

## San Francisco airport selects Ames' FutureFlight Central

A synthetic airport, created in the computer mind of a two-story NASA Ames simulator, will help San Francisco airport, one of the country's largest and most complex, plan changes to increase its efficiency.

The San Francisco International Airport (SFO) commission has selected Ames' FutureFlight Central, the world's only walk-in, full-scale, 360-degree airport simulator, to evaluate new tower positions, runway configuration and aircraft movements before new construction begins.

"NASA's FutureFlight Central hopes to save airports costly design errors by permitting them to easily experience different, highly realistic versions of their airport design and, most importantly, observe how real people work inside these future environments," said Dr. Paul Kutler, Deputy Director of the Ames Information Systems Directorate.

The virtual simulator facility at Ames can house as many as a dozen air traffic *continued on back page*



FutureFlight Central cab with seamless out-the-window field-of-view displaying computer-generated images of San Francisco International Airport. The cab is capable of replicating the user interface and functionality of existing and emerging air traffic control technologies. The center console design is modular and can be configured to match most tower cab layouts.

Shown in photo are research and support staff: (left to right perimeter console) Christine Wong, Mark Boyd, Marlene Hooten, Ron Miller, Dick Haines, Lisa Thorell, Boris Rabin, Nancy Dorigi; (left to right center console) Nancy Tucker, Bob McMahon and Yuri Gawdiak.

## NASA Development Office gets prestigious award

Ames' Office of Development (Code DXD) has been recognized for its "Economic Development Concept Workbook" for the proposed 213-acre NASA Research Park by the American Planning Association.

The organization's 2000 award of merit for 'focused planning issue' was presented on June 23 to Development Office Chief Marla Harrison by representatives of the California Chapter, American Planning Association, during its Northern Section 2000 awards dinner held at the Officers Club at Fort Mason in San Francisco.

The workbook project arose from a need to formulate and articulate NASA's goals for the NASA Research Park and to test a highly unique economic development concept for 213-acres of prime land in Silicon Valley. Working collaboratively with the cities of Sunnyvale and Mountain View, Harrison and others in the Development Office de-

vised the workbook as part of the project's master planning process. In addition to containing a clear statement of the project's goals and programs, the workbook links

NASA's research mission with the use of lands to promote economic development in the Bay Area.



NASA Ames Research Center  
Economic Development Concept Workbook

**NASA Research Park**  
at the  
Ames Research Center

June 1999

see related story page 4

## Presentations & Events



photo by Dominic Hart

### Flag Dedication

A memorial flag was flown recently in front of Bldg. 200 for 24 hours and then presented to the Giovannetti family. This was done in honor of the passing of Angelo ("Joe") Giovannetti. Giovannetti will be best remembered for his positions at Ames as Chief of the Facilities Engineering branch and later, Chief of the Engineering division. He left Ames in 1983. Giovannetti passed away on April 14, 2000.

Center Director Henry McDonald (left) made the presentation to Giovannetti's son, Dean, and to Giovannetti's daughter, Lisa Shirle, shown here with her baby.

### Ames employees enjoy CASC event

A multitude of Ames employees and guests enjoyed two California Air and Space Center events on June 10 in Hangar One.

In cooperation with the Young Eagles youth flying program (sponsored by EAA Chapter #62) and the Special Olympics Plane Pull competition, the Friends Of the California Air and Space Center (FOCASC) invited one of America's premiere test pilots, Bob Gilliland,

to be the guest speaker at the event. His presentation was entitled "Test Flying the World's Fastest Airplanes."

Local area law enforcement and emergency services teams competed with each other to pull a United Airlines Boeing 727 jet over a fixed distance course with just human power. The teams raised money

for Special Olympics. Local private pilots, via the Young Eagles program, donated their aircraft and time to offer first flight opportunities to youngsters between the ages of 8 and 17.

This was the fourth event in the FOCASC's very successful guest speaker series. For more information, see the Friends Of the California Air and Space Web site: <http://casc.arc.nasa.gov/news.html>



photos by Dave Hoyt



## News from Ames & Around the Agency

### Center Briefs

#### *Black holes shed light on galaxy formation*

Astronomers are concluding that monstrous black holes weren't simply born big but instead grew on a measured diet of gas and stars controlled by their host galaxies in the formative years of the universe. These results, gleaned from a NASA Hubble Space Telescope census of more than 30 galaxies with its powerful "black hole hunting" spectrograph, are painting a broad picture of a galaxy's evolution and its long and intimate relationship with its giant central black hole.

#### *New rocket technology could cut Mars travel time*

An agreement to collaborate on development of an advanced rocket technology that could cut in half the time required to reach Mars, opening the solar system to human exploration in the next decade, has been signed by NASA's Johnson Space Center, Houston, TX, and MSE Technology Applications Inc., Butte, MT.

The technology could reduce astronauts' total exposure to space radiation and lessen time spent in weightlessness, perhaps minimizing bone and muscle mass loss and circulatory changes.

#### *More accurate space storm warnings now possible*

The arrival from the Sun of billion-ton electrified-gas clouds that cause severe space storms can now be predicted to within a half-day, a great improvement over the best previous estimates of within 2 to 5 days.

Scientists at the Catholic University of America, Washington, D.C., and NASA's Goddard Space Flight Center, Greenbelt, MD, have created a model that reliably predicts how much time it takes for these clouds, called Coronal Mass Ejections (CMEs), to traverse the gulf between the Sun and the Earth, based on their initial speed from the Sun and their interaction with the solar wind.

