THE AMES
Astrogram
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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Design by Dave Faust

"The first year of the new millennium has been one of real accomplishment for Ames Research Center. We have made tremendous strides forward with our basic research missions in astrobiology, information technology, and aerospace operation systems. And the future looks bright with the emerging NASA Research Park and with important new cooperative agreements with the University of California and Carnegie Mellon University. All of this progress is attributable to one source -- you, the people of this center who perform your tasks with excellence and grace on a daily basis. So it is a particular pleasure at this time of year to extend season's greetings to each of you and your extended families. Whatever your beliefs and however you chose to celebrate the holiday season, may you enjoy peace, contentment, inner harmony and the satisfaction that comes with knowing you really do make a difference." -- Henry McDonald, Center Director

Communication for the information technology age

Space Station Biological Research Project facility gets facelift

Tucked away on a dark balcony in building N-244, Ames' International Space Station centrifuge mock-up looks abandoned and forsaken. But this desolate facility is undergoing a metamorphosis as workers carry out its first facelift in more than 10 years.

The renovation project, which began in early October of this year, should be completed by the end of the year. Renovation will include removing one end of the module, shortening the mock-up by 5 feet, and upgrading its interior displays.

"Now that we know what the final configuration of the actual flight centrifuge will look like, we want to develop a more realistic engineering mock-up," said Joellen Jarvi, assistant project manager for the Space Station Biological Research Project (SSBRP) in the Space Projects Division (Code SF). The redesigned mock-up will more closely resemble the centrifuge, life science glovebox and habitat holding racks that will fly on Internatinal Space Station (ISS) starting in 2005. "This will give visitors a real concept of what we're trying to do," Jarvi explained.

The new mock-up will be a full-scale, non-operational model that will provide visitors with a good idea of where the components will be located and what they will look like. The existing U.S. laboratory module will become the new Centrifuge Accommodation Module (CAM) in assembly-complete configuration. The aft section of the current U.S. lab will be removed and shortened, and an end-cone will be installed from another module so there will be only one module rather than the current two.

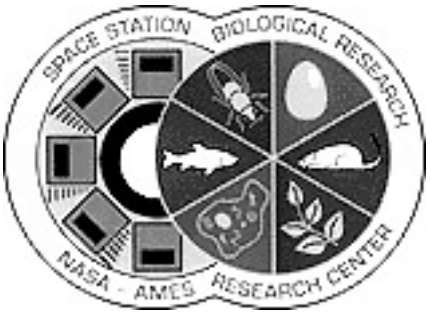
Once the renovation is complete, the racks that line the interior of the mock-up will represent the current known design of the real racks on the ISS. The designs of the various subrack habitats also will be reflected in the new mockup. The hatch configuration will more closely resemble the ISS hatch, and the current lighting will be replaced with lighting fixtures and light levels similar to those to be found on the actual Space Station.

Planning for the renovation started last June, said Al Llamos, manufacturing liaison for Lockheed Martin Engineering, which is overseeing the project. The work is being done entirely in-house, with the Systems Engineering Division (Code FM) doing the renovation and fabrication of the components. The Documentation Technology Branch (Code JIT) is preparing the facades for the internal displays.

"The biggest challenge in completing this task has been the physical location of the mock-up," Llamos said. Located on the second floor of Bldg. N-244, it overlooks a high-bay used by various machine shops. "We're planning our work as we go along," he noted, citing problems created by difficult access and little working space in the area housing the mock-up.

The CAM, which will provide a shirtsleeve environment for life sciences research, currently is set to be launched to the ISS on April 13, 2006. The flight CAM will include several components, including a 2.5-meter (8-foot)-diameter centrifuge. As it rotates, it will produce artificial gravitational forces on the attached habitats, which will house plants and animals such as insects, small fish and rodents. The centrifuge will be able to produce controlled artificial gravity levels from 0.01 to 2.0 times the force of Earth gravity. Fewer revolutions will produce lower gravity levels, while faster rotations will result in higher levels of gravity. The ability to select the gravity force will permit scientists to compare how differing gravity levels affect the biology of organisms housed under otherwise identical conditions. This will allow scientists to separate the effects of gravity from other factors in the space environment.

The glove box will provide a sealed work area in which crew members will perform experimental procedures. A variety of habitats (cell culture unit, aquatic habitat, plant research unit, animal habitat, insect habitat and incubator) will attach to the glove box in a way that will prevent any exchange of biological material between the cabin and glove box or habitat. The habitats, which will be located in eight racks, will provide food, water, light, air, humidity control, temperature control and waste management for the various organisms being studied. NASDA, the Japanese space agency, is building the centrifuge, glove box and animal habitats for NASA, in exchange for launch services.



Ames is the project manager and the integrator for all the SSBRP hardware under the Fundamental Biology Program, which is located at Ames.

"The systems engineering job is very complex," Jarvi said, noting that all the equipment interfaces – electrical, data, mechanical, thermal and electronic – must be compatible. This problem is compounded by the fact that the components are being built by different organizations, contractors and international partners.

Now that the mock-up's renovation is well underway, SSBRP personnel are looking at ways to better inform the public about their project in the future. Although not part of any official tour schedule, the mock-up was toured by nearly 650 visitors between October 1999 and September 2000.

By Ann Hutchison

photo by Dominic Hart

Teller visits Ames

Jack Boyd (left) Executive Assistant to Ames Director Dr. Henry McDonald, speaks with Edward Teller (right), world-renowned nuclear physicist and local resident. Teller visited Ames recently to challenge Center scientists on a range of topics and reminisce about his long and distinguished career.

Contractor Council Excellence Awards

photo by Dominic Hart

Gary Sorlien (center) speaks with Richard Millington (left) both of Sverdrup (Code FOI). They are accompanied by Nancy Eller (right) of Raytheon after the awards ceremony. All were award recipients.

The Ames Contractor Council presented this year's Excellence Awards on November 20 in the ballroom of Building 3. These awards were given to contractor individuals and teams who have made an outstanding contribution to the mission of Ames. Awards were presented to 20 individuals and 12 teams.

NASA technology allows engineers to see airframe noise

Bright, computer images of landing gear wind noise are enabling Ames engineers to pinpoint loud and preventable aircraft flight sounds more easily than in the past, raising the prospect of quieter take-off and landings.

