing the astrobiology message to about 1,000 members of the general public. McKay and Race will discuss "Missions to Mars: Exploring the Red Planet," focusing on current and future Martian



The Silicon Valley Astronomy Series Lecture on March 1 will provide a look at the current and future exploration of Mars and ways to protect Earth from any Mars microbes that may exist.

exploration plans and planetary protection issues.

The series takes place at Smithwick Theater on Foothill's campus in the Los Altos Hills and runs from 7:00 p.m. to 8:30 p.m. Foothill is located at El Monte Road and Freeway 280. Eight quarters are required for parking. Admission to the lectures is free.

The event is sponsored by Ames, Foothill College, the Astronomical Society of the Pacific and the SETI Institute.

The next lecture in the series is on April 12, titled "The Changing Sun and the Climate of the Earth: Why Louis XIV Had Cold Feet" with Dr. Sallie Baliunas (Harvard-Smithsonian Center for Astrophysics). Her talk will focus on the effects of the Sun's changing activity on our own planet over time.

On May 3, the topic "Cold, Hard Worlds at the Edge of the Solar System" will be discussed with Dr. Jeff Cuzzi, Dr. Dale Cruikshank, and Dr. Jeff Moore. This panel discussion will focus on the latest discoveries about icy worlds such as Pluto and the moons of Jupiter and Saturn.

BY KATHLEEN BURTON



Education and Outreach

Ames to host JASON XI Project for 10,000 local students

Organizers expect more than 10,000 San Francisco Bay Area students to visit Ames from Feb. 28 through March 10 to talk via satellite with astronauts and scientists as part of JASON Project XI: "Going to Extremes." Also, a "NASA Expo" will include many hands-on activities in historic Hangar 1 for the students and some 2,000 teachers and chaperones from more than 100 local schools.

Fifty-five one-hour satellite telecasts will link students with International Space Station astronauts at Johnson Space Center, Houston, TX, and Aquarius Underwater Laboratory scientists in the Florida Keys.

"The JASON Project is a rare and exciting opportunity for students to launch into the history of discovery . . . to reflect upon the achievements of the past in an effort to contribute to the knowledge of the future," said NASA Astronaut Jerry Linenger.

"Students will engage with world class scientists, having thoroughly prepared to do so in their classrooms," said Thomas Clausen, Ames education officer. "The JASON Project is a demonstration of what happens when you combine a well thought out curriculum with modern communication technology; it opens students' eyes to new possibilities."

"This is a chance for students to leave the structure of the classroom to study how real research is done," said retired science teacher John Colombero, Ames' JASON

Project Coordinator.

Each day, broadcasts start at 7 a.m. (7 a.m. programs are for Ames employees), 8:30 a.m., 10 a.m., 11:30 a.m. and 1 p.m. in the Main Auditorium, N201. There will be no JASON activities on March 5.

During the broadcasts, students from grades 3 through 9 will be able to chat with sea and space experts and "Argonaut" students. Ames is one of 36 JASON "primary interactive network sites" located across the nation and in Bermuda, Mexico and the United Kingdom. Worldwide, JASON officials expect about 750,000 students to participate in the program.

Millions of other youths will also take part through the Internet at: <http://www.jasonproject.org>.

The JASON Internet site includes, "chat sessions" with scientists, a digital lab that provides experiments students can do online and a great deal of other information.

Two Bay Area students are JASON "Argonauts" and will take part in the broadcasts from Florida and Texas. Diver Whitney Brown, 15, of Castilleja School, Palo Alto, will be stationed in Aquarius, the world's only underwater laboratory, during the first week of JASON broadcasts. The National Oceanic and Atmospheric Administration owns Aquarius, which is run by the National Undersea Research Center at the University of North Carolina, Wilmington.



Ninth grader Kathrina Manalac, of Notre Dame High School, Belmont, will be at Johnson Space Center, Houston, TX, during the second week of JASON broadcasts.

