

THE AMES

# Astrogram

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AMES RESEARCH CENTER, MOFFETT FIELD

July 9, 2001

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



## Ames' space station hardware returns first data

The initial series of radiation data collected inside the International Space Station (ISS) has been transmitted from space to scientists on Earth eager to assess its potential biomedical impacts and implications for future research.

The data was collected in May by radiation detectors on the ISS known as thermoluminescent detectors (TLDs). An onboard electronic reader output the data earlier this month and ISS astronaut James Voss transmitted it to scientists on Earth. The TLDs are part of a set of radiation-monitoring hardware known as the passive dosimeter system (PDS), which was developed by Ames' Space Station Biological Research Project and the Hungarian Space Office. The ability to accurately measure and monitor radiation exposure is important both to crew health and to future scientific research on the ISS.

"This is very good news," exulted project science lead Kristofer Vogel song of Lockheed Martin Engineering and Sciences at Ames. "The quality of the data indicates that the reader is functioning normally." Space Shuttle Discovery ferried the TLDs to the ISS in March.

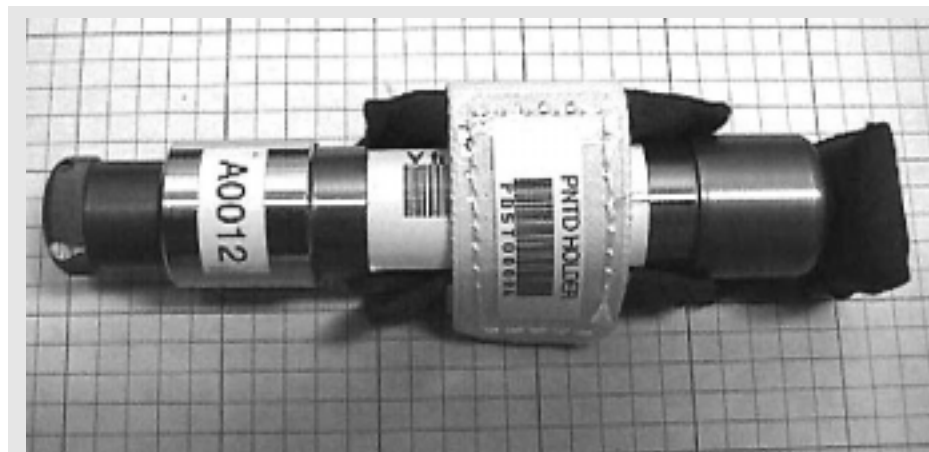
The passive dosimeter system is a flexible, easy-to-use radiation monitoring system that is available for use by researchers from the U.S. or ISS partner nations. It complements existing dosimeters used in routine ISS operations. The dosimeters can be placed anywhere in the ISS to provide an accurate measurement of the radiation levels at their locations.

Vogel song said that the data received to date indicates that all 12 TLDs currently in use are in perfect condition. The detectors are a third-generation version of dosimeters that flew on the Russian space station's Salyut 7 and Mir and on the space shuttle.

NASA scientists expect to receive a preliminary interpretation soon of the radiation dose on board the ISS from the Hungarian Space Office. A complete picture of the space station's radiation environment will not be available until a second type of dosimeter, known as plastic nuclear track detectors (PNTDs), is returned to Earth on an August space shuttle flight. The data from the TLDs will be combined with the data from the PNTDs and other radiation

monitors as part of the dosimetric mapping experiment (DOSMAP) to characterize the space radiation environment on

"We are happy the Passive Dosimeter System appears to be working well," said PDS payload manager Robert Jackson of



Thermoluminescent radiation detector in a PNTD holder, which allows it to be placed in different locations inside the International Space Station.

board the space station. The DOSMAP experiment is being conducted by Dr. Guenther Reitz and is managed by the Space and Life Sciences Directorate at Johnson Space Center.

The PNTDs — thin sheets of plastic similar to the material used for some eyeglass lenses — were delivered to the ISS last April. The PNTD surface becomes pitted with tiny craters as heavy charged ions pass through it. After the detectors are returned to Earth, the plastic will be etched to enlarge the craters, which will be counted and their shapes and sizes analyzed using a microscope. This information is used to improve the accuracy of the radiation dose the TLDs have recorded and to improve the estimate of the biological effects of the radiation. Eril Research of San Rafael, CA, developed and will analyze the PNTDs.

Each TLD, which resembles a fat fountain pen, contains calcium sulfate crystals inside an evacuated glass bulb. The crystals absorb energy from incident ionizing radiation (protons, neutrons, electrons, heavy charged particles, gamma rays and x-rays) as the radiation passes through them. This process results in a steady increase in the energy level of the electrons in the crystal.

Ames' Project Operations Branch (Code SFE). "We expect that support to the DOSMAP experiment will be followed in future years by continued use for many experiments on the space station," he continued.