In a series of tests conducted in Ames' wind tunnels, the sounds have been depicted as colored images on a computer screen. These new test data provide critical visual information to aircraft designers concerned about possible enforcement of stricter aircraft noise rules.

"Some airports are imposing nighttime curfews on noisy take-offs and landings, encouraging aircraft manufacturers to make quieter planes," said Paul Soderman, leader of the Ames aeroacoustics group. "If U.S. airplane makers can't meet the new noise rules, those manufacturers may well have difficulty selling their aircraft, both domestically and in foreign markets," he speculated.

Engineers anticipate that lower aircraft noise limits also will be issued by the International Civil Aviation Organization, which makes airplane noise rules for much of the non-U.S. aviation community.

"Now that we can easily see the causes of the annoying 'whooshing' wind noises that come from airliner landing gear, we can take steps to analyze and eventually reduce the noise significantly," Soderman said. Airframe parts, including landing gear, flaps and slats, create almost as much noise as the aircraft engines on approach to landing.

"We are pleased to see a lot of detail in the sound pictures. The sound images of the quarter-scale landing gear model we constructed are the first of their kind generated in the United States at this scale, to the best of our knowledge," Soderman said. Using an array of 70 microphones inside a wind tunnel wall and linked to a computer, engineers can see the vivid images of landing gear wind sounds that normally occur during aircraft take-off and landings.

The microphone array minimizes wind tunnel airflow noise so that landing gear noise sources as small as 6 mm (about a quarter of an inch) can be identified. At full-scale, these sources are 24 mm across, or about an inch, according to engineers who conducted the tests in the Ames 7-by 10-foot wind tunnel that the U.S. Army operates for NASA.

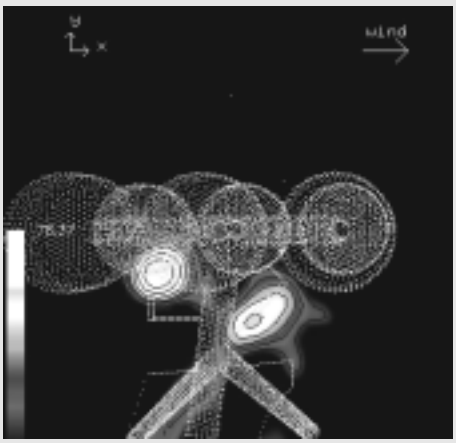


Image of landing gear noise is generated by a computer to aid aircraft design engineers.

Researchers reduced noise significantly as they removed various combinations of landing gear parts from the test model in the wind tunnel.

"A landing gear slows an airplane as it comes in for a landing, and if we reduce the drag too much, the plane would be traveling faster than it should as it approaches the runway," Soderman explained. "Removing pieces, or altering part shapes, is not as easy as it sounds because many of the changes would greatly affect how the landing gear and plane operate. The results from this test will enable researchers to decide how to create air drag, or friction, to slow the airplane without causing as much noise," he added.

"Preliminary data analysis indicates that a faired landing gear generates considerably less noise than an unmodified landing gear and, though full fairings may not be commercially practical, the data represent a probable lower limit of landing gear noise," Soderman said. A fairing is a teardrop-shaped shield airplane designers use to reduce air drag from wind flowing around odd-shaped surfaces.

Ames conducted the landing gear tests in collaboration with researchers at NASA's Langley Research Center, Hampton, VA, and Boeing Commercial Airplane Co., Seattle, WA, as part of NASA's quiet aircraft technology program.

In June 2001, engineers plan to attach the quarter-scale landing gear model to a model of a quarter-scale commercial transport wing and conduct more tests. These are slated to take place in Ames' larger 40- by 80-foot wind tunnel. Researchers will measure airframe fly-over noise and surface-wing pressures with and without the landing gear extended during simulated landing approaches. Researchers also will evaluate noise-control devices.

For more information and additional pictures on the Internet, visit : http://amesnews.arc.nasa.gov/releases/2000/00images/landinggear/landinggear.html

BY JOHN BLUCK

Center Briefs

Hubble sees lone neutron star streaking across galaxy

Several hundred million of them may be found in our galaxy, but the world's most powerful telescope has captured the one thought to be closest to Earth. NASA's Hubble Space Telescope has caught up with a runaway neutron star believed to be 200 light years away. The object, known as RX J185635-3754, is expected to swing by the planet at a safe distance in about 300,000 years.

A neutron star is the remnants left behind after a supernova explosion, as the material at the core collapses into a dense mass of neutrons. The star has the mass of the Sun packed into an area about 12 miles in diameter.

New NASA office of security management and safeguards established

NASA has established a new organization, the NASA Office of Security Management and Safeguards, to focus and advance the agency's efforts in all aspects of NASA security. The new office will formulate policy for and ensure the effectiveness of NASA's primary security objectives: to protect the agency's employees (including onsite contractors) and visitors, as well as its critical national assets, vital information and physical property.

The new organization, which will report directly to NASA Administrator Daniel S. Goldin, will serve as the single point of focus on security matters for the Agency and also will represent NASA at the national level on security policy.

Science team chosen for Space Interferometry Mission

NASA has selected a science team for the Space Interferometry Mission (SIM), an innovative space system that will hunt for Earth-sized planets around other stars and provide new insights into the origin and evolution of our galaxy. The mission, scheduled for launch in 2009, will also precisely measure the locations and distances of stars throughout our Milky Way galaxy and study other celestial objects.

NASA publication highlights new commercial technologies

A breast cancer detection system and a personal search-and-rescue beacon represent the range of NASA's 42 most recently commercialized products featured in the 2000 issue of Spinoff, the annual publication that highlights commercial products benefiting from NASA technology.

Spinoff informs the American public of the benefits of NASA's commercial partnerships with private industry. The results of these partnerships are commercial products that utilize NASA technology. The dual use of a NASA technology in a private product is called a "spinoff."

Casey Call retires

Casey Call has retired from NASA and government service after 18 years at Ames. He began work in the Flight Operations branch, Code O, in May 1983 as a C-130, NASA 707 pilot, and as a Convair 990, NASA 712. flight engineer. Call shortly became the project pilot, also known as chief pilot, for the C-130 aircraft program. Over his NASA flying career, Call was qualified as pilot in command of various NASA aircraft, such as the previously mentioned C-130 and CV-990, as well as the C-141, DC-8, Lear Jet, King Air and T-38. He was also rotary wing-qualified and flew the UH-1 Huey, OH-58 Jet Ranger and the AH-1 Cobra. Call was the chief project pilot of the DC-8, NASA 717, until he delivered it to Dryden as part of the Agency's aircraft consolidation.