In Hangar 1, students will compete in glider contests and other action activities, will get hands-on experience with space hardware and learn about undersea operations during the 10-day JASON project. Students also will interview scientists during "Ask an Astrobiologist" programs that are similar to TV game shows. Astrobiology is the study of the origin, evolution, distribution and destiny of life in the universe. The expo includes programs that repeat daily during JASON from 9:45 a.m. to 1 p.m.

During relay race-like activities at NASA Expo, students will take "spacewalks to refuel a space shuttle" in outfits designed to help youths understand the difficulties of working in space. Students who attend a computer lab will be able to "beta-test" an Ames-developed "Astroventure" computer program that simulates search for habitable planets. There will also be a display of robots constructed by local high school students.

Founded by international explorer and RMS Titanic-discoverer Dr. Robert Ballard, the JASON Project is internationally renowned for its ability to incorporate cutting-edge technologies, a multi-disciplinary curriculum, professional training for teachers and Internet communications into a comprehensive learning program.

BY JOHN BLUCK



NASA forms partnership with Carnegie Mellon University

Ames Center Director Dr. Henry McDonald and Carnegie Mellon University President Jared L. Cohon recently signed a memorandum of understanding (MOU) to establish a partnership to explore bringing the world-class information technology research and educational expertise of Carnegie Mellon to Silicon Valley.

Ames and Carnegie Mellon will work together to plan future information technology research and development and education partnerships at Ames Research Center's NASA Research Park, according to the terms of the agreement.

"Our goal is to develop a world-class, shared-use R&D campus by partnering with industry, academia and nonprofits in the NASA Research Park," McDonald said. "I am delighted to form this partnership with Carnegie Mellon University to conduct joint research in information technologies and to develop new ideas to improve the region's education infrastructure," he added.

"Developing a presence in Silicon Valley is important to our future as a world-class

research university," Cohon said. "This research partnership with Ames at the NASA Research Park is an outstanding opportunity for our university, the Pittsburgh region and the state of Pennsylvania," he said.

"A Carnegie Mellon research presence in computer science at Ames will greatly strengthen NASA's capability to address its long-term needs for smart robots and spacecraft, improved software development methods and large database analysis," said Dr. Jack Hansen, Ames Deputy Director for Research. "Carnegie Mellon, as an onsite research collaborator, will help enable the NASA Research Park to become a truly unique place for industry, academia and federal scientists and engineers to share ideas in new ways," he said.

"In addition to research collaborations with NASA and other NASA Research Park partners, Carnegie Mellon will consider developing a graduate professional development program in information technology (IT) that could help alleviate the shortage of skilled IT professionals experienced

by both NASA and the private sector in Silicon Valley," said Carnegie Mellon Vice Provost for Research Duane A. Adams.

"We have planning MOUs with the Lockheed Martin Corporation, University of California at Santa Cruz, Stanford University, San Jose State University and Foothill-DeAnza Community College for R&D collaborations and educational programs at the NASA Research Park," said Ames' Chief of Development and Communication Michael Marlaire. "Carnegie Mellon's reputation in information technology brings greater potential for information technology companies in Silicon Valley to join us in the NASA Research Park."

Ames is NASA's leader in information technology, astrobiology and aerospace operations systems. Carnegie Mellon University in Pittsburgh is one of the nation's leading private research universities with nationally ranked programs in computer science, engineering, business, science and the liberal and fine arts.

BY MICHAEL MEWHINNEY



Ames' Quality Management Systems

System Improvements

Congratulations to all on a very successful year in regards to everything ISO related. We have proved, during the periodical audit, that we are able to maintain the standards we set during the initial assessment. We are beginning to see the improvement cycle make its appearance in certain organizations. This article will spotlight two examples that this auditor observed as part of the last internal audit. The first example is in Code I, and it involves the effort to take the existing audit system and add a value-added component.

Code I ISO value-added review system:

The intent of value added reviews is to promote continuous improvements within the ISO process itself and second within the programs and projects managed by the divisions of Code I. The value-added reviews are structured as a peer review/consultation/technology transfer process.