Images of the TLDs are available at: <http://amesnews.arc.nasa.gov:8080/releases/2001/01images/thermolum/thermolum.html>

BY ANN HUTCHISON

### VPP STAR Tip

*"OSHA saw our employees doing stuff with and for them constantly during the onsite visit; escorting, fixing the things they discovered, briefing on specific elements, providing food and drink, giving "gee whiz" tours, etc."*

*VPP "Lessons Learned, 1999"  
Johnson Space Center*

## Students & Work Programs

# SHARP student program gets underway at Ames

A total of 25 talented high school students have been hired to participate in an intensive science and engineering apprenticeship program, SHARP, for a minimum of eight weeks at Ames.

The Summer High school Apprenticeship Research Program (SHARP) started in 1980. It is sponsored by NASA's education division and participating NASA field installations. SHARP is designed for high school students who have demonstrated an aptitude for and interest in science and engineering careers. Students who are permanent residents (in accordance with the state residency requirements) and live within a 50-mile radius of a participating NASA field installation, are U.S. citizens, and will be 16 years old by the time the program begins in June are eligible to apply. The students selected are assigned to a mentor, who is a NASA scientist or engineer.

As apprentices, the students learn and earn. They participate in an orientation process that provides them with an overview of the NASA field installation's mission and the activities necessary to accomplish its field installation's goals and objectives.

During the apprenticeship, the students complete designated assignments, prepare written reports, make oral presentations and participate in a variety of enrichment activities under the careful supervision of the SHARP program staff and mentors.



photo by Tom Trower

NASA Ames SHARP 2001 students pose for a group shot with program staff outside the Visitor Center.

SHARP is a feeder program that is being used to build a resource pool of potential applicants for future NASA employment in the field of science and engineering. SHARP is specifically designed to attract and serve individuals who are underrepresented in the NASA scientific and engineering workforce. The program provides students

with first-hand experience and information that will help them to make decisions about a career in mathematics, science or engineering.

For more information on the SHARP program, call Dr. Ray Hill, the program's coordinator, at ext. 4-1808.

## BBQ kicks off Education Associates summer program

*continued from page 3*

Biochemical Sensor Characterization and Development (BISCAD) project.

"Almost every kid at some point has seen astronauts on TV or at the movies and dreamed that he or she could be living that adventure. While that might not be realistic for everyone, being a part of this exciting field is what brought me to NASA," said Thai.

Elizabeth Roland, biomedical engineer for Lockheed Martin and one of Binh's mentors, had this to say about his current progress: "I am very pleased with his outgoing attitude and his exceptional technical and personal skills. Hopefully, he will return to Ames and become a success story when he graduates in another year or so."

Roland is working with the Sensors 2000! team to support sensor system design and science projects, design sensor-testing protocols and maintain the sensor laboratory. She began her internship through EdAP with John Hines, program manager of

Biomolecular Systems Research and the Sensors 2000! Team in July of 1999; a year later she advanced to permanent employment at Ames with Lockheed Martin.

"My NASA sponsors were very supportive of me by allowing me to tailor the position to my work interests, including working with scientists and pursuing project management instruction and training," Roland said.

Two main aspects stressed by the program (in addition to the talented individuals involved) are its flexibility and cost-effectiveness, especially in a time of hiring freezes and economic challenges. EdAP offers variable assignment dates, lengths, and resources, thus providing the sponsor with help when it is needed, rather than by a quarter or semester schedule.

Noteworthy also is the ease and flexibility with which a sponsor may obtain an Associate. Simply identify the funds in your organization to pay for the student and

enter a position description on the website: <http://edassoc.arc.nasa.gov>. Once the description has been entered, a sponsor may do any of the following:

- Request a qualified student or faculty member already known to that sponsor;
- Submit a request for the program to find an EA with a defined set of skills and education level; or
- Select an EA from over 250 applications already available on the web site.

Additional information and online forms can be found at the program's web site at: <http://edassoc.arc.nasa.gov>. The onsite (Building 555) UCSC coordinator, Carol Roland, is also available to provide assistance and discuss special circumstances with interested parties. She can be reached at ext. 4-2987 or via email at: [eprogram@mail.arc.nasa.gov](mailto:eprogram@mail.arc.nasa.gov).

BY JULIA KOCHUEV



## Center Briefs

### U.S. centennial of flight commission and AIAA announce alliance

The U.S. Centennial of Flight Commission and the Evolution of Flight Campaign of the American Institute of Aeronautics and Astronautics (AIAA) in June announced their partnership to promote upcoming activities and events that will celebrate the 100th anniversary of powered, controlled flight in 2003 and the history and future of aviation.

The partnership will capitalize on the commission's mandate to serve as a national and international source of information about activities to commemorate the centennial of the Wright Brothers' first powered flight on the sands at Kitty Hawk, NC, on December 17, 1903 and on AIAA's status as the world's largest professional/technical aerospace society.