While at Ames, Call was very much involved in flight crew standardization and was responsible for the training of flight crews in ground school, simulators and aircraft. He took the lead in the rewriting of aircraft technical/procedural manuals to enhance aircrew standardization. He was directly involved in responsibility for avionics upgrades in both the C-130 and DC-8 aircraft. He amassed over 6,000 flying hours in NASA aircraft. He has been the recipient of numerous NASA awards while at Ames.

Call remained at Ames after the elimination of Code O and became the deputy chief of the Airfield Management Office, Code JF. A new organization, Aviation Management Office, Code JO, was formed this year and Call became the deputy division chief. In addition, he assumed the position of Chief of the Airfield Management Office.

Prior to coming to NASA, Call served 17 years with the California air national guard at Moffett and previously at Hayward airport. He began his Air Guard career flying "special ops" missions in C-119 "Boxcars" and transitioned to the C-130, flying search and rescue missions in 1975. Call also served for 6 1/2 years in the Air Force and was a combat-ready fighter pilot flying F-4 Phantoms. He also served a tour of duty in Vietnam, functioning as an advisor to the South Vietnamese Air Force (SVNAF). Call flew alongside SVNAF pilots and checked out in the A-1 Skyraider, U-17 Skywagon, and O-1 Bird Dog aircraft. Call was responsible for assisting in the training of South Vietnamese pilots. For his work with the SVNAF, he was ceremoniously awarded South Vietnamese Air Force pilot wings.

Casey Call

Mixed in with all of the above, Call also had flying stints with Trans World Airlines in Convair 880's and Boeing 707's and the Richmond, CA police department flying Hughes 300 helicopters and a specially modified Cessna 172. Call also worked in the positions of detective, evidence technician and patrolman for the police department.

Call graduated from the University of New Hampshire in 1962 with a bachelor's degree in chemistry. He stated that at one point, he envisioned himself as a research chemist. But the flying bug bit him early on and as he says, "I was truly lucky to have been able to fly airplanes my whole career. I cannot conceive of having done anything else."

Call and his wife Michaele have relocated to Port Angeles, WA. They have two sons, Justin, in Boulder, CO, and Christopher, in Santa Barbara, CA.

BY GEARY TIFFANY

License plate tells it all...

Full-span tilt rotor aeroacoustic model project director Megan McCluer shows her pride with her personalized license plate.

The full-span tiltrotor aeroacoustic model (FS TRAM) is a quarter-scale, V-22 tiltrotor aircraft model developed by the Army/NASA Rotorcraft Division currently being tested in NASA Ames' 40 by 80-foot wind tunnel.

A "tiltrotor" is an aircraft with tilting proprotors that enable the speed of a turboprop airplane and the vertical takeoff and landing agility of a helicopter.

SAFETY SNAPSHOTS

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

Respiratory Protection

PROFILE

Working safely in hazardous atmospheres - it's possible if you don't breathe hazardous air contaminants. How? By wearing a carefully selected respirator with a snug, leakfree fit. All government employees who wear respirators at Ames are enrolled in Ames' Respiratory Protection program. They receive an annual physical and attend training that includes a respirator-fit test.

CLOSEUP

John Goldbach, respiratory protection instructor, emphasizes that selection, fit and maintenance are critical for safety and health; failure in any of these elements can lead to a medical emergency.

Air purifying respirators use filters to clean the air as the wearer breathes through a mask. Special adsorbent filters for chemical vapors, high efficiency particulate air (HEPA) filters for hazardous dusts (including lead and asbestos) or a combination of filters may be needed. In some atmospheres with odorless contaminants or very high contaminant levels, and where low oxygen level is the hazard, air supplied respirators must be used. These may have breathing air pumped through a hose or air tanks, similar to SCUBA gear.

Goldbach says that most of the employees attending his class rarely use their respirators. Their need for refresher training is even more important than for employees who regularly use them. Also, changes such as weight gain or loss, facial hair, or dental work can affect a respirator's fit. His advice is to not use a respirator for chemical or dust protection unless you know it will protect you. If you work in a hazardous atmosphere, or want to be prepared to protect yourself from potential harmful exposures from off-hours home repairs or hobbies, the respiratory protection class is for you.

For more information about Ames' respiratory protection program, go to Ames Health and Safety Manual, Chapter 28.

Emergency preparedness drill

The Nevada Federal Emergency Management Agency (FEMA) urban search and rescue team participating recently in a MOBEX 2000 earthquake preparedness drill held at Ames in coordination with the Center's Disaster Assistance and Rescue Team. (DART). The successful exercise was conducted in mid November.

photo by Jonas Diño

NRTC intern receives scholarship

photo by Dominc Hart

Phuong Huynh

Phuong Huynh, a Foothill DeAnza intern assigned to the National Rotorcraft Technology Center (NRTC), will be the recipient of a $2,500 Lynn Boone Memorial scholarship for the 2000/2001 academic year. The Lynn Boone Memorial scholarship is for the pursuit of a human resource management degree.

Huynh started working at the NRTC in January 2000 as an administrative assistant.

"She has been a vital part of our team," commented her advisor Kathy Giffin. "Working at the NRTC has enabled her to develop her organizational skills and enhance her already-great people skills. She is always smiling. Through her hard work and efforts within the organization, she was highly recommended for this scholarship," stated Giffin.

"The time spent here and all that I learned, especially dealing with all kinds of people, was a great opportunity. I will miss working at the NRTC and NASA," Huynh stated.

The presentation will be held at the 15th annual Human Resources symposium May 23, 2001 at the Santa Clara Convention Center.

Ames Research Center

Fire safety tips from the National Fire Protection Association (NFPA) and the Moffett Field Fire Dept.

• Install smoke detectors in your home. Test them monthly, and change batteries twice per year. Smoke kills three of every four people who die due to fires.

• Provide escape ladders for upper floor windows. Some escape ladders are made of chain and metal and can be lowered easily from a windowsill in case of emergency.

