

THE AMES

Astragram



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AMES RESEARCH CENTER, MOFFETT FIELD

June 21, 1999

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

Local communities embrace Ames' outreach efforts

Ames' 60th birthday anniversary is now in full swing. Rather than restrict the celebration to on-site employees, a series of recent outreach efforts have opened up the party to residents of local communities. Judging by the crowds and the support that has been received, the perception of Ames as a more user-friendly, community-ori-

the NEXT 60 years.

Following Shostak's humorous and thought-provoking analysis of both astronomical research and Gustav Holst's "The Planets," it was time for the main show. It did not disappoint!

In a darkened auditorium, the audience was drawn into the video presentation

curtain. It was an inspired, dual-flank assault on the body's visual and auditory senses. In the words of the symphony's operations manager, it was both "spine tingling" and "breath taking." A standing ovation from the 2,000 plus attendees gave testimony to their verdict.

All-too-soon, the symphonic presentation was over, the program was completed and the crowd was treated to a slice of birthday cake upon their departure from the auditorium. A shelter for the homeless and less privileged gratefully accepted the remaining cake that was not consumed.

On the same weekend as the symphony performance, Ames sponsored a large tent and series of exhib-

its at the Sunnyvale Art and Wine Festival. An estimated 9,000 visitors toured the

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Cakes donated by the Ames Exchange celebrate the Center's "60 Years of Excellence."

photo by Eric James

ented organization is going over big with regional residents.

On June 6, we kicked off the current series of outreach activities with a free symphony at the Flint Center at De Anza College. Co-sponsored by Ames, the San José Symphony and their own "Project Music" program, the evening was an entertainment extravaganza with its combination of multimedia visuals and musical interludes.

Seth Shostak of the SETI Institute served as the master of ceremonies for the evening. Rumor has it that he flew in directly from a recent gig on Comedy Central. He introduced Jack Boyd, assistant to the Ames center director, who showed an 8-minute video on the history and accomplishments of the Center. Boyd then used a series of anecdotes and stories drawn from his vast experience at Ames to tell the audience of the evolution of the Center and its contributions to the nation.

McDonald followed Boyd with a brief overview of Ames' new missions and his vision for the future. "The second-most-sexy Scot alive," a bit flustered by Shostak's introduction, quickly recovered to sketch a compelling picture of the technologies and the research contributions that Ames will make to the region and the country over

while listening to Holst's musical interpretation as rendered by the symphony, skillfully hidden from view behind the stage



photo by Tom Trower

Ames employees and their families lend an ear to the San José Symphony's rendition of Gustav Holst's "The Planets."

Awards & Recognition

1999 Length of Service awards ceremony held

The 1999 Length of Service Awards ceremony was held on June 8 in the Main Auditorium (N201). Employees who reached a total of 25 years or more of Federal Service by the period July 1, 1998 to June 30, 1999 were recognized. A complete list of honorees follows.

45 Years of Service

Gerald M. Mitvalsky
David A. Stewart

40 Years of Service

Luigi S. Cicolani
Q. Marion Hansen
James A. Laub
Philip R. Nachtsheim

35 Years of Service

Ester L. Bugna
Glenn C. Carle (Retired)
Richard C. Carlson
Charles R. Castellano
Benny Chin
Angela M. Clark
Thomas J. Coakley
Bonnie P. Dalton
Philip M. Facciola
James C. Gonsalves
Robert W. Jackson
Gerd Kanning
George Meyer
Charles E. Morris, Jr.
Kazuko J. Nozaki
Ruben Ramos
Felton Smith

30 Years of Service

Edgar O. Beatty
Theodore E. Bunch
Mladen Chargin (Retired)
Judy E. Choate
William K. Chun
Munro G. Dearing III
Gustave Gold
John L. Holmberg
Jeanne L. Jarvis
Nancy L. Johnson
Earl B. Le Mar
Robert D. MacElroy
Barbara L. McCalment
Susan C. Mead
Legrand E. Morgan
Robert J. Navarro
Joe R. Paz, Jr.
Irving C. Statler
Gerald Temple
Felipe Ugale

25 Years of Service

David B. Ackard
Mark D. Betzina
Roger L. Brimmer
Carlos R. Brown
Joanne A. Comstock
John J. Coy
David H. Denbow
Tice F. Deyoung
Daniel C. Dugan
Marvin D. Feil
Kline W. Gidcumb
James J. Hanratty
Mary A. Hubbard (Retired)
Dennis Johnson
Stacey G. Johnson
Thomas J. Kolis
Christopher A. Leidich
Ronald E. Mancini
Craig R. Mc Creight
Richard E. Mc Farland
Mark S. Mc Glaughlin
Robert S. Munoz
Gary J. Parola
Joseph E. Peddecord
Paul A. Pinault
Daniel J. Rendon
Deborah A. Renick
Maureen Y. Sarjeant
Edward T. Schairer
Thomas K. Timbal
Francisco J. Torres
Fredric R. Van Wert
Lawrence R. Whiteside
George P. Wong
David M. Yaste



photo by Dominic Hart

Gerald Mitvalsky, who received an award for 45 years of service, is shown here (center) with his wife after the award ceremony.