### NASA selects first Mars scout concepts for further study

The ten most promising mission concepts of the 43 proposed to NASA for possible launch to Mars in 2007 were selected in June to receive funding for six months of continued study.

Included in the ten concepts selected for study are missions to return samples of Martian atmospheric dust and gas, networks of small landers, orbiting constellations of small craft and a rover that would attempt to establish absolute surface ages of rocks and soils.

NASA plans to evaluate the ten innovative concepts using rapid six-month studies as a means for jump-starting the identification of new Mars Scout missions that will compete for a possible launch in 2007. The proposals were submitted to NASA's Mars Exploration Program in the Office of Space Science in Washington, DC, in response to a call for proposals in March. Those selected will receive up to \$150,000 each for the study.

### Microbes and the dust "they ride in on" may pose health risk

Potentially hazardous bacteria and fungi catch a free ride across the Atlantic, courtesy of North African dust plumes. NASA-funded researchers who made the discovery believe the stowaway microbes might pose a health risk to people in the western Atlantic region.

Dale Griffin, Virginia Garrison, and Eugene Shinn of the U.S. Geological Survey (USGS) and Jay Herman of NASA's Goddard Space Flight Center, Greenbelt, MD, outlined their findings in a paper titled "African Desert Dust in the Caribbean Atmosphere: Microbiology and Public Health." The paper was published in June in the journal *Aerobiologia*.

## BBQ kicks off Education Associates summer program

The Education Associates Program (EdAP) officially kicked-off the summer on June 21 with a BBQ for their interns and sponsors, allowing for a mixer of great minds and great food. Present, were approximately 30 education associates, including fresh summer recruits as well as seasoned interns already experienced in the

was accomplished with the help of CONDUIT®, a system developed in Ames' Rotorcraft division. Jenkins is now continuing research in a study to determine if the new gains in the control system improve the handling of the helicopter by a measurable amount.

"Since many of the day-to-day activities of the average engineer are not taught in the classroom, it is extremely valuable to have the opportunity to learn from real-life situations working as an engineer at NASA," said Jenkins.

Mark Tischler of the Army/NASA Rotorcraft division has been utilizing EdAP from the onset. "We have been very pleased with the support of the Educational Associates office, with special thanks to Donna Zetterquist (the initial UCSC coordinator). Through the EA program, we have

found students of the highest caliber from USC and currently from Stanford (Jessica



photo by Tom Trower

*A picnic and BBQ for Education Associates and sponsors (past, present and future) and Ames supporting staff was held June 21 at Chase Park. From left to right are: Jeff Sinsay, Sara Rose, Julia Kochuev, Caleb Branscome, José Navarrete, and Mike Derby, a current sponsor.*

program. The BBQ also featured Ames sponsors and mentors of the interns, and a number of potential sponsors interested in mentoring a student. The EdAP has been successful in growth and productivity since it's inception in 1998, and, to date, has augmented the Ames workforce with more than the equivalent of 100 full-time persons working one full year.

The EdAP is a cooperative space grant education program, sponsored by Ames and administered by the University of California Extension, Santa Cruz. The program's objectives are simple yet effective; they consist of linking students and faculty from any accredited college or university in the United States with the diverse field of projects at Ames. The online applications currently represent candidates from over 50 schools, including San José State, UC Davis, Stanford, John Hopkins, Carnegie Mellon, Embry-Riddle Aeronautical University and Georgia Institute of Technology.

Jessica Jenkins, a Stanford University Aeronautics and Astronautics graduate student and EdAP intern, has been involved in a joint project with Sikorsky Aircraft Corporation to optimize the control systems on the new Sikorsky S-92 civil helicopter. This



Jenkins). The EA interns have benefited from working on exciting current helicopter flight control programs, such as the R-50 (unmanned helicopter) and the S-92 manned helicopter. The Army/NASA Rotorcraft division (ARH) has gained the benefit of their enthusiasm and current skills," said Tischler.

Binh Thai, a University of Kansas senior majoring in chemical engineering with an emphasis in biomedical engineering, is learning O2 sensor fabrication techniques and developing a flow test unit for the

*continued on page 2*

## NREN hosts workshop

The NREN (NASA Research and Education Network) Project hosted a workshop on "Mobile Terrestrial and Space Networking: Supporting the Scientific Community" from June 25-27 at Ames.

Specific objectives of this workshop included:

- characterize the various mobile/wireless/satellite technologies that are capable of supporting applications involving high-resolution multimedia;
- examine how heterogeneous networks can be integrated to form a seamless end-to-end path; and
- identify how scientific applications will be enabled and enhanced by mobile terrestrial and space networking.