• Place fire extinguishers throughout the house. Type ABC extinguishers can put out all types of fires. Only use extinguishers on small fires; if there is a large fire, escape immediately as fire can explode in seconds.

• Draw a map of your house to include all rooms, doors, windows and smoke alarms.

• On the map, mark an easy path of escape from each room, and then determine a second escape route for each room.

• Designate a meeting place in front of your house where everyone will go after escaping from a fire.

• Everybody should remember the emergency fire department number. Someone should call the number from a neighbor's home, a pay phone or a cell phone after escaping from the house. Always call the fire department before trying to fight a fire.

• Do not go back into a building that caught fire, unless firefighters say the house is safe. Tell firefighters if someone is trapped inside the house.

• Practice the escape plan.

• During fire drills, pretend some paths are blocked by flame or smoke and use the backup escape routes.

• During a real fire, if a smoke alarm goes off during the night, roll out of bed and keep low in case there is fire or heat above you. Stay calm.

• If you see smoke, try another escape path.

• If you must travel through smoke, crawl low to the exit, keeping your head one or two feet above the floor where air will be cleanest.

• Use the back of your hand to test doorknobs and doorways for heat. Feel the door from bottom to top with the back of your hand. If the door is cool, you may open it. If a door is warm, try another exit route. Brace your foot and shoulders against the door, and open it slowly. If there is light smoke, quickly get down low and crawl to the nearest exit. Slam the door shut, if smoke pours through.

• Close all doors behind you. Never use an elevator.

• If you are trapped, don't panic as that will cause you to breathe faster, and you could inhale more smoke and toxic fumes that could knock you out.

• If you are trapped, feel the door from bottom to top, and if it is hot or warm, stuff clothing or towels at the bottom of the door to keep out smoke and gases.

• Open a window, and escape if there is any easy route to the ground. Make sure smoke and flames are not rising from a lower floor in your escape route.

• If you are totally trapped and your window escape route is blocked, stand by the window, shout, wave something and wait for rescue.

• If your clothing catches on fire, stop. Moving or running will fan the flames and make the fire worse. Drop to the ground. Put your hands over your eyes, nose and mouth to protect your face. Roll slowly back and forth on the ground until the flames are smothered. Seek immediate medical attention for burns.

Other fire prevention and fire fighting suggestions

• Electric blankets and heating pads -- do not fold or roll an electric blanket as the internal wires will heat up, and the blanket could ignite.

• Unplug and store the blanket flat. Don't leave a heating pad on for more than a half-hour, and never fall asleep with it on. Set an alarm clock for 30 minutes, if you think you could fall asleep.

• Wires, plugs and extension cords -- Install ground fault circuit interrupter (GFC) outlets. Do not use too many cords in each outlet. Do not run cords under rugs, behind radiators or across doorways where the cords could be subject to traffic and wear. Have a qualified person repair broken cords, switches making "hiccup" sounds and hot plugs. Don't mask problems with electrical tape. Use a proper gauge extension cord, especially with power tools and high wattage appliances.

• Fuses, light bulbs -- Use only the proper size fuse, or a circuit will be overloaded before the fuse blows. Overloading a circuit will cause wires to overheat and that can start a fire. If you use a bulb rated at too high a wattage for a lamp, overheating can occur in the cord, shade, socket, wiring or fixture and can result in fire.

• Portable space heaters -- Use a heater with a thermostat (not just a switch) that shuts off the heater when it tips. Plug a heater into its own outlet so as not to overload the circuit. Use space heaters in areas free of combustibles. The area should also be well ventilated to allow heat to escape. Never leave a heater on overnight.

• Clothes dryers -- Never leave synthetic fabrics, plastics, rubber or foam in the dryer longer than recommended by the manufacturer. Clean the lint screen before and after dryer use. Keep the dryer area free from combustibles. Dryers must be vented to the outside and plugged into their own outlet.

• Personal grooming appliances -- Hair dryers, curling irons, hot rollers and makeup mirrors must be away from combustibles while in use. Disconnect these appliances when not in use. Never fold or crimp cords because insulation will be ruined which can cause wires to short out and spark.

• Vaporizers -- Do not put a vaporizer near combustibles or leave it unattended. Keep the water level ample. Check the cord to make sure it is not hot. If it is too hot, unplug it immediately. Plug a vaporizer cord into its own outlet. Use a heavy-duty extension cord, if you need an extension cord.

• Fighting electrical fires -- Switch off appliance; or unplug unit. Use ABC or Type C extinguisher. Never cool the fire with water because it conducts electricity, and you could be shocked.

For additional information visit the NFPA on the Internet at www.sparky.org and www.nfpa.org

Ames safety suggestion program recent winners

On-going participation in the Ames safety suggestion program continues to be good. Every suggestion received is appreciated. An attempt is made to implement every reasonable suggestion as soon as funding can be identified.

The most recent winners in the program are as follows:

July 2000, Lewis Mermelstein for his suggestion to secure water bottle dispensers to prevent them from falling and creating additional slick walking surfaces in an earthquake.

August 2000, Lisa Mrkvicka suggested a policy to ask smokers to move back 15-20 feet from doorways to prevent secondary smoke from entering buildings.

September 2000, Alice Herbert identified some specific tripping hazards near the Ames Café which needed repair.

October 2000, Owen Greulich brought up the idea that we could better disseminate the lessons learned from accident investigations. Code Q is creating a new web page to accomplish that. We hope to provide several different kinds of “alerts” on that page.

Your continued support of the safety suggestion program is encouraged.

Brian Welch remembered

On Friday Nov. 24, the NASA public affairs community lost one of its own with the untimely passing of Brian Welch, director of media services at NASA Headquarters. Welch suffered a massive heart attack while travelling to spend the Thanksgiving break with friends. He was only 42.

A native of Fulton, KY, and a graduate of Murray State University, Welch began his NASA career as a public affairs cooperative education student at Langley Research Center in 1979. He later moved to Houston to become editor of Johnson Space Center's Space News Roundup.

In 1984, he became a public affairs mission commentator, providing real-time descriptions from mission control during shuttle flights. He also served as deputy news chief and manager of the mission commentary team. He moved to Headquarters as Administrator Goldin's speechwriter before becoming news and information chief in 1994. Welch was named director of media services in 1998, leading many NASA public outreach efforts, and with responsibility for overall agency news operations, NASA TV and the Internet.