Center Briefs

FUSE spacecraft will search for 'fossils' of the Big Bang

Scientists will soon have a new tool to search for the "fossil record" of the Big Bang and uncover clues about the evolution of the universe. Scheduled to launch June 23, NASA's Far Ultraviolet Spectroscopic Explorer (FUSE) will observe nearby planets and the farthest reaches of the Universe and will provide a detailed picture of the immense structure of our own Milky Way galaxy. The FUSE mission's primary scientific focus will be the study of hydrogen and deuterium (a different form of hydrogen), which were created shortly after the Big Bang. With this information, astronomers will be able to look back in time at the infant universe and hopefully better understand the processes that led to the formation and evolution of stars, including those that comprise our solar system.

Hypersonic air-breathing machine to be used in flight

NASA's Hyper-X program seeks to demonstrate, for the first time, a hypersonic air-breathing engine in flight. Engineers believe this engine will do for space flight what the jet did for air travel. A rocket will boost the Hyper-X research vehicle to the test altitude and speed. Then, for the first time, a non-rocket engine will power the vehicle in flight at hypersonic speeds.

NASA selects 1999 SHARP Plus student apprentices

Three hundred high school students will live on college campuses and conduct science research at 15 universities this summer through NASA's 1999 Summer High School Apprenticeship Research Program (SHARP PLUS). NASA and the Quality Education for Minorities Network selected the students from 1,200 applicants to participate in this year's program. These apprentices represent 195 high schools and come from 34 states, the District of Columbia, Puerto Rico, Guam and the U.S. Virgin Islands.

NASA selects key space flight managers

NASA Associate Administrator for Space Flight Joseph Rothenberg has announced several management changes, effective immediately, in the Office of Space Flight at NASA Headquarters, Washington, DC. William Readdy, former Director for Space Shuttle Requirements, has been appointed Deputy Associate Administrator for the Office of Space Flight. Michael Hawes, formerly NASA's chief engineer for the space station, has been named Deputy Associate Administrator for Space Development (Space Station). Norm Starkey has been named Director for Space Shuttle Requirements.

San Jose State University Professor to be featured speaker at annual GALA event

Wiggys Sivertsen, Professor of Counseling Services in the Department of Sociology at San Jose State University, will be the keynote speaker at the Center's annual GALA advisory group, "Gay Pride" month celebration on June 24 from 11:30 a.m. to 1 p.m., in the auditorium, room 172, Bldg. 233.

Sivertsen is co-author of two publications, entitled "Visible and Invisible Differences--Issues in Psychotherapy with Gays and Lesbians" and "Each Child that Dies...Gays and Lesbians in Your Schools." The texts were published for use at San Jose State University's College of Education.

Sivertsen has received numerous awards, some of which include: California State Assembly "Women of the Year"; Women's Fund; San Jose Mercury News "Women of Achievement in Education"; and the "California State Special Recognition Award For Service to the Lesbian and Gay Community" awarded by Senator David Roberti, State Pro Tem California State Senate.

She is recognized throughout the Bay Area community as a founder and board member of various task force and support groups such as: Open Mind Network, Inc., the Santa Clara County AIDS/KS Foundation, San Jose City Affirmative Action Committee, Santa Clara County AIDS Task Force, Santa Clara County Domestic Violence Women's Issues, and Parents & Friends of Lesbian & Gays (PFLAG) to name a few.

Sivertsen received her masters degree in Social Work from Tulane University in New Orleans, Louisiana, and a Bachelor of



Arts Degree in Sociology at San Jose State University. Her areas of study included counseling services, sociology, psychotherapy, diversity, and multicultural education.

Sivertsen is the founder of "Advocates for Lesbian, Gay & Bisexual Youth" which provides legal representation for gay, lesbian and bisexual youth who are discriminated against in the school system.

In addition to being a teacher and writer, Sivertsen is currently conducting diversity workshops and keynote addresses to many of the major corporations and educational institutions within the San Francisco Bay Area.

Ames modifies contract award for software verification

Ames has modified its contract with Intermetrics Inc., of Vienna, VA, to provide independent verification and validation of selected NASA program software in support of the NASA Software Independent Verification and Validation (IV&V) Facility, Fairmont, West VA.