Mobile networking will enable exciting new paradigms for NASA science and engineering, enhancing support for missions that extend into remote areas where it is not economically feasible to create a permanent wired communications infrastructure. Three technological components of mobile networking to support the scientific community include satellite communications, wireless networking and sensor networks. The NREN vision is seamless integration of these technologies to provide anytime, anywhere networking throughout the universe.

During the first afternoon of the workshop, demonstrations and presentations of applications motivated the need for mobile networking. The second day featured presentations on individual technologies -- satellite communications, wireless and sensor networks. The third day began with a

panel addressing seamless integration issues. Then, workshop participants divided into breakout groups to identify major barriers to achieving seamless integration, and to discuss what can be done (and on what timeline) to reach this goal. A final report summarizing workshop activities will be available on the web at: <http://www.nren.nasa.gov/workshop6.html>.

This workshop on mobile networking is the latest in a series of annual NREN workshops that have focused on various aspects of emerging networking technologies of interest to the next generation internet community. For example, in 1998, the NREN workshop explored quality of service issues; in 1999, the workshop produced recommendations to help bridge the gap from networking technologies to

applications, and in 2000, the workshop targeted gigabit networking.



photo by Tom Trower

*This transportable Earth station, developed jointly by NREN and NASA Glenn Research Center, consists of a satellite dish mounted on a trailer that can be transported from site to site to provide temporary satellite communications. In the future, this facility will be used to support scientists working in the field in remote areas. During the workshop, the NREN/GRC transportable Earth station provided satellite connectivity to support demonstrations, such as HDTV over satellite. The smaller dish mounted on top of the trailer is a Western Multiplex dish, which provided wireless connectivity between the trailer and the conference room.*

## AAE employee day sparks kid's interest in space

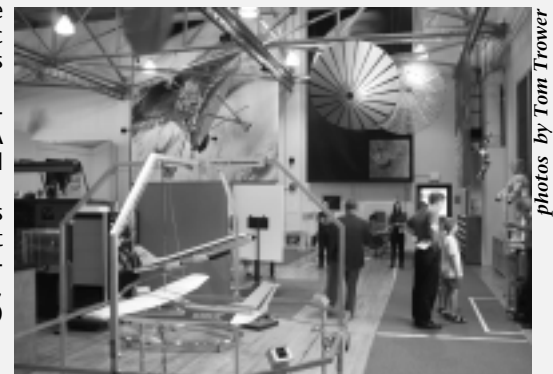
Eleven docents and two staff members of the Ames Aerospace Encounter, hosted the 13th Ames Employee Day at the Ames Aerospace Encounter, building

N-226, on June 28. Attendees were also able to see the new Aeronautic Education Laboratory. Over 90 adults and children, representing over 21 codes and departments from NASA and Moffett Field attended.

The next Ames Employee Day at the AAE is scheduled for Tuesday, July 31, from 10 a.m. until 2 p.m.



Left: Jeffrey Logan and his two daughters, Christina and Stephanie, shown enjoying one of the computer adventures at the Ames Aerospace Encounter's Employee Day on June 28.



photos by Tom Trower

*The Ames Aerospace Encounter in building N-226 provides a rich learning environment for kids in grades 4 through 6.*

# Awards & Recognition

## Employees recognized for time in federal service

The 2001 Length of Service Awards ceremony was held on June 20 in the main auditorium. Employees who achieved 25 years or more of federal service during the period July 1, 2000 to June 30, 2001 were honored.

Special recognition was paid to three Ames employees who reached their 40 and 45 years of federal service milestone. They were Malcolm M. Cohen, 40 years; Richard E. Grindeland, 40 years; and William P. Jones, 45 years.

### **Code F - Office of the Director of Research and Development Services**

#### 25 Years of Service

Joseph T. Camisa  
James R. Freel  
Martin F. Galinski, Jr.  
Joseph L. Hurlbut  
Margaret A. Kane  
Alfred A. Lizak  
Anne-Marie Thornton  
Jack A. Marsh  
Michael J. Ospring  
James H. Sadowski  
Scott R. Torok

#### 30 Years of Service

Horacio Chavez, Jr.  
Wilbert H. Eismann, Jr.  
Michael Harper (Retired)  
Oscar Jung  
Jose U. Rustia  
Thomas A. Spalding

### **Code I - Office of the Director of Information Sciences and Technology**

#### 25 Years of Service

Paul R. Grams  
Terry L. Holst  
Betty W. Silva  
James H. Stevenson

#### 30 Years of Service

Vernol Battiste  
Paul Kutler (Retired)

#### 35 Years of Service

Anthony R. Gross  
Everett A. Palmer III  
Edward L. Tindle

#### 40 Years of Service

Malcolm M. Cohen



*photo by Tom Trower*

*Mal Cohen of Code IH, seen here after the Length of Service awards on June 20, received recognition for 40 years of federal service.*