Welch was demanding, both of himself and those around him. He wanted things done correctly. His seemingly sole and all-consuming motivation was his passion for NASA. He was the consummate "company man." He dedicated his life and virtually all of his energy to the agency that he loved. No matter how stressful a situation, he always said, "we're still doing public affairs for the best agency in the world!"

One can't help but be impressed by the drive and determination that allowed Welch to rise from the relative obscurity of Murray College to the very pinnacle of NASA public affairs. And once there, he made sure that his accomplishments were substantive and numerous.

Welch oversaw NASA's transition from the public mailing of news releases to the creation of major web sites getting millions of hits a day. He helped guide NASA through the dark days of Challenger to the optimistic new era of the International Space Station. He was a key player in the bold new commercial partnership with Dreamtime that promises to revolutionize the way NASA conducts its public information and space education missions.

Brian Welch in a recent snapshot in Washington DC.

Welch is survived by his mother, Judy, and a brother, Mark, both of Fulton; and a sister Lynn Lowrance of Union City, TN. Following cremation, a memorial service was held at the First United Methodist Church, in Fulton, with a Dec. 14 vigil in Washington, DC for NASA colleagues and friends.

By David Morse

Swiss delegation visits Ames

photo by Tom Trower

On Oct. 24, Ames hosted a visit by a group of representatives of the Swiss government. They came to tour Ames and the Computer Museum and visit with Center Director Henry McDonald. The Swiss delegation was comprised of Alfred Defago, Ambassador of Switzerland to the United States; Arnold A. Koller, Ex-President of the Swiss Confederation; Roland Quillet, Consul General of Switzerland; Dr. Christian Simm, Science and Technology Counselor and Katja Schaer, assistant to the Consul General and Scientific Attache (Dr. Simm).

Foothill-DeAnza internship program turns 30

photo by Tom Trower

Dr. Leo Chavez, Chancellor of the Foothill-De Anza Community College District (left) with Bill Berry, Deputy Center Director (right) at the the Foothill-DeAnza internship 30th anniversary celebration.

The Foothill-De Anza Community College District NASA/Ames Internship Program celebrated its 30th year anniversary last month on Nov. 2. The event was held in Hangar 1. During its 30 year history, 2,913 students graduated from the program.

The evening featured a slide show noting that 1,200 civil servants and contractors have served as job advisors to Foothill-De Anza interns, and that more than 300 former interns work at Ames as civil servants or contractors. Pictured above are Dr. Leo Chavez, Chancellor of the Foothill-De Anza Community College District, extending his thanks to Bill Berry and all Center staff for the 30 years of support Ames has made to education. In addition to a plaque given by the college district, Berry also accepted on behalf of the Center, proclamations from Congresswoman Anna Eshoo, State Senator Byron Sher and Santa Clara County Supervisor Joe Samitian. The proclamations noted the contribution Ames is making to support education in the local community.

Other dignitaries attending the event included State Senator Sher, Mayor Stasek and Councilmember Mary Lou Zoglin from the City of Mountain View as well as representatives from the offices of Congresswoman Eshoo, Zoe Lofgren and Joe Samitian. Two civil servants were recognized for their contributions to the program: Jerry Mitvalsky for sponsoring 36 interns and Dr. Dan Leiser for sponsoring 56 interns.

by Mary Conway

An open letter to Ames employees

Dear Ames Employees,

All of us wish to thank the entire Ames community for your kind and generous donations to the Combined Federal Campaign this year. It is so gratifying to know that there are so many of you here on the Center who care about helping others. We never know how close to home that caring may be! If your grandparents had cancer, your donation to one of the cancer funds may mean a healthier life for your children. If your aunt had Parkinson's disease, your donation to the appropriate fund might see that your best friend is able to control this dreaded problem. And, if like some of us, you donated to an adoption agency, several children will have safe and loving homes. We appreciate the fact that you took the time to study the CFC pamphlet and make conscientious choices for your donations.

Last year, Ames Research Center employees donated $211,716 to CFC. This year our total is just over $215,000 and counting! We cannot tell you how pleased and proud all of us are that you cared enough to give so much. If you were away from the Center during our campaign, you may still donate by bringing your form to one of us or by placing a call to the CFC line at ext. 4-2321. Remember that "The Power of One" could mean you!

Grace Ann Weiler	*Herb Finger*	*Rho Christensen*	*Jean Nozaki*
Chairperson	*County Liason*	*Deputy Chair*	*Deputy Chair*

Rosen recognized with Presidential Rank award

Dr. Robert Rosen was honored recently with the Presidential Rank award of Meritorious Executive. Winners of this prestigious award are recognized for their outstanding leadership and commitment to public service throughout their career.

Presidential Rank awards are given annually to a select group of career Senior Executive Service members who have demonstrated the ability to balance the needs of their employees, stakeholders and customers with the mission of their organization over an extended period. Only executives that accomplish this challenging objective are eligible for this honor.

Dr. Robert Rosen captured during a rare quiet moment in his office recently.

"Ames Research Center is fortunate to have Robert Rosen on our staff. He has exceptional vision and leadership skills that are an asset to NASA and the American people," said Henry McDonald, Ames Director.

The selection process for the Presidential Rank award begins with a nomination from a candidate's agency head. The nominees are then evaluated by citizen review boards against a rigorous set of five criteria, including the ability to lead with vision, achieve program results effectively and efficiently, build and maintain a productive workforce, manage the organization's resources and build partnerships. After the evaluation and selection process, the President has final approval.

Before being recruited by NASA Headquarters as the Director of the Propulsion Research division, Rosen had a distinguished career of over 20 years in industry developing leading-edge analysis techniques. After less than a year with NASA, he was promoted to Deputy Associate Administrator for aeronautics and space technologies and received NASA's outstanding leadership award.

Currently, Rosen is the Associate Director for aerospace programs and was instrumental in the development of a strategic new direction for Ames Research Center. He recognized that the traditional focus of Ames was no longer enough to sustain a major NASA facility, and he led the transition team to find a new focus. Using a process involving senior management and a significant portion of the staff, a broad-based agreement was reached to change the technical foundation of the center to information technology from aerodynamics and wind tunnel testing. The Information Sciences and Technology Directorate was created and today, Ames is NASA's Center of Excellence for Information Technology.