The "cost-plus-fixed-fee/incentive fee" contract, including all options, will be increased in value by \$47,504,325 to approximately \$80.5 million. The eight-year contract, awarded in October 1996, included a one-year base period, followed by seven one-year options. In addition to the IV&V facility, work under the modified contract will also be performed at the

Johnson Space Center, Houston, TX.

Intermetrics Inc., conducts independent verification and validation of software designed for selected catastrophic, critical and high-risk situations on selected agency projects, including the International Space Station, the Space Shuttle, selected ground and robotics systems and other selected NASA programs. This contract modification will increase the level of IV&V facility support for the International Space Station, the Space Shuttle program and a few new NASA programs such as the Stratospheric Observatory for Infrared Astronomy (SOFIA).

Ames' milling machines upgraded to cutting edge

A least one fifth of the machining and finishing time was lopped from the hours needed to make crucial wind tunnel scale models ever since nine Ames milling machines were upgraded with new computer numerical controls and related systems. A milling machine is a tool that holds a work piece in a carriage and feeds the part against rotating cutters.

Model making is an extremely important step in the aircraft design cycle. The models of advanced airplanes and aerospace parts manufactured at Ames are instrumented with sensors and placed in wind tunnels. Air is blown around the models to simulate their flight. Aerospace engineers then analyze data, such as airflow and pressures, to determine how well the design is working and if design changes must be made. Because of the critical need for extremely accurate wind tunnel data, the models must be as close as practical to the design.

"Four high-speed research program, 1.7 percent-scale stainless steel airplane models with a 2 thousandth of an inch tolerance were made with the retrofitted mills," said Code FMX Branch Chief James Alwyn. "To do this kind of work, it is important that we have very advanced programming capabilities and machine control. Before refitting the milling machines, model makers machined only to a five thousandth of an inch tolerance, and we had to do extensive hand work to finish the models." Code FMX is the Developmental Machining and Electromechanical Instrumentation Branch.

"The revitalized milling machines translate directly into significant savings for Ames programs," Alwyn said.

"We do machining here that is unique to

most manufacturing operations. Mold machining most closely resembles our work, but in a rudimentary way. The nature of our

stable quartz and enable the machine to maintain tolerance," he said.

In 1995, after a year of study, managers decided to modify Ames' nine milling machines. The mills had various computer controllers on them, each made by a different manufacturer. The oldest controller was made in 1968. The mills range from three-axis to five-axis machines.

"We needed a computer numerical controller (CNC) with a large amount of memory," said one lab manager. "That's because we often perform program editing at the shop level, and do not use your run-of-the-mill programs; some of our programs occupy 25 megabytes of memory and involve complex surfacing." A computer numerical controller is a computer system that directs machine movement. The new CNCs have hard drives bigger than a gigabyte.

The new computer controls also are advantageous because the same system is used on all the mills, reducing training time. The new system helps machinists because they have more time to learn about machine capabilities instead of having to learn multiple computer systems. In addition, the CNCs are extremely reliable, reducing machine downtime and costs.

Models are finding their way into the wind tunnels faster than before. "When we are able to manufacture a new model aircraft that demonstrates drag reductions of even one or two percent, it makes a major difference in real fuel economy," Alwyn said.

BY JOHN BLUCK



Chris Radbourne, of Code FMM, operates a milling machine in the Ames shop.

jobs includes three-dimensional, sculpted surfaces, with many curves. The cutters on our mills must move continuously at constant surface speeds; our past computer controllers did not enable the machines to do that," he said.

Because tolerances are tight on the wind tunnel models, thermal expansion of the models being milled was an issue before the mills were retrofitted. Linear scales replaced rotary measurement systems on the milling centers, almost eliminating thermal expansion problems.

"Because we are not in a thermally stable environment, we used to have to deal with heat-related contraction and expansion; but the new linear scales are made of very heat-

How to report safety hazards

The Safety, Health & Medical Services Office has recently developed two new and convenient ways to report safety hazards. If you are aware of an unsafe or hazardous condition at Ames, notify your supervisor immediately. In addition, call the Safety, Health and Medical Services Office at ext. 4-0268. However, you may wish to report the hazardous condition anonymously by submitting a Hazard Report or by calling the Safety Hotline.

The Hazard Report can be found at the Code Q website, <http://q.arc.nasa.gov>.

This simple web form allows you to report safety hazards to the Safety Office and remain anonymous. You can also find a printed version of the Hazard Report posted

in your building that you can mail to the Safety Office.

The Safety Hotline, also anonymous, will connect you to an answering machine that is checked on a daily basis. You can call the Safety Hotline from any NASA Ames phone by dialing ext. 4-SAFE (ext. 4-7233) or from any offsite phone by dialing ext. 4-7233.

Please take every opportunity to prevent accidents by making the Ames Safety Program your program. Report safety hazards immediately. Don't wait for someone else to be injured. Your action may be another person's only chance to go home safely.