### **Code Q - Office of the Director of Safety, Environmental and Mission Assurance**

#### 35 Years of Service

David G. Walton

### **Code J - Office of the Director of Center Operations**

#### 25 Years of Service

Michael R. Basta  
Carol A. Byers (Retired)  
Douglas A. Denham  
Theodore J. Forsyth  
Eric H. James  
Knowlen F. Knowles, Jr.  
Sylvia S. Longchamps  
Rosalind Miller  
Dennis E. Ray  
Tommie L. Smith, Jr.  
Thomas N. Trower

#### 30 Years of Service

Dennis J. Cunningham  
Ronnee R. Gonzalez  
William A. Henderson  
Gail E. James  
Diane M. Kanally  
Eugene Moses  
Thomas J. Moyles

#### 35 Years of Service

Edward M. Cain  
Michael J. McIntyre

#### 45 Years of Service

William P. Jones

### **Code D - Office of the Director**

#### 25 Years of Service

Frank J. Aguilera  
John G. Bluck  
Rosamond M. French  
Danielle J. Goldwater  
John W. Hines  
Patti P. Powell  
Catherine H. Schulbach  
Mary C. Valleau

#### 30 Years of Service

Charles T. Simonds  
Adrian L. Smith

### **Code A - Office of the Director of Aerospace**

#### 25 Years of Service

Marshal L. Merriam

#### 30 Years of Service

Reese L. Sorenson  
Lawrence E. Olson  
James A. Franklin  
Delbert W. Weathers

#### 35 Years of Service

Daniel P. Bencze  
Dallas G. Denery  
Michael J. Green  
John Zuk

### **Code S - Office of the Director of Astrobiology and Space Research**

#### 25 Years of Service

Dennis R. Cauteruccio  
Scott S. Maa  
David J. Des Marais  
Anthony W. Strawa

#### 30 Years of Service

Sanford S. Davis  
Bruce F. Smith

#### 35 Years of Service

Paul X. Callahan  
Lawrence P. Giver  
Linda L. Jahnke  
Andrew W. Leavitt  
David W. Lozier  
Larry A. Manning (Retired)  
John D. Mihalov  
David L. Peterson  
Kenneth A. Souza  
Richard J. Twarowski

#### 40 Years of Service

Richard E. Grindeland

### Betty J. Baldwin passes away

Betty J. Baldwin, who recently retired as computer specialist for the Astrophysics



Betty Baldwin

Branch (SSA) and served the Center for 48 years, passed away on April 30, from Lou Gehrig's Disease (ALS).

Baldwin was very proud of the research being conducted at Ames. She was particularly proud of the computational work that

she did for James Pollack, former senior scientist for the Space Science division. She was a co-recipient of the H.J. Allen award for the discovery of sulfuric acid aerosols in the Venusian atmosphere. Baldwin had a passion for her work; she worked long hours, and was dedicated to helping others, especially new people.

Baldwin believed very much in the advancement of research and when her husband Barrett Baldwin, also a former Ames employee, passed away two years ago, she had his body donated for research at Stanford University. So it should not come as a surprise to learn that Baldwin's wishes were to have her own body donated to Stanford University to help further the research studies into curing diseases, such as ALS. Baldwin will be missed by all of her friends and colleagues at Ames. Both Betty and Barrett's remains will be cremated and placed at Grace Cathedral in San Francisco.

Those wishing to make a donation in the memory of Baldwin can do so at:

Forbes Norris ALS Research Center  
2324 Sacramento Street  
San Francisco, CA 94115  
Phone: (415) 923-3608  
Fax: (415) 563-7325

### Ames' Child Care Center is relocated

On June 27, Ames Research Center permanently relocated its Child Care Center (CCC) as a precautionary move to protect the health and well being of its clients and instructors. The move was made as a result of the observation of a small amount of mold on an interior wall of one room of the facility's modular home.

Upon a full examination, building inspectors located several areas of mold and dry rot within the walls of the facility. The problem areas were quickly contained and isolated. Although no children or instructors have been sick or reported any symptoms of illness, the facility was promptly evacuated and closed to avoid any potential health impact.

After a day of temporary housing at the Moffett Training and Conference Center, the Child Care Center was moved to the former Onizuka child care center with the prompt approval and assistance of the Army

Corps of Engineers. It will operate at that location until the previously planned replacement Ames' facility is completed in approximately 2 years.

Parents of children at the Ames CCC were immediately notified of the situation and have been kept informed and consulted throughout the transition process. Ames officials believe that the situation was discovered and dealt with fully and expeditiously.

Ames' safety personnel routinely inspect all center buildings to identify any potential hazards or problems before they emerge. Consistent with Ames' safety principles, the situation at the Child Care Center was handled in an aggressive and thorough manner and with an appropriate degree of urgency. The modular structure that housed the CCC has been closed and will be removed from Ames property.