Known for his fiscal responsibility and management skills, Rosen has refocused programs and staff to help maximize the effective utilization of Ames' more than $600 million annual budget. He was instrumental in the development of programs in advanced and high performance computing, aerospace operation systems, air traffic management, rotorcraft and simulation. Using lessons learned while in industry, Rosen has implemented sound resource and personnel management to reduce inefficiency while improving the satisfaction of clients and research partners.

A true test of leadership is not only measured in results, but also in how those results have been achieved. Rosen has shown that the best way to achieve results is to bring out the best in his staff. To develop and further the skills of his staff, he created developmental assignments and a mentoring program. Rosen is also an advocate for workforce diversity. He has worked to continually increase the numbers of women and minorities in Ames organizations at all levels. His leadership can be gauged by the success of staff who have received guidance from him. Many of Rosen's former "pupils" have moved to positions of greater responsibility within NASA.

In response to the award, Rosen gave credit to his staff. "I can't tell you how pleased I am with this award. But the credit really should go to all the people at Ames who did the work and made it possible," he said.

BY JONAS DIÑO

Astrobiologists find evidence of early life on land

Scientists with NASA's Astrobiology Institute (NAI) have discovered fossilized remnants of microbial mats that developed on land between 2.6 billion and 2.7 billion years ago in the Eastern Transvaal district of South Africa.

This significant discovery presents the strongest evidence to date that life on land occurred at a much earlier stage in Earth's history than was previously believed by most scientists. It also suggests that an ozone shield and an oxygen-rich atmosphere existed on Earth 2.6 billion years ago, both necessary conditions for life on land to emerge. The results were reported in the Nov. 30 issue of "Nature" magazine.

"This important investigation undertaken by an NAI team feeds into NASA's strategy of using Earth analogs, particularly analogs present on early Earth, as models for testing the hypothesis that life exists, or has existed, on Mars or elsewhere in the universe," said Dr. Baruch Blumberg (Nobel '76), director of the NAI research consortium. "A major goal of the NAI is to undertake the basic science that is necessary for the performance of NASA and space science missions."

The finding also has other important implications for NASA. "The suggestion that an ozone shield existed as early as 2.6 billion years ago boosts our chances in the search for life on planets orbiting other stars," said Dr. Michael Meyer, astrobiology discipline scientist at NASA Headquarters, Washington, D.C. "Ozone would be easily detectable by the Terrestrial Planet Finder, a planned interferometer mission in NASA's 'Origins' program."

The microbial mats discovered by researchers are composed primarily of cyanobacteria, the principal organisms that generate oxygen from water and atmospheric carbon dioxide using sunlight.

"This discovery is similar to what scientists went through with marine organisms," said Dr. Hiroshi Ohmoto, co-author of the Nature report, a member of the NAI, director of the Astrobiology Research Center and a faculty member in the Department of Geosciences at the Pennsylvania State University.

"Once scientists thought no living organisms existed in the Earth's oceans before 500 million years ago. Then they studied the carbonaceous matter in ancient sedimentary rocks deposited in the oceans and found that organisms lived in the oceans at least 3.8 billion years ago," he said.

A variety of geochemical and paleontological data suggests that microorganisms flourished in Earth's oceans at least 3.8 billion years ago, but researchers have been unable to agree on when microorganisms first colonized the land. The oldest undisputed remains of terrestrial organisms are currently 1.2 billion-year-old microfossils discovered in 1994 in Arizona by Dr. Paul Knauth, a member of the NAI-Arizona State University astrobiology team. However, many scientists think the Earth's land surface was sterile until about 500 million years ago, when vesicular plants first appeared.

Ohmoto noted that the organic matter found in South Africa occurred primarily as parallel seams in the ancient 2.6 billion-year-old soil bed. This suggests that the organic seams are remnants of biomats that developed on the soil surface and were trapped while the soil formed. The team discovered the "right" ratios of chemical elements essential for life (carbon, hydrogen, nitrogen and phosphorous) in the carbonaceous matter of the Eastern Transvaal. This provides strong evidence that the carbonaceous matter is of biological rather than abiotic origin, according to Ohmoto.

The Pennsylvania State University is a member of, and receives research funding for this and other efforts through, NASA's Astrobiology Institute, a research consortium encompassing academic and nonprofit organizations plus NASA field centers. The NAI's central administrative office is located at Ames. In addition to full members, the NAI has international affiliate and associate members. Astrobiology is the study of the origin, evolution, dissemination and future of life in the universe. NASA's exobiology program also funded the subject research.

Yumiko Watanabe, senior author of the Nature article, is a doctoral student of Ohmoto's at the Pennsylvania State University. Dr. Jacques Martini, another co-author, is a member of the Geological Survey of South Africa in Pretoria, and an associate member of the Pennsylvania State University Astrobiology Research Center.

BY KATHLEEN BURTON

And the Oscar – No, the "Chris" – Goes to…..

The work of two Ames employees was recognized recently during the distinguished Columbus International Film and Video Festival, a.k.a. "The 2000 Chris Awards." Jesse Carpenter, Transvideo Studios, and Victoria Callor, Lockheed Martin Engineering and Sciences, were presented with bronze plaques for their training video, "Flow with ISO".

"Flow with ISO" is not the typical NASA training video. It uses a fun, music-video-style format with "rap" lyrics to inform Ames employees about the "joys" of ISO. The video was "commissioned" by the Life Sciences Division at Ames, and directed and produced by Jesse Carpenter of Ames' Documentation Technology Branch.

"The Chris Awards" is one of the most prestigious documentary, entertainment and informational competitions in the country. "Flow with ISO" competed against nearly 800 entries submitted by independent and corporate producers, agencies and distributors from more than 30 countries. Bronze plaque awards are presented to films that receive six points out of a seven-point scale. Submitted films and videos are evaluated primarily on the basis of fulfilling their intended purpose and design for their target audience, as well as their quality and importance – and we all know how important ISO is!

From left to right: Ames' Jesse Carpenter, of Transvideo Studios, and Victoria Callor, of Lockheed-Martin, display their award with Richard Long, the president of the Film Council of Greater Columbus.