BY PATRICK HOGAN



NASA live robotics internet course to begin June 30

NASA, the University of North Dakota (UND) and Western Governors University are collaborating to offer the "NASA Robotics Short Course" that will enable students to attend a virtual classroom on the Internet. Each lesson will involve a robotics expert who also works on a NASA project. Western Governors University is a "cyber university," located on the Internet.

The eight-session course will begin June 30, and will continue through September 2. The lessons include webcasts, chat sessions, video clips, web slides and follow-up question-and-answer sessions. The course is produced by NASA's Learning Technology (LT) project at Ames.

"This Internet format will allow students, from the comfort of their homes and offices, to interact directly with experts actively involved in some of the most exciting robotic fields," said Dr. Alan Federman, manager of NASA Robotics Online at NASA Ames.

"In the future, we'll need a workforce with an advanced understanding of robotics," said Tom Dyson, an engineer with the NASA LT project. "It is NASA's responsibility to not only create, but to communicate new knowledge, and we see this course as part of that effort."

Brian Cooper, of NASA's Jet Propulsion Laboratory, Pasadena, CA, who was the primary driver for Pathfinder-Sojourner's three-month mission on Mars, is one of

eight experts with whom students can chat. Another expert is Guy Beutelschies, spacecraft systems engineer for the Mars Surveyor 2001 orbiter and lander. He is with Lockheed Martin Aeronautics, Denver, CO. Dr. Steve Gorevan of HoneyBee Robotics, New York, NY, will discuss his role as project manager in building the robotic drill for the Mars Surveyor 2001 rover.

To participate in the course, students will need at least an Internet-connected major web browser capable of supporting Java. Students will also need at least a 28.8 kbps computer connection (modem) to see video that will feature the presenters.

The enrollment deadline is June 30. To find out about course tuition and fees, and to sign up for the NASA Robotics Short Course, students should go to this Internet address: <http://quest.arc.nasa.gov/courses/nro>

The goal of the LT project is to promote the growth of a national information infrastructure using the vast amount of information NASA has acquired since its creation. Access to this knowledge will allow the public and industry to contribute to rapid and significant advances in science, engineering and technology.

For additional information, contact Alan Federman at Ames at ext. 4-1521 or email him at afederman@mail.arc.nasa.gov

BY JOHN BLUCK 

Local communities embrace Ames' efforts

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displays, viewed videos and learned about the history and future of Ames.

On June 10, Ames hosted a triumvirate of events in celebration of Flag Day. In cooperation with KSFO radio station, San Francisco, the world's largest American flag, measuring some 600 by 300 feet was unfurled on the Ames flight apron in front of Hangar 1. Over 1,000 volunteers eagerly participated in the exciting unfurling event.

Meanwhile, the Young Eagles spent the day providing free airplane rides to young adults, aged 8 - 17. It was an opportunity for youths that would otherwise not have the experience of riding in an airplane to get a taste for the sense of adventure experienced by our aeronautical pioneers.

Finally, local law enforcement agencies teamed up with United Airlines in a special Airplane-Pull competition to raise money for an estimated 1,200 participants engaged in local Special Olympics activities.

The Ames Exchange sold family-priced hot dogs, hamburgers, beverages and Ames memorabilia to event attendees. Other vendors displayed their wares and sold a series of aeronautics and flag-related products. The Moffett Historical Society was on hand to sell tickets and provide information about the first "Wings Over Moffett" airshow.

This recent series of events drew total crowds estimated to be in excess of 20,000. It gave our visitors and guests the opportunity to learn about Ames projects and history, and to get a glimpse of what the future may hold.

BY DAVID MORSE 

5K/Fun Run series results

They are finally in! The 5 K/Fun Run series points have been calculated and the results are up in the hallway of the Fitness Center. Series points were accumulated from the February 5K, March 5K, April 5K, 2 mile Fun Run, and Spring 10 K races. Participants in the series had to complete at least 2 races in order for their points to be tallied. Congratulations to all who ran consistently hard throughout the past few months.

First Place

Beverly Sauler
Sylvia Chen
Leigh Ann Tanner
Carol Davies
Doug Isaacson
Swight Balough
Jeff Bull
Rudy Jaklitsch
Richard Lamparter

Second Place

Cathy Pearl
Lisa Reid
Joan Salute
Laurant Nguyen
Phil Luna
Bob Kufeld
Richard Piquette
Norm Benford

Third Place

Kristin Southall
Lynn Martin
Susan White
Johathan Corero
Mike Rogers
Harold Reimer
Wes Gidcumb

June 15 will be the next monthly 5 K run or 2 mile walk/run. After that run, certificates will be given to the top 3 winners of each age/gender category for the 5K/Fun Run series. Hopefully, the series has helped motivate you in your workouts. The monthly runs/walks will continue to be held the third Tuesday of every month. Mark your calendar for those dates. Monthly 5K runs/ 2 mile walks are free and start from the Fitness Center at 12:00 noon.