The first step for the review system is to define and build a database reflecting the projects and activities within each division complete with associated attributes. This is necessary to gain an understanding of the magnitude and impact of center-wide processes that affect Code I projects and programs. This activity will enable Code I the ability to create a master list of potential review functions while categorizing program/project possibilities and priorities.

The second step is to identify the reviewer skill requirements in a skills database. Potential reviewers would then be identified. This group would primarily be drawn from resources within Code I but could be expanded to other organizations as necessary.

The third step is to explain the motives and anticipated results of the review process to selected reviewers and allow each individual to determine their own area of technical/managerial competence to best serve the goals of the directorate/division review process.

The fourth step, based upon identified priorities, is to schedule teams of two or three individuals to conduct value added reviews of processes that affect the success and work of the diverse programs and projects of Code I. The end result of this review process is expected to be a brief outline, one or two page(s), of findings and recommendations for improvement. The

review team may meet with responsible project staff to explain any findings, recommendations or simply to share advice on how to promote continuous improvement activities internal to the project or among



the ISO processes that impact other projects. Examples of processes that may be reviewed, but not limited to these examples are:

1. the centerwide system of charge-backs
2. a universal reporting template for use by projects
3. a review of Ames' forms that impact projects
4. a guideline for use of publication forms, @1676 and 301
5. impact of full-cost accounting at the project level
6. other processes that impact projects and programs

There will be no formal reports of these findings beyond the brief paper, notes and comments taken by each review team member unless specifically requested by management. Metrics for this review system will be recognition of changes in processes that promote continuous improvement within Code I.

The second example deals with a unique way to present ISO concepts to both existing and new employees in the SLO branch in an effort to make ISO part of the branch culture.

SL ISO Training:

Life Sciences ISO training kicked off late September and ran through the end of October 1999. There were 18 classes, both initial and make-up. The initial classes served refreshments and depending on the content of the class, numerous ways to win prizes were introduced. For example, one

class was given a question and, in order to win, had to email the trainer with the correct answer. Other ways included "just showing up" for the class put the person into a drawing, which was held at the end of the session. On the back of some handouts, questions were posed and the first one to physically hand the correct answers to the trainer took the prize. Make-up classes did not include any of the above-mentioned activities.

Each class had its own individual design and sound effects. In order to keep their audience, they were shooting for variety. One session had a unique approach, an actual run through of a procedure. A "planted" person in the audience exclaimed, "Let's do a test procedure on ice cream." The statement could not go unnoticed. So, ice cream it was and to go along with that, ice cream cups were passed out. This had all minds alert and secretly enjoying the class.

In order to inform and introduce new employees to ISO procedures a "New Hire Boot Camp" video was produced on site. The military theme found Ken Souza as the general and Paul "Tad" Savage as the colonel of the Moffett complex outfitted in camouflage pants and green shirts. The opening had the audience stand at attention as the general and his line up entered the room. Boot camp chants and a snare drum could be heard in the background. It had to be real since this was "boot camp." This video will now be shown to all new comers to NASA and Lockheed Martin.

In addition to the above, Code S has a web page at: <http://lifesci.arc.nasa.gov/QS/QS.html> that contains an ISO newsletter highlighting ISO activities within life sciences. This newsletter informs and acts as an ISO bulletin board for all Code S ISO issues. These efforts show a blending of generic ISO concepts to the unique requirements of Code S processes, which is exactly what the designers of the ISO standard intended organization that use the standard do.

These are just two examples of the changes brought about by Ames enacting a quality management system. The hope is that the future will produce other efforts of inventive thinking as Ames migrates to a proactive quality culture. Examples of these will be published in future Astrogram articles.