BY JENNIFER NIETO



### Remembering Howard Turner

May 5, 2001 marked the death of Howard Leavitt Turner, 79, of Los Altos, devoted husband, father and grandfather. Born in Eugene, Oregon, his family moved to San José and eventually settled in San Francisco, where his mother founded the Jean Turner Art School. Leavitt graduated from Santa Clara University with a BME degree, class of 1943. He began his lifelong career in aviation, joining NACA in 1944, even before it became NASA. He was first employed in the flight research branch. He culminated his career as the chief of the airworthiness assurance branch. He also worked on the Pioneer program and in the simulator sciences division. During WWII, he served in the Navy at Moffett Field air station while at NACA/Ames. He worked at Ames for a total of 38 years.

In his leisure time, he was an enthusiastic stream and deep sea fisherman and hunter. He was a true outdoorsman at heart. Less active in his later retirement years, he sat in his big red chair telling endless stories including having met Orville Wright, Charles Lindbergh and Werner von Braun. In the summers, his son-in-law would take him flying over the Central Sierras in his Cessna 172, viewing and taking pictures. They spent hours debating the intricacies of construction and the art of weedwacking. At home, he made a continuous supply of videos for his younger grandsons. Other hours were spent trying to keep the pesky squirrels out of the birdfeeder and enjoying the company of his arthritic cat.

His passing is mourned by his devoted wife of 56 years Jane; his daughters Kathi Settle and husband Allen of San Luis Obispo, CA; and Kristi Turner of Sausalito, CA; and son Marc Turner of Bend, OR. He leaves four grandsons, Scott and Matthew Settle and RJ and Daniel Turner of Bend, OR; sister Naomi Lind of Alamo, CA; and sister-in-law Joan Turner of San Ramon, CA. He is preceded in death by an infant brother William and beloved brother Robert Turner.

A memorial service was held on May 12. The family suggests donations in Turner's name to the American Heart Association, 1 Alameda Blvd., Suite 500, San José, CA 95113-2214.

## 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 (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**, winter league from September through April on Tuesdays, at 6 p.m. at Palo Alto Bowl. Bowlers needed. POC: Mike Liu at ext. 4-1132.

**Ames Diabetics (AAD)**, meet twice a month on first & third Wednesdays, 12 noon to 1 p.m., in the Ames cafeteria, Mega Bites, far corner of Sun room. Peer support group that discusses news that affects diabetics, both type I & II & exchange experiences in treatment & control & help each other best cope with the disease. POC: Bob Mohlenhoff, ext. 4-2523, or email at: bmoehlenhoff@mail.arc.nasa.gov.

**Ames Child Care Center Board of Directors Mtg**, Every other Thursday (check website for meeting dates: <http://accrc.arc.nasa.gov>), 12 noon to 2 p.m., N-269, Rm. 201. POC: Katharine Lee, ext 4-5051.

**NFFE Local 997 Union General Mtg**, Jul 18, noon to 1 p.m., Bldg. 19/Rm. 2017. Guests welcome. POC: Marianne Mosher at ext. 4-4055.

**Ames Amateur Radio Club**, Jul 19, 12 noon, N-T28 (across from N-255). POC: Michael Wright, KG6BKF, at ext. 4-6262. URL: <http://hamradio.arc.nasa.gov>

**Native American Advisory Committee mtg**, Jul 24, 12 noon to 1 p.m., Building 19, Rm 1096. POC: Mike Liu at ext. 4-1132.

**Ames Contractor Council Mtg**, Aug 1, 11 a.m., N-200, Comm. Rm. POC: Paul Chaplin at ext. 4-3262.

**Environmental, Health and Safety Monthly Information Forum**, Aug 2, 8:30 a.m. to 9:30 a.m., Bldg. 19/Rm 1040. POC: Julie Quanz at ext. 4-6810.

**Nat'l Association of Retired Federal Employees (NARFE)**, San José Chapter 50. August meeting canceled. For membership information, call Earl Keener at 1(408) 241-4459 or NARFE at 1-800-627-3394.

## Ames Classifieds

Ads for the next issue should be sent to [astrogram@mail.arc.nasa.gov](mailto:astrogram@mail.arc.nasa.gov) by the Monday following publication of the present issue and must be resubmitted for each issue. Ads must involve personal needs or items; (no commercial/third-party ads) and will run on space-available basis only. First-time ads are given priority. Ads must include home phone numbers; Ames extensions and email addresses will be accepted for carpool and lost & found ads only. Due to the volume of material received, we are unable to verify the accuracy of the statements made in the ads.

### Housing

3 bd/1.5 ba, 2-story twtns on Luz Avenue, San José. Freshly painted inside, dishwasher, gas heat, w/w carpet, outside child play area/large patio. 1 car port. Easy access to H101/680/280. \$285K. Azucena (408) 559-2881.