Retiree passes...

Myles D. Erickson of Bellingham, WA, passed away on May 18 of this year. He was 80. Erickson was employed at Ames from 1941 - 1974. He was an aeronautical engineer involved in wind tunnel research and the Pioneer program. He is survived by his wife June Erickson, son Jon, daughters Joan and Jean and 6 grandchildren and 3 great-grandchildren.

Life in Moscow

Editor's Note: This is part III of our colleague Ann Hutchison's messages "home" from her temporary NASA assignment in Moscow, Russian Federation.

On a weekend group trip to Vladimir, Suzdal' and Gus-Khrustal'nyi, east of Moscow, I think I finally experienced the true Russia for the first time. Russia isn't Moscow or St. Petersburg; it is the small cities and towns scattered throughout this vast nation.

Once we left Moscow, the scenery changed dramatically. Our route east was lined with thick birch and pine forests. In one area, we passed women sitting along the side of the road in front of their houses, every few yards, with huge bags of Russian popcorn for sale. Our guide explained that many people get paid by their employers with whatever product the company produces, rather than in money. So these women were given bags of popcorn, which they then sell in front of their homes. Some had small bags, but the place we stopped had only huge bags weighing a kilogram (2.2 pounds). The bags must have been 3 feet high and 2 feet in circumference. Russian popcorn is nothing like American. It is slightly sweet, very light and airy, and resembles in shape the styrofoam "worms" used as packing materials. Later, I saw people along the road selling stuffed animals, from small ones to huge blue bears, all wrapped in plastic to protect them from the elements.

We reached Vladimir in about three and one-half hours. This town (current population 80,000) was the 12th century capital of Russia before the Mongol invasion. We passed under the "Golden Gate," a white limestone entrance to the old city, then went just beyond the city limits to a 12th century church in the town of Bogolubovo ("God loving"). Men were instructed to remove their hats upon entering the church, and women were told to keep their heads covered. Because the church is still used as a church, photography of the interior or of the nuns was not permitted. The noon service was underway when we were there. Russian Orthodox congregations stand throughout the service; no pews are present to tempt people to sit. This is so people will focus on their prayers and not get too comfortable in their seats.

We then drove back into the Vladimir city limits before turning off toward Suzdal'. This town of 12,000 was founded in 1024, and, except for the presence of cars and electric lines, retains its ancient character. Our first stop was an outdoor "museum" of wooden structures, including churches and

peasant cabins, which had been moved there from other places. A cute little terrier dog appeared as soon as the bus pulled up, looking for food. An old woman soon appeared selling pirozhki, fried potato turnovers filled with cabbage and onion. Cost was 5 rubles (about 25 cents each).

We then went to our hotel, which was built in the 1970s to Soviet construction standards. It was dark and gloomy, in need of renovation and without elevators. My room was about 10 feet square and contained a single bed, small couch, desk with missing drawer, black and white TV and night stand. The bathroom was very small. It had a tiny bar of soap and two very rough small towels. The bathtub had a hand-held shower sprayer. The floor tile looked positively ancient.

We ate lunch at a nearby monastery restaurant, in a 15th century room at long tables with a single bench on each side. The food was plain but good: cabbage salad, black or white bread, potato and meat soup, potatoes and some kind of meat in a sauce, ice cream and hot tea.

Suzdal' contains 14 bell towers, 5 monasteries and 30 churches. It has wide streets lined with modest wooden houses. We took pictures of a lovely yellow bell tower topped with blue/gray domes, the most beautiful I have ever seen, then entered the walls of the monastery. A local guide provided information about the church, which was closed by the Soviets in 1923. Now being renovated, the church includes frescoes that date to the 13th century.

We saw several Russians using sleds to pull their children along and to transport goods. In some respects, this area hasn't changed much in hundreds of years.

After making our way across a pedestrian bridge to the city's kremlin, we were taken into another old building that was used for a variety of church purposes over the years. "Kremlin" is the Russian word for fortress. We were treated to a brief concert of religious music by 3 monks from Nizhny Novgorod, another ancient Russian town. Then we walked several blocks in the cold and dark — there are no streetlights — to meet the bus. On the way, we passed a couple of people offering horseback rides and a horse-pulled sleigh. The driver declined to give us a ride, saying his horse was too tired. It was surprising to see someone putting his horse's needs ahead of his desire to make money.