New astrobiology exhibit unveiled at Ames Visitor Center

A new exhibit entitled "Astrobiology and the Water Worlds" at the Ames Visitor Center was unveiled on November 15,

Water, an essential component for all life on Earth, is a signature in the search for life beyond Earth. The new exhibit at the Visitor Center features three known water worlds in our solar system: Earth, Mars, and Europa. Internally illuminated globes provide a walk-around view of these water worlds, and back-lit images visually illustrate the water features on Mars and Europa as compared with Earth. The goals of Astrobiology are also presented in a back-lit display.

In addition a collection of photographs, taken by NASA scientist Dr. Jonathan Trent and his colleagues, reveal the wonderful diversity of macroscopic organisms inhabiting the Earth's oceans. Trent discussed how these photographs were taken and what it is like to explore the open ocean during the opening ceremonies. A new video entitled "Earth: the Water World" was also shown to event attendees.

photo by Dominic Hart

Jonathan Trent, NASA scientist and underwater photographer (center), is shown at the opening of the new astrobiology exhibit held on Nov. 15 at the Ames Visitor Center. Dr. Baruch Blumberg, director of the NASA Astrobiology Insitute and senior advisor to the NASA Administrator, (left) and Ames Center Director Harry McDonald (right) chat with Trent about the new exhibit.

Ames' machine shop creates specialized landing gear model

The STAR landing gear, a 26 percent-scaled model of a Boeing 777 landing gear, was created by the Aeronautics and Spaceflight Hardware Development Division at Ames to be tested in the Center's 7' x 10' wind tunnel. The landing-gear replica was designed to facilitate efforts to further diminish noise during flight. The model is part of the STAR test scheduled for next summer to demonstrate improvements in the acoustics of high-lift systems.

The scaled model was developed using photographs of the 777 landing gear, landing gear blueprints, sketches and verbal instruction. Design engineers on the project were Jim Kennon and Chad Brivkalns, and the primary shop group leads were Damon Flansburg, Chris Radbourne and Frank Larsen.

The fabrication procedure utilized a variety of materials, including steel, aluminum and wood, as well as unique manufacturing processes.

"The project reliance agreement between NASA centers (and involving specifically Langley, in this case) allowed us to utilize their rapid prototyping 'stereolithography' process which permitted complex landing gear shapes to be fabricated quickly," said Frank Larsen of the project. Steel structures necessary to modify the tunnel for testing were also created.

The STAR landing-gear project-fabrication drawings were received in May with a delivery requirement of July. Legal agreements with Boeing regarding privacy weren't resolved until four weeks into the project. Two months were allocated to project management for completion of the project, and the model was ready for testing in early July.

"We feel this was probably the definitive test for the acoustics of landing gear. We understand where many of the noise sources are coming from and have some good ideas on how to reduce them," said Kevin James of the six weeks spent in the wind tunnels working with the landing gear.

Final decisions regarding this landing gear have not been made due to compromises involving the balancing of functionality, weight and cost considerations.

photo by Damon Flansburg

Tom Foster (left) and Chris Radbourne (right) of the Aeronautics and Spaceflight Hardware Development Division at Ames working on the landing-gear replica.

BY ERIN KING

photo by Dominic Hart

DDF poster session held

The Director's Discretionary Fund poster session was held Nov. 28 at the Moffett Training and Conference (MTCC) Building 3. The annual sessions help to promote increased awareness of the Director's Discretionary Fund (DDF) and provide an opportunity for the Ames community to hear and see the results of the currently funded projects.

The DDF presentations are coordinated by the Office of the Chief Scientist, Dr. Stephanie Langhoff.

Ames employees attend the Director's Discretionary Fund poster session held in November.

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

Ames Diabetics (AAD), meet twice a month on first and third Wednesdays, 12 noon to 1:00 p.m., in the Ames Café, far corner of the Sun room. Peer support group that discusses news that affects diabetics, both type I and II & exchange experiences in treatment & control & most importantly, help each other best cope with the disease. No cost, sales people, leader & medical professionals. Attend a meeting or call Bob Mohlenhoff at ext. 4-2523, or email him at bmohlenhoff@mail.arc.nasa.gov.

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

NFFE Local 997 Union General Mtg, Dec 20, noon to 1 p.m., Bldg. 19/Rm. 2017. Guests welcome. POC: Marianne Mosher at ext. 4-4055.

Ames Asian American Pacific Islander Advisory Group Mtg, Dec 21, 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, Dec 21, 12 noon, T28-N (across from N-255). POC: Michael Wright, KG6BFK, at ext. 4-6262. URL: http://hamradio.arc.nasa.gov

Native American Advisory Committee Mtg, Dec 26, 12 noon to 1 p.m., Ames Café. POC: Mike Liu at ext. 4-1132.

Ames Contractor Council Mtg, Jan 3, 11 a.m., N-200 Comm. Rm. POC: David Lawrence at ext. 4-6434.

Environmental, Health and Safety Monthly Information Forum, Jan 4, 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, Jan 4, 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, Jan 4, 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, Jan 5, 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.

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

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

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) from 11/6/00 - 1/7/01. Dates flexible/negotiable. Desire to bring well-behaved & quiet golden retriever; can arrange other hsg for dog if presents a problem. Call Stefan & Julaine Rosner (650) 320-0074, email: Stefan_Rosner@yahoo.com

Housing needed for a Family (2 parents, 2 young children) from Denmark for a 1 year period beginning February 2001. Both parents will be working at Ames; a 2-3 bedroom size home near Ames or adjacent communities preferred Contact BoThamdrup, e-mail bot@biology.sdu.dk in Odense, Denmark, or Lee Bebout at ARC, lbebout@mail.arc.nasa.gov, ph. (650) 604-3826.

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. message.

Female non-smoking roommate wanted to share 2bd/2ba 1000 sq ft, sunny, quiet, Mountain View apartment. $800/mo plus 1/2 utils. No pets. Convenient to rail station (10 min walk to Castro St/Ames shuttle), bus lines, & expressways. Across street from shopping. Kim Ennico (650) 625-1265 (lv message). Available now.

Transportation

1978 Chinook pop-top camper. 80,000 miles on Datsun 510 truck with camper built on frame. Runs great! Camper has propane stove, sink, refrigerator. Pop-top increases interior height from 5 feet to 7 feet for roomy camping. $2500. Carol 408-353-3478 (home).