One room needed ASAP, close proximity to Ames. Professional female N/S. Shirley e-mail at: [smurch2@excite.com](mailto:smurch2@excite.com) or call (650) 967-6307.

Very nice 3 bd/2 ba, 2-car ga twnhouse in N. Fremont for rent. New carpet, new interior & exterior paint, gardener. Avail. mid July, \$1,750/mo. Call (510) 471-2570.

2bd/2ba: Six minutes from Moffett Field. A large second-story apartment in a private Mountain View home. Newly remodeled with beautiful hardwood floors. Private kitchen with brand-new appliances and cabinets. Private laundry room with brand-new appliances. No pets, no smoking. Month-to-month lease. Call (650) 969-5581. Email at: [human\\_dynamics@mindspring.com](mailto:human_dynamics@mindspring.com).

### Miscellaneous

A non-profit organization called "CALL to PROTECT": Wireless Phones for Domestic Safety is collecting cell phones, batteries, chargers and accessories for potential victims of domestic violence. Shirley Murch at: [smurch2@excite.com](mailto:smurch2@excite.com) or call (650) 967-6307.

Calico cutie cat, female, 3 years young, all shots, and spayed available for adoption. This is a very mellow cat that enjoys being cuddled. Susan (650) 968-1899.

Looking for a badge-a-minut, semi-automatic machine, in gd cond. Email: [falcon777@earthlink.com](mailto:falcon777@earthlink.com)

Kenmore refrigerator 2 door top freezer, \$75. Whirlpool washer, Ultimate Care, heavy duty, super capacity, 8 cycle 2 speed and matching gas dryer 7 cycle 4 temp, 3 years old, \$300 for both. Tappen gas range 4 burner w/oven apartment size, \$100. Call (650) 938-9922 before 9 p.m.

Credenza/hutch, 20in x 30in x 46in, beautiful honey-laquer finish, mint condition, only a year old, \$450 (30% of original cost), must sell. Call (650) 473-0604.

10' Zodiac inflatable with all the accessories, 8 hp Yamaha engine. Very low hours \$2,500. Randy (408) 734-9550.

Rear fenders for 73-74 VW Super Beetle, \$60 or B/O. Men's brn leather jacket XL, \$70 or B/O. Baby swing, \$15; baby bounce seat, \$10; car seat, \$20; bathtub, \$5; blanket toy, \$7. Men's roller blades size 13, used twice. Paid \$170, sacrifice \$100. Deanna (408) 260-1180 before 5-9 p.m.

### Transportation

'70 VW convertible classic, original owner, no smog needed; transmission ok; needs work on top & possibly engine. \$1,600. Esther or Art (650) 961-2732.

'70 Triumph TR-6, white exterior, black interior, black convert. top, Michelin red walls, roll bar. Some TLC needed. \$5,500 or B/O. Call (650) 969-0787.

'83 Honda Civic, station wagon, 54K mls, orig. owner, auto, air, like new. \$2,400. Call (408) 733-1906.

'84 Toyota pick-up truck, 5 speed, fair condition, \$1,200. Ed (650) 948-8035, ext. 4-3351.

'90 Kawasaki Ninja 600R, black/red, VG cond. Great commute bike. Helmet incl. \$2,195 or B/O. Call (408) 257-6060.

'90 Thunderbird Super Coupe, 132K mls, 5 speed manual, dark blue, all options, one owner, all records. \$3,495. Tom Kaisersatt (408) 255-0823.

'91 Ford Explorer XL (blue), 85K mls, 4dr, 5 spd, 4WD, cass/CD, excellent condition, \$6,000. Call (408) 977-3059.

'94 Toyota 4 x 4, 4Runner 5 Speed, loaded, excellent condition, 104K mls, \$13,000. Call (408) 829-7743.

'96 Toyota 4 Runner, green metallic, 82K mls, \$17,895. Luis (650) 207-6446.

## Golf tournament and BBQ set

The annual charity Tennessee Ernie Ford AFA (Air Force Assoc.) Chapter 361 golf tournament and BBQ is scheduled for July 13 at the Moffett golf course. Sign in time is 11:30 a.m. and shotgun start is 12:30 p.m. The ROTC and JROTC (Reserve Officer Training Corps/Junior ROTC) programs provide training, education and field experience for university and high school students in preparation for military careers. AFA awards programs recognize and reward outstanding performance by military and civilian personnel and ROTC/JROTC students and creates a wider awareness of the Air Force as a career choice.

This scramble format tournament will feature several special events: Low gross for 1st, 2nd and 3rd places, longest drive, straightest drive and closest to pin. Only 144 golfers can participate.

To inquire about the tournament, contact Jim Martin at: [jmartin871@aol.com](mailto:jmartin871@aol.com) or call him at (408) 395-2039.