Dinner was at a small restaurant about a 15-minute drive from the hotel, near another of the monasteries. This was a typical Russian meal: cabbage salad, bread, meat and potato soup, blini (Russian pancakes) with caviar, a boiled potato, and a terra cotta pot filled with potatoes and a small amount of meat. Hot tea or coffee completed the meal. It has been said that Russians get 40% of their calories from bread and 10% from potatoes. I think the potato

estimate is a trifle low.

The next day we headed for Gus-Khrustal'nyi, the center of Russia's crystal trade, about 40 miles from Vladimir. Looking back at Vladimir, we could see the beautiful Cathedral of the Assumption, with its 5 golden domes, high on the banks of the river. The drive was beautiful, through a very rural area, with few cars and only scattered small villages. I saw more brightly colored houses along the way. Most of these country houses have very decorative wood trim around the windows, often painted a contrasting color to the house. I asked our guide about the reasons for the colors and for the scrollwork around the windows. She said the colors were chosen based on whatever paint was cheapest; it wasn't an attempt to add color to a drab landscape. And the scrollwork has its origins in paganism, when people used to believe that evil spirits could enter a home through the windows. The scrollwork was designed to keep these spirits out of the house.

Next, we visited the outdoor crystal market. Vendors there work at the crystal factory, or have relatives who do, and they are paid in merchandise rather than money. Prices are very low. For example, one can buy a set of 6 decorated shot or vodka glasses for about 20 rubles or less than \$1. Nearby was a market where everything imaginable was being sold: shoes, clothes, hats, underwear, hardware and dog food.

From the market, we went to a crystal museum, housed in a converted church. During the communist era, the onion dome and spire were cut off. This is an unusual building, which doesn't resemble most churches over here. It is made of dark red brick and is longer and lower than most churches. The former sanctuary is filled with exhibits of the various glass and crystal products made over the years by the factory. The company was nationalized under the Soviets, but recently it was bought by a group of young businessmen who have revitalized the industry. They employ 5,000 local residents. As our guide said, "The factory feeds the entire town." Wages run from 3,000-4,000 rubles/month, very good for Russia.

Returning to Vladimir, we stopped to photograph the Church of the Assumption on the riverbank, its golden domes glistening in the fading sunlight. This church is the most important church in Russian orthodoxy, according to the guide. It was first built in 1158, although much of it was later destroyed in a fire. A new church was built around the old one. Parts of the 12th century frescoes can still be seen inside on interior walls. Restoration of the frescoes will soon begin, and scaffolding was set up in some areas already. Our final stop was St. Dmitry Church just a few yards away. The outside of the church is covered top to

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Calendar

Jetstream Toastmasters, Mondays, 12 noon to 1 p.m., N-269/Rm. 179. Guests welcome. POC: Jenny Kahn at ext. 4-6987 or Karen Matsuoaka at ext. 4-6184.

Ames Bowling League meets at Palo Alto Bowl every Tuesday at 6 p.m. The league is in need of substitute bowlers. POC: Mina Cappuccio at ext. 4-1313.

Ames Ballroom Dance Club. Tuesdays: Rumba 7/6, 7/13, 7/20, Salsa 7/27, 8/3, 8/10. 3 levels of classes, from Beg. to Int., 5:15 - 6:45pm. Moffett Training and Conference Center, Bldg. 3/Showroom. Women dancers are especially encouraged to join. POC: Helen Hwang, hhwang@dm1.arc.nasa.gov. ABDC Website: <http://abdc.arc.nasa.gov/>

Model HO/HOn3 Railroad Train Club at Moffett Field invites train buffs to visit and join the club in Bldg. 126, across from the south end of Hangar One. The club is in particular need of low voltage electricians and 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 (work) or (408) 281-2899 (home).

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

Environmental, Health and Safety Monthly Information Forum, Jul 1, 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, Jul 1, 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 Meeting, Jul 1, 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, S.J. Chapter #50, Meeting, no July meeting; next meeting is Aug 6, 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 Contractor Council Meeting, Jul 7, 11 a.m., N-200 Comm. Rm. POC: Jack Stanley at ext. 4-2345.

Professional Administrative Council (PAC) Meeting, Jul 8, 10:30 a.m. to 11:30 a.m. Location TBD. POC: Janette Rocha, ext. 4-3371.

Ames Sailing Club Meeting, Jul 8, 11:30 a.m. to 1 p.m., N-262/Rm. 100. POC: Greg Sherwood, ext. 4-0429.

Southbay FEW Chapter Mtg, Jul 13, 11:30 a.m. to 1 p.m., N-241/Rm B1. POC: Christine Munroe, ext. 4-4695.

Ames Asian American Pacific Islander Advisory Group Meeting, Jul 15, 11:30 a.m. to 1 p.m., N-241/Rm. B2. POC: Daryl Wong at ext. 4-6889 or Brett Vu at ext. 4-0911.