BY KARL BALL
QUALITY SYSTEM LEAD AUDITOR

Education and Outreach

National Engineers Week--turning dreams into reality

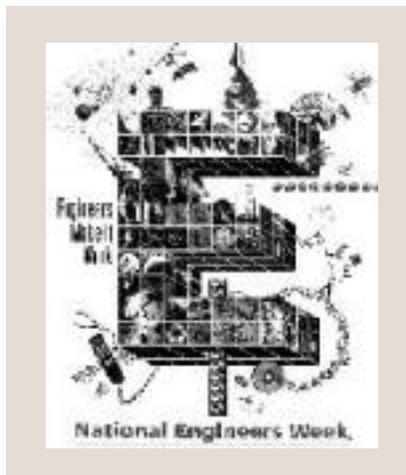
Calling all Engineers. How did you get your start in engineering? Would you like to give students an opportunity to understand your work? Many students have little or no chance to interact directly and personally with a real engineer. You can help provide this important added ingredient to a school class during National Engineers Week. By explaining to young people the critical role engineers play in society, National Engineers Week aims to introduce a whole new generation to a career that they otherwise may have never considered.

The core program of National Engineers Week is Discover "E," the component of National Engineers Week that sends engineers into schoolrooms to speak with students and teachers. Engineers speak with students about what engineers do and show practical applications of math, science and engineering. Ames' Education Office has sent invitations to schools in Santa Clara and San Mateo Counties so that they can request engineers to visit their classes. Please check the request listing at the Web site eweek.arc.nasa.gov to find an appropriate school to visit.

During your classroom visit, you can expect lots of questions from students. From junior and senior high school students you might hear, "If I can make more money with a business degree than with an engineering degree, why should I become an engineer?," and "Where did you go to school and was it hard?," or "Why did you become the type of engineer you are instead of another kind?," and especially "How much money do you make?" (Students will want to know whether or not engineering is a lucrative field. According to a 1996 National Society of Professional Engineers survey, the median salary for experienced engineers is \$65,800. Compare that with other 1995 salaries, reported by the U.S. Bureau of Labor Statistics: accountants, \$32,188; reporters, \$32,084; and lawyers, \$58,500.) Younger students may ask anything from "Do you have any children?" to

"How do bridges stand up?" to "Do you drive a train?" Keep your answers simple and straightforward.

To assist you in your visit, hand-outs (such as special National Engineering Week bookmarks), models (e.g., Space Shuttle, X-33, tiltrotor, F-18) and other support materials are available.



National Engineers Week is working with Science World magazine to sponsor a contest which asks students to step into the role of engineers and figure out how to make the world a little better. This year's theme, "Save Your Environment," asks young people to examine their community and then invent a machine or develop a plan to protect the local environment. Maybe they'll come up with a new way to recycle, or a device that cleans polluted air and water. This is a challenge that lets imaginations run wild, so anything is possible. The rules are simple: type a one-page description of the invention; describe how the ideas could work; explain how the design uses engi-

neering and technology; illustrate the idea; and staple and label the pages with name, age, school, school address and phone number. Then, write and sign this statement on each page: "I give the sponsors permission to use my entry for publicity purposes." Entries, judged on creativity, clarity, and attention to the rules, must be submitted by April 30 to: Save Your Environment Challenge, National Engineers Week, 1420 King Street, Alexandria, VA 22314. Ten participants will win \$100 each and a one-year subscription to Science World for their school libraries. The contest will appear in the February 7, 2001 issue of the magazine, a Scholastic publication for students in grades seven through ten. Winners will be announced in the fall.

Since its founding in 1951 by the National Society of Professional Engineers, National Engineers Week, a consortium of more than 100 engineering, scientific, education societies, and major corporations, has helped increase public awareness and appreciation of technology and the engineering profession.

For more information or to schedule a visit, contact the author at ext. 4-5544.

BY TOM CLAUSEN

Lifeguard and swim classes set

The Ames Exchange swimming pool offers a wide variety of classes all year long. Swimming classes are open to every age and skill level of swimmer. In addition, the pool is proud to offer American Red Cross training classes.

The American Red Cross Lifeguarding course is being offered at the swimming pool beginning March 6, 2000. This course is designed to teach lifeguards the skills and knowledge needed to prevent and respond to aquatic emergencies. Upon completion the following certification will be issued: CPR for the professional rescuer--valid 1 year. Lifeguard training and community first aid and safety--valid 3 years

Course prerequisites: participants must be 15 years old by the last day of class; Participants must be able to swim 500 yards continuously; recover a ten-pound diving brick in a minimum of seven feet of water, and tread water for two minutes using legs only.