## Exchange Information

Information about products, services and opportunities provided to the employee and contractor community by the Ames Exchange Council.

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

Ask about NASA customized gifts for special occasions. Check centerwide emails for special sales and events.

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

Catering is available for your office B.B.Q. or luncheon. Come by for details.

**Visitor Center Gift Shop N-223 (10 a.m. to 4:30 p.m.) ext. 4-5412**

NASA logo merchandise, souvenirs, toys, gifts and educational items. Make your reservations for Chase Park here.

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

Oakland A's vs. Kansas City Royals, Sat. July 28, 1:05 p.m., Network Associates Coliseum. Field level seats only \$9. Plus coupon for hot dog, chips and soda, only \$3.25. Join for the fun. Tickets are limited, so get yours early.

**NASA Lodge (N-19) 603-7100**

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

**NASA Swim Center (N108) 603-8025**

The pool is open for the summer. Book your office birthday party. A fun way to spend the day.

### Vacation Opportunities

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

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

Vacation rental, Bass Lake CA 14 mls south of Yosemite. 3 bd/1.5 ba, TV, VCR, MW, fireplace, charcoal BBQ, priv. boat dock, great lake view. Sleeps 8. \$1,050/wk. Call (559) 642-3600 or (650) 390-9668.

Big Sur vacation rental, secluded 4bd/2ba house in lovely canyon setting. Fully equipped kitchen. Access to priv. beach. Tub in patio garden. Hiking, biking and jogging. Halfway between Carmel & Big Sur. \$175/night for 2, \$225 for 4 & \$250 for more, plus \$150 cleaning dep. Call (650) 328-4427.

## Awards & Recognition

# Settlement design contest award winners tour Ames

More than 75 students, teachers and parents spent June 18 touring Ames. The students were award winners in the eighth annual space settlement design contest. This year's contest included entries from over 580 students with 23 teachers assisting. Submissions came from Austria, Japan

the contest as an instructional thematic in their science curriculum. The contest promotes team building, space physics and project-web based learning in addition to addressing national science standards.

Space colonies are seen as permanent communities in orbit, as opposed to living

fort and survival. There are many advantages to living in orbit; namely, zero-G recreation, environmental independence, plentiful solar energy and terrific views to name a few. There is plenty of room for everyone who wants to participate. The materials from a single asteroid can build space colonies with living space equal to about 500 times the surface of the earth.

The visiting students participated in learning activities at the Ames Aerospace Encounter and continued their tour by visiting the vertical motion simulator, Future Flight Central, a rover demo from the intelligent mechanisms group, the NAS visualization and computer labs and the centrifuge/gravitational research facilities, including the 20-G. The students were treated to lunch at the Ames cafeteria Mega Bites and the co-grand prize winners were presented plaques for their award-winning entries.

Credit goes to all Ames volunteers who provided support in making possible this exciting and unique educational experience for all the tourists.

Encourage your children and teachers to participate. Materials that support space settlement activities can be found listed at: <http://lifesci3.arc.nasa.gov/SpaceSettlement/teacher/>. The contest and related web page are funded and operated by Ames' Code S. For additional contest results and details, visit <http://lifesci3.arc.nasa.gov/SpaceSettlement/Contest/Results/2001>.

BY BRYAN YAGER



photo by Bryan Yager

Settlement design contest winners outside the Ames Visitor Center about to begin their day at Ames.

and 18 states. The co-grand prize winners were from Vienna, Austria, Berlin and New Jersey.

The contest is divided into two separate categories, 6<sup>th</sup> through 9<sup>th</sup> and 10<sup>th</sup> through 12<sup>th</sup> grade divisions.

Students design their space settlements and related materials and then submit their entries to Ames for judging. Teachers use

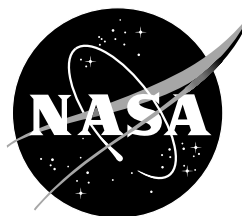
on the moon or other planets. The work of Princeton physicist Dr. G. O'Neill and others has shown that such colonies are technically feasible, although expensive. Settlers of the high frontier are expected to live inside large air-tight rotating structures holding hundreds, thousands or even millions of people along with animals, plants and single-celled organisms vital to com-

THE AMES **Astrogram**

National Aeronautics and  
Space Administration

Ames Research Center  
Moffett Field, California 94035-1000

Official Business  
Penalty for Private Use, \$300



FIRST CLASS MAIL  
POSTAGE & FEES PAID  
NASA  
Permit No. G-27

THE AMES **Astrogram**

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

**Managing Editor.....David Morse**  
**Editor.....Astrid Terlep**

We can be reached via email at:  
[astrogram@mail.arc.nasa.gov](mailto:astrogram@mail.arc.nasa.gov) or by  
phone at (650) 604-3347.



PLEASE RECYCLE  
Printed on recycled and recyclable paper with vegetable-based ink.