Ames Amateur Radio Club, Jul 15, 12 noon, N-260/ Conf. Rm. POC: Mike Herrick, K6EAA at ext. 4-5477.

Ames Multicultural Leadership Council Meeting, Jul 21, 11:30 a.m. to 1 p.m., Galileo Rm/Ames Café. POC: David Morse, ext. 4-4724 or Sheila Johnson, ext. 4-5054.

NFFE Local 997 Union General Meeting, Jul 21, noon to 1 p.m., Bldg. 19/Rm. 2017. Guests welcome. POC: Marianne Mosher at ext. 4-4055.

Native American Advisory Committee Mtg, Jul 27, 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 will be accepted for carpool and lost and found ads only. Due to the volume of material received, we are unable to verify the accuracy of the statements made in the ads.

Housing

For sale: 1bd/1ba condo in Los Gatos. Ideal for a single senior (55 or older); 20 min to Ames on H85; 816 sq. ft. plus 110 sq. ft. patio; wooded court yard view; new bathroom; recently upholstered 4 pc sectional furniture; drapes, blinds, cable, etc. \$133,000. Shel Smith (408) 378-9779.

Furnished room. Share bath/kitchen/garden/laundry. Easy transport: bus/train + El Camino + H101/237/85 + Central Expressway. Rent: \$560/mo. Call (650) 969-3932 or email at: solemate@best.com

Available immediately: For commuter and/or intern; a semi-private temporary space in the same location as above. Weekly \$100 (+ one month). Call (650) 969-3932 or email at: solemate@best.com

Master bdrm available in Mt. View. Large apartment of professional lady; El Camino & Rengstorff. Gated bldg w/pool - convenient to bus 20 mins to downtown Palo Alto. Safe \$750. Fontella (650) 962-8411.

Prof. female, with cat, seeks same to share townhouse in Moffett/Middlefield area of Mt. View. Must be clean, responsible, N/S. Master Bdrm/ba w/ private patio; W/D; space for add'l. furniture; lots of storage; rose garden; safe, quiet neighborhood. \$650 + 1/2 util. Call (650) 969-7009.

Room for rent: Available July 1, South San Jose (Santa Teresa and Lean), near H85/87/101, shopping. Full privileges, new W/D, phone and cable ready, \$550/ mo., \$375/dep., 1/4 utilities. Call (408) 814-0316 pager.

Room for rent in San Mateo townhouse. Room with own entrance and garage. Shared bathroom and kitchen. Pool privileges. Furnished/unfurnished. Close to H101 and 92 fwy and CalTrain. Rent \$800/month. Al (650) 573-9100.

Apartment for rent: 2 bd/2 ba apartment at Americana Apartments in Mountain View. Apartment has balconies, cathedral ceilings, and comes with 2 covered parking spaces. It is only 3 miles from Ames, and it is available now for \$1,420 per month. Jeff (650) 251-0000 or e-mail jeffmccand@yahoo.com.

For sale: Aptos (seascape) 3 bd/2.5 ba Victorian w/ crown molding & wainscoting, 2300 SF, \$549,900, South of Santa Cruz. Call (831) 689-9442.

English post-doc at Ames needs room to rent, must be near transportation. Dates needed: 6th September-23rd November (possibly longer). Email: oliver.de_peyer@virgin.net Fax; 01144 118 9316671

Transportation

'83 mercedes, 300SD turbo-diesel, good condition, gold color. \$3,995. Call (408) 733-1906.

'87 Mercury Sable LS blue 4dr, strong 3.0 liter V-6. Well maintained, very clean, one-owner car, 173K mls. Smogged. Great daily transportation. \$1,899 or B/O. Motivated seller. Tim (408)-241-1063 eves. or e-mail timotheos_sc02@yahoo.com

'94 Honda CBR600 with matching helmet and gloves; 500 miles; never downed; \$5,800 or B/O. Call (415) 362-3972 ext. 12.

Miscellaneous

Tandem Axle Car Trailer with ramps. Surge brakes. \$450 or B/O. Call (831) 335-4801 or ext. 4-2592

20 gal. fish tank, heater, gravel, fluorescent fixture, and rocks. \$30. Rob (650) 691-9961

For sale: Lg blk dlx fridge (nearly new), Qn H2O bed, microwave, 21-sp road bike, 8 plc dinnerware, Baby Bose, 2 new mt bike tires. Call (650) 964-0496.

19" color TVs - one used, excellent condition \$50; one new in factory sealed box. \$140. Nans (510) 790-3506.

Laquered, solid brass bathroom sink faucet, in great shape \$155. Call (408) 295-2160.