Class dates are March 6 through April 10 on Monday and Wednesday from 6:30 p.m. to 9:30 p.m. and Saturday, March 25 from 9:00 a.m. to 6:00 p.m. Class fee is \$150 per participant.

Register early since course space is limited. To register, and for more course information, call Jodi Neal at ext. 4-0818.

Ames/RIACS summer student program

Ames and the Research Institute for Advanced Computer Science (RIACS) invite qualified applicants to the newly formed Summer Student Research Program (SSRP). The purpose of this program is to provide talented university students in the Information Sciences the opportunity to team with researchers at Ames to address information technology challenges of future NASA missions.

It is anticipated that approximately ten awards will be granted under this year's SSRP. Those accepted to the program will spend ten weeks in the summer of 2000 at Ames. To pay for the cost of housing, travel,

and other expenses, the student will be awarded a stipend of \$15K. A NASA or RIACS researcher will be officially assigned as mentor to each student, and it is expected that student and mentor will together develop a research plan for the time the student is at Ames. Toward the end of the summer, each student accepted into the program will be eligible to apply for a RIACS student research continuation grant.

For more information as well as application procedures for this program, see the web site <http://www.riacs.edu/ssrp/index.html>

Calendar & Classifieds

Ames Event Calendar

Model HO/HO3 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. The club is in particular need of low voltage electricians & scenery builders and maintainers. 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 4-2875 or Lich Tran 4-5997.

Ames Ballroom Dance Club, Tuesdays: Two Step (started 1/18), West Coast Swing 1/25, 2/1, 2/8, Waltz 2/15, 2/22, 2/29. 3 levels of classes, from Beg. to Int., 5:15 - 6:45 p.m. Moffett Training & Conference Center, Bldg. 3/ Showroom. Women dancers are especially encouraged to join. POC: Helen Hwang, hhwang@dm1.arc.nasa.gov.

Ames Child Care Center Board of Directors Mtg., Wednesdays, 12 noon to 1 p.m., N-213/Rm. 204. POC: Debbie Wood at ext. 4-0256.

Ames Contractor Council Mtg. Mar 1, 11 a.m., N-200 Comm. Rm. POC: Jack Stanley at ext. 4-2345.

Environmental, Health and Safety Monthly Information Forum, Mar 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, Mar 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., Mar 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, San Jose Chapter #50 Mtg. Mar 3, at the Elk's Club, 44 W. Alma Avenue, San Jose. Social hour: 10:30 a.m. Prog. & bus. mtg. follow lunch at 11:30 a.m. POCs: Mr. Rod Peery, Pres., (650) 967-9418 or NARFE 1-800-627-3394.

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

Professional Administrative Council (PAC) Mtg., Mar 9, 10:30 - 11:30 a.m., Bldg. 258, Rm. 221. POC: Leslie Jacob, ext. 4-5059.

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

Ames Amateur Radio Club, Mar 16, 12 noon, N-260/ Conf. Rm. POC: Mike Herrick, K6EAA at ext. 4-5477.

Ames Asian American Pacific Islander Advisory Group Mtg. Mar 16, 11:30 a.m. to 1 p.m., N-241/Rm. B2. POC: Daryl Wong, ext. 4-6889 or Brett Vu, ext. 4-0911.

Native American Advisory Committee Mtg. Mar 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 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

Room for rent in house in midtown Palo Alto. Kitchen, bathroom & pool privileges. Tenant must be orderly, N/S. \$600/mo. Dr. Jim Stevenson, ext. 4-5720.

For sale by owner: \$529K, small horse ranch near Watsonville. Royal oaks, California/scenic area. 3 acres w/ trees & lots of open space. 3 bd/2 ba home/family rm w/ fireplace. Front/rear decks w/hot tub rm. 2 car garage w/laundry rm & storage rm. Barn, tack rm, corrals, workshop/electricity. Property fenced & outside lighting. Ron (408) 736-2150. Lv msg or call (831) 722-0130.