'93 Dodge Shadow hatchback 63kms, 2 door, automatic, 4cyle, A/C,AM/FM cassette, sun/moon roof, excellent Condition. $4,000 or B/O. Judy (408)263-3806.

94 Jeep Grand Cherokee Laredo, 63K mls, Tow package, 2 wheel drive, 6 cylinder, excellent condition, white ext grey int. $9,500 or B/O. Fritz (530) 795-3736.

'95 Mercury Villager LS Minivan, $9,995 or B/O, Good condition, V6 3.0L, 81K mls, leather, A/C, pwr steering/windows/locks/seat, cruise control, AM/FM, cassette, CD, ABS (4-Wheel), alloy wheels. Call (650) 968-4610 or abwatson@mac.com

'91 Nissan Sentra. 97,000 mls. Very good condition. $1,800. Call K. Burton at (650) 210-8088.

'88 New Yorker, 89K mls, Orig. owner, power win, locks etc. a/c. Excl.body/paint..runs excl.new Brakes Good radio and 10 disc.cd changer, $3,500 or B/O. Call Barry (650) 966-1160.

'86 Olds Custom Cruiser 9 pass. sta. wag. Also serves as urban P/U truck w/plenty room for 4x6 stacks of plywood, etc. (doors closed), or bulky cargo. Great A/C, power accessories & gd rubber. 158K mls - clean & exc. running condition. $2,500. Call (925) 933-8706.

'72 Mercedes Benz 280 SE (4.5 L, gas engine), 180K miles. Silver & black classic, single owner for 27 years! Sunroof, power windows/doors, leather & wood interior, engine runs well & well maintained. $2,500 or B/O. David (650) 851-9202.

Miscellaneous

Toshiba Satellite Pro, T2155CDS/520 in exc cond., with floppy drive, modem card, 1/2 gig hard drive, upgraded ram, cables, manual & carrying case. $500. Franz (408) 927-5648.

Snow chains. Fits R13/R14 tires. Installation manual/original tote case. $15. Call (510) 471-9384.

Brand new never used U.S. issue internal frame back pack (woodland camo) cost $150, will sell for $100 or B/O. Misc. S.A.E. hand tools from 1/4" to 1 3/8" negotiable. Daisy air rifle w/a case of CO2 cartridges $50. Call (650) 691-9961.

Ping Pong Table. Fold-up for easy storage. Heavy duty table in excellent condition w/paddles, net & balls. $85. Call (408) 295-2160.

Boy's Schwinn mountain bike, 20" wheels, 18 speed, good condition $70. (408) 296-3326, David.

HealthRider Fitness machine, deluxe model, excellent condition. $125. Call (650) 947-8124 evenings or weekends.

Vacation rental

Lake Tahoe-Squaw Valley Townhse, 3br-2ba, View of slopes, close to lifts. Wkend $490, midwk $180 nite. Includes linens, firewood. (650) 968-4155, 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 3258 or ndorighi@arc.nasa.gov.

Carpool from UC Santa Cruz carpool to Ames Bldg. N236. Work hours: 8 a.m. to 5 p.m. flexible. Joel Ramirez ext. 4-6378 or home at (831) 460-0160.

Carpool: Existing 3 person carpool would like to add 4th person with car. We take turns driving, Oakland/Berkeley to Ames, leave at 8:00 a.m., return at 5:30 p.m. David, ext. 4-4164 or email hollenbach@ism.arc.nasa.gov.

Need one more person for carpool: Oakland/ San Leandro/ Alameda to the Ames . Leave to work from Marina Blvd. and 880 in San Leandro at 6:00 a.m. Leave NASA at 4:00 p.m. John at ext. 4-6295.

Child Care Center

The Ames Child Care Center (ACCC) provides full-time and part-time quality day care for the children of Ames civil service employees and on-site contractors. Limited financial assistance is available, and is reapportioned every 6 months.

For the late January-July 2001 period, applications for tuition assistance are on the Center's web site at: http://accc.arc.nasa.gov. Alternately, interested parties can pick one up at the ACCC. Applications together with income verification are due by COB Jan. 12, 2001. For tours or waiting list information, contact the ACCC at ext. 4-4184.

For financial assistance, please contact the tuition assistance council at: swhite@mail.arc.nasa.gov, ljensen@mail.arc.nasa.gov, or at: xavier@osprey.arc.nasa.gov.

Ames public radio

1700 KHz AM radio -- information announcements & emergency instructions, when appropriate, for Ames employees.

Lost & Found

Moffett Field Lost and Found may be reached at ext. 4-5416 at any time. Residents and employees at Ames may also use Internet browser at: http://ccf.arc.nasa.gov/codejp/pages/lostFound.html to view a list of found property and obtain specific instructions for reporting lost or found property and how to recover found property. Call Moffett Field security police investigations section at ext. 4-1359 or email at: mfine@mail.arc.nasa.gov.

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*
Fri, Jan 5	*Mon, Jan 15*
Fri, Jan 26	*Mon, Feb 5*

Ames carolers perform at the Center

photo by Jonas Diño

Ames carolers shown singing at the Rotorcraft Division's (AFDD) holiday party on Dec. 7. From left to right: Dave Fencl (choir leader), Shelley Scarich, Astrid Terlep, Gigi Phung, Suzanne Meyer, Dinah Showman, Diane Lattanzio, Sebastien Lebonnois, and Garth Hull, with Bill Likens on accordian and Tom Clausen on mandolin. Carolers practice during their lunchtime and perform at various functions during the holiday period at Ames, including singing at various buildings to spread good cheer to all.

"Are good planets hard to find?"

On Wednesday evening, January 24, at 7 p.m., Dr. Frank Drake of SETI and Dr. Peter Ward of the University of Washington will discuss the controversial "Rare Earth" hypothesis, the topic of Ward's most recent book, in the Silicon Valley Astronomy Lecture Series, at Foothill College in Los Altos Hills.

The non-technical program will focus on the question of whether or not habitable planets (like our own Earth) are rare in the cosmos.

Admission to the lecture, sponsored by Ames, Foothill College, The SETI Institute and the Astronomical Society of the Pacific is free.

Bring at least eight quarters for on-campus parking.

THE AMES Astrogram

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