Oak furniture: dining room table 3x4 w/leaf 1'; 4 chairs; 2 end tables 28"x2"; coffee table 54x27"; non oak computer desk 4'x24"; wood microwave stand 20 x 25". Make offer. Diane (650) 903-1993.

EvenFlow stroller; 2 yrs old, very clean, dark blue/white, \$40. Call (408) 295-2160.

Oak armoire \$150 and matching oak nightstand \$75, exc. cond; Power Rider \$50. Jane (408) 249-0299.

Jacuzzi, 500 gallon capacity, good condition. \$1,200. Al (650) 573-9100.

Lighted hutch, buffett and matching server, made from walnut and rosewood. Very gd condition, \$600. Call (408) 226-0430.

Glass top dinette set with 4 chairs. Gd condition. \$150. Call (408) 226-0430.

Childcraft Solid Oak convertible crib/toddler bed with dresser. Excellent condition. \$125. Child/toddler trailer. Holds two children up to 100 pounds, includes canopy. Call (408) 735-0610.

MacIntosh 7200/75 PowerPC 601, desktop model, 8MB Ram, 500MB HD, 8.5 OS, external lomega ZIP 100, external Suprafaxmodem 28.8. All in excellent working condition and come w/all original software and manuals. \$500 or B/O. Hank (650) 965-9367 or (408) 923-2231.

American Airlines certificate, 48 states and Canada, min. 21 day advance booking, any dates except Thanksgiving and Christmas, valid until December 31, 1999, \$349. Call (408) 358-8562.

Set of 4 tires on rims, with wheel covers (P205/60R15 Firestone Firehawk GTA). All in good condition. Came off a '97 Nissan Altima. Make offer. Dave (510) 471-3466.

4 each 15" wheel covers, \$25. Free, two 7" high stained trellis. Call (408) 264-4627.

Ames Retirements

Name	Code	Date
Michael D. Falarski	J	5/31/99

Vacation rental

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

Summer rental: furnished room in pleasant house with garden. Santa Clara close to Caltrain. Share bath/ kitchen/washer. Available 7/3-8/28. Other bridging accommodations can be arranged if you need a longer time period. Rent negotiable. Call (408) 296-6235.

Lost & Found

Moffett Field lost and found may be reached via ext. 4-5416 at any time. Residents and employees at Ames may also use Internet Browser at: <http://ccf.arc.nasa.gov/codeip/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.

Did you notice our new Astrogram masthead?

In recognition of Ames' recent highly successful ISO 9001 certification, the Astrogram has redesigned its front page masthead. We will continue to publish the ISO 9001 version of the Astrogram masthead in the next several issues.



Dear Friends:

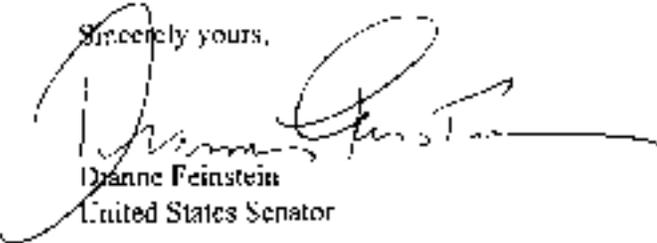
I am delighted to have this opportunity to congratulate the NASA Ames Research Center and the many talented individuals that have contributed to its Sixty Years of innovation and discovery.

What a time to celebrate! As we stand at the dawn of the 21st century, both looking back on our accomplishments, and forward to the frontiers that await us, NASA stands as an icon of the human spirit of exploration, advancement, and progress. NASA Ames in particular, so aptly located in the heart of Silicon Valley, is extending the boundaries of what we know, think and dream.

The Ames Research Center is an example of what every Federal Agency strives to be-- both an organization that furthers the interests of the nation, and serves as a resource, a tool of learning for the American public. It has been, and continues to be, a source of great pride to California, and to the entire nation. On behalf of the United States Senate, I wish to thank NASA Ames and the numerous partnerships that have enabled its success. You are an inspiration.

Warmest personal regards.

Sincerely yours,


Dianne Feinstein
United States Senator

Life in Moscow

continued from page 6

bottom with intricate carvings of mythological characters, something very unusual for an Orthodox church.

CNN ran a story recently about people in Saratov, a city in the SW part of Russia, protesting for better treatment of dogs and cats. It was a very sad story. There are many animals, especially dogs, whose owners can no longer afford to feed them, so they just turn them outside to fend for themselves. There is a rudimentary animal shelter in town where people are doing their best to provide for the animals. There are no kennels in the shelter; all the dogs run together in the compound, but the reporter said there are no fights. Local people and merchants donate scraps of meat and other food for the animals, whatever they can spare.

BY ANN HUTCHISON 

THE AMES Astrogram

The Ames ASTROGRAM is an official publication of the Ames Research Center, National Aeronautics and Space Administration.

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