Rural house for rent near Morgan Hill. 2,000sqft 4bd/2ba, parklike grounds, off H101. No indoor pets, N/S, horse ok. \$2,200. Reduction for full or part time help with animal feeding. Call (408) 848-9558.

3 bd/1ba house for rent in Mountain View. 2 miles from Ames. 2 blocks from Shoreline. \$1,900 per month. Month-to-month lease. Call (650) 969-5581.

1 bd/1ba apartment for rent in Mountain View. 2 miles from Ames. 2 blocks from Shoreline. \$1,100 per month. Month-to-month lease. Call (650) 969-5581.

Miscellaneous

Dog needs a home - A sweet, 3-year-old dog desperately needs a home. Female, lab/ridgeback mix, 49 pounds, spayed, healthy, all shots, short tan hair, big, beautiful eyes. A stray who is presently being fostered in a house with five cats. Includes free crate and toys. Call (831) 461-9223 (H).

Optical table - Newport Research Grade with tuned damping. M-RS-1000-36-8 is 3 ft. x 6 ft. and 8 in. thick with 25mm grid sealed holes. Also, 4 Pneumatic Isolators I-2000 stabilizers, 28 in height. Asking \$4,000 set. Bill (408) 859-9622.

Wedding dress for sale. Purchased in 1999, has been cleaned, size 10, white, medium size train, sleeveless, off the shoulder, v-neck, open low back, (tapered waist- sequence and pearl beads) satin dress, tulle overlay with satin trim, asking \$350. Lourdes (408) 526-9661.

Yamaha synthesizer DX-7 the original keyboard, with (2) sound cards. Good condition with carrying case. \$250. Call (415) 334-8322.

Wanted: Used reliable bicycle for 6' tall woman. Call (408) 739-5373 after 6 p.m. or during the day. Call (650) 948-9399.

Desk, \$50. Call (510) 713-1736 after 4 p.m.

Looking for a small office size refrigerator. Call (408) 286-2941.

Ski boots for sale. Langu XR 9 JR, Size 7.5 Men's, 8.5 Woman's. \$50 or B/O. Call (650) 948-1527.

24x ACER EIDE CD Rom w/cables and manual, \$25, Call (408) 295-2160.

YO YO MA, two orchestra tickets for the sold-out, 5/6/00, Flint Center performance. \$160. Call (408) 298-4480.

Nordic Trac CTX 4000. Top of the line exerciser, works all muscles. New, \$400. Call (650) 938-8893.

Trimax exercise equipment, \$105; wood coffee table 4'x4' w/double pane glass top, \$25; square wood dining room table w/two kane chairs, \$150. Call (408) 777-8048.

Transportation

'84 Plymouth Reliant 4-door. 88K mls, very good condition, original owner, all records. Asking \$800. Call (650) 960-3420.

'88 Chrysler Le Baron, 4-door, immaculate, 85K mls, P/S & A/C; rosewood w/vinyl top, burgundy interior, \$2,850. Call (650) 948-9072.

'89 Acura Integra LS 3-dr. Great condition, AM/FM cassette Alpine stereo system, equalizer, A/C, moon/sun roof, aluminum allow wheels, 5-speed. New brakes and tires, low miles, and all maintenance records. One owner. \$5,300 or B/O. Call (650) 424-8138.

'90 Toyota Forerunner, automatic, 4WD, full power, sun roof, new tires (mud & snow), factory rebuilt engine (1998), \$9,000 or B/O. Call (408) 364-0545.

'90 Acura Integra LS, 111k mi exlnt cond. Orig owner, all maint rcds, \$4,800. Call (408) 492-9990 eves.

'92 Nissan Maxima SE, excellent condition, 76K mls, leather interior, ABS, moonroof, rear spoiler. \$8,400. Call (510) 429-1829.

Vacation rental

Lake Tahoe-Squaw Valley twnhouse, 3bd/2ba, view of slopes, close to lifts. Wkend \$470, midwk \$175 night. Includes linens, firewood. Call (650) 968-4155 or email: DBMcKellar@aol.com

Spring fishing in Montana? 3 bd/2 ba "cabin" on 20 acres 22 mls from Livingston, 34 mls from Bozeman, 5 mls from Bridger Ski Mt. \$1,500 per week. Mary (650) 961-9629 for availability.

Carpool

Carpool partners wanted to share driving & riding from San Francisco to Ames. Benny, ext. 4-5432 or email bcheung@mail.arc.nasa.gov.

Looking for a ride that likes to come in at 6:30 a.m. and goes home at 3:00 p.m. If interested, call Maria at 4-4394. Live in San Mateo and work here at Moffett Field. I do not drive, but willing to pay for gas, whatever the driver feels that it would be a fair deal.

Ames Retirements

Name	Code	Date
Lloyd D. Corliss	APM	2-03-00
David J. McDaniel	C	3-03-00
Ronald R. Dapice	D	3-03-00

Ames radio information for employees

1700KHz AM radio--information radio announcements for Ames employees during emergencies.

Ames Obituaries

Name	Length of Service	Date of Passing
Robert A. Miller	9 years	12-24-99
Alun Jones	34 years	12-30-99
Raymond Savin	32 years	01-15-00

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 on or before the deadline.

Deadline	Publication
Tues, Feb 22	Mon, Mar 6
Tues, Mar 7	Mon, Mar 20
Tues, Mar 21	Mon, Apr 3
Tues, Apr 4	Mon, Apr 17
Tues, Apr 18	Mon, May 1
Tues, May 2	Mon, May 15
Tues, May 16	Mon, May 29

Events & Miscellaneous

Ames to host NASA 2000 Environmental Conference

Environmental experts from NASA, the Department of Defense, academia and other federal agencies are scheduled to participate in the NASA 2000 Environmental Conference at Ames from February 29 to March 2.

During the three-day conference in the Moffett Training and Conference Center, officials will discuss environmental management, energy and water conservation issues. Officials hope to better understand the impacts that environmental management, energy and water conservation have on NASA's goals and objectives, as well as how improved environmental and energy efficiency planning can benefit NASA missions and programs.

Among the topics of discussion will be solar energy, water conservation technologies, utility restructuring, energy consumption and green power.

Further information about the conference may be obtained by contacting Carlos Campos at NASA Headquarters, at (202) 358-1310 or by sending an email to him at: carlos.campos@hq.nasa.gov.

Want to start an Ames Rocket Club?



Estes Super Big Bertha flown on an AeroTech E30 motor at LUNAR (the Livermore Unit of the National Association of Rocketry).

Anyone who might be interested in starting and participating in a rocketry club can email the author at dcascaddan@mail.arc.nasa.gov or danielc@danielc.com to express their interest. Then it can be determined whether or not there are enough people to start an amateur rocketry club at Ames.

Any level of experience is welcome. Perhaps you have a daughter or son with whom you would like to spend more quality time. I started in rocketry by flying them with my dad. If you are interested, let me know. It is a fun and educational hobby.

BY DANIEL CASCADDAN

Ames blood drive scheduled

The next blood drive is set for Friday, March 3 at 7:30 a.m. to 3:30 p.m. in the Training and Conference Center, in Building 3. For an appointment, visit the Web site: <http://q.arc.nasa.gov/qh/blood/index.htm>

Requirements for donating blood are: photo identification; you must have eaten within 6 hours prior to donating; you must be free of cold/flu symptoms for 48 hours; most medicines are not a reason for deferral; you must be between the ages of 17 and 74 and weigh at least 110 lbs; and you must drink plenty of fluids before and after donation. For more information, call the Stanford Blood Center, at (650) 725-9968.

Stanford Medical School Blood Center wishes to thank all of you who donated in December. Through your efforts 83 people made successful donations resulting in 249 components of blood which improved the lives of those who received your gift.

THE AMES *Astrogram*

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