#### *NASA forms team to review Space Shuttle Main Engine test incident*

Robert Sackheim, assistant director and chief engineer for propulsion at NASA's Marshall Space Flight Center, Huntsville, AL, will lead a team to review the automatic shutdown of a recent Space Shuttle Main Engine test at NASA's Stennis Space Center, MS.

At about 5 seconds into the planned 200-second test of a new high-pressure fuel turbopump configuration, higher than expected test temperatures caused the Shuttle Main Engine to shut itself down using its own internal safety mechanisms.

### Ames receives TGIR awards



Joan Salute, Ames' Deputy Chief of the Space Projects Division, receives a major TGIR award from Sam Venneri, Associate Administrator of Aerospace, on behalf of the entire SHARP team. The Slender Hypervelocity Aerothermodynamic Research Probes (SHARP) project has the potential to revolutionize access to space and spacecraft design.



John Zuk (left) of Ames' Advanced Tiltrotor Technology Projects Office shakes hands with NASA Administrator Dan Goldin at the recent "Turning Goals into Reality" (TGIR) event at Marshall Space Flight Center. A joint Ames and Langley tiltrotor noise-abatement team shared the Objective 3 Environment award. Mike Marcolini (center) represented Langley.

### McDonald gives media interview



photo by Victoria Kushnir

Center Director Henry McDonald talks with a film crew recently in Ames' Historic Hangar One. McDonald used the proposed site of the new California Air and Space Center to talk about Ames initiatives in High Performance Computing.

## Recognition & Education

### 2000 NASA Honor Awards presented

The 2000 NASA Honor Awards ceremony for Ames was held on June 7.

NASA Honor Awards were presented to 24 employees who were selected for their individual contributions and to the managers of the 9 groups, selected for Group

Achievement awards. The names of the honorees are listed below.

For more information, visit the Ames Incentive Awards Program Website at <http://hr.arc.nasa.gov/Awards/awards.html>



photo by Tom Trower

#### Outstanding Leadership Medal

Robert J. Dolci  
G. Warren Hall  
Robert J. Hansen  
Lynn D. Harper  
Rick J. Serrano  
Eugene L. Tu  
Paul F. Wercinski

#### Public Service Medal

Kenneth M. Rosen  
Daniel S. Swanson  
Daniel J. Clancy

#### Exceptional Engineering Achievement Medal

Steven M. Green

#### Exceptional Service Medal

Dale L. Ashby  
Connie L. Cunningham  
Donald L. DeVincenzi  
Deborah L. Feng-Wood  
Linda M. Lee  
Larry A. Manning  
Beverly Norris  
Cynthia H. Null  
Diane P. Selby  
Merle D. Simbe  
Martha A. Smith

#### Exceptional Achievement Medal

James D. Alwyn  
Yuri O. Gawdiak



### HONOR AWARDS

#### Group Achievement Award

Ames Integrated Product Team on  
Devices and Nanotechnology  
Exercise '98 Response Mgt Team  
ISO 9001 Project Implementation Team  
NASA Astrobiology Team  
Virtual Wind Tunnel Group  
XV-15 Tilt Rotor Noise Reduction Team  
Public Service Group  
Achievement Award  
Checkout and Launch Control  
System Independent  
Verification and Validation Team  
DMJM  
Future Flight Central Project  
Team  
Quantum Services GLOBE Team

### New NASA Ames development plan to be unveiled July 10

All Ames personnel are invited to learn about plans to develop the proposed NASA Research Park and other portions of Ames Research Center during a meeting to be held on July 10.

The Environmental Impact Statement (EIS) public scoping meeting for the proposed Ames Development Plan will be held from 1 p.m. to 3 p.m. in the main auditorium, N-201. During the meeting, employees will be invited to comment and ask questions about the proposed plan.

Included in the plan is the proposed development of four areas:

- NASA Research Park: A 220-acre parcel located between Ames, the airfield, U.S. Highway 101 and the U.S. Air Force military housing area;
- East Side – Airfield: A 950-acre parcel that includes the airfield and property located east of the airfield;
- Bay View: A 95-acre parcel located north of the existing campus of Ames;
- Ames Research Center Facilities: A 240-acre parcel comprising the existing campus of Ames.

NASA Research Park is envisioned as a world-class, shared-used educational and R&D campus focused on astrobiology, life sciences, space sciences, nanotechnology, biotechnology, information technology and aeronautics. As part of the Ames Development Plan, NASA officials plan to create partnerships with federal, state and local government agencies, universities, private industry and non-profit organizations in support of NASA's mission to conduct research and develop new technologies. These collaborative organizations will provide the critical mass of scholars, scientists, and engineers necessary to create a vital research and educational community focused on the advancement of human knowledge.

By integrating public and private sector research and development efforts, the NASA Research Park will serve as a hub of technology transfer and commercialization, keeping NASA's researchers involved in cutting-edge technology advances and promoting the commercial applications of NASA's basic scientific research. The Ames Development Plan will also focus on proposed new development in the Bay View and the east side-airfield areas and potential replacement of existing NASA facilities at Ames.

The Ames Development Plan was initiated after the Federal Base Realignment and Closure (BRAC) commission decided in

*continued on next page*

## Planning & Development

# New NASA Ames development plan to be unveiled

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1991 to close Moffett Field Naval Air Station. In 1994, the U.S. Department of Defense transferred stewardship of the 1,857-acre property to NASA. Faced with the issue of how to use the newly acquired land in a manner consistent with NASA's mission and how to pay for maintenance and operation of the site, NASA officials developed the Moffett Field Comprehensive Use Plan (CUP) and an associated Environmental Assessment which resulted in a Finding of No Significant Impact (FONSI) in 1994.

Following transfer of the property, local community leaders formed a Community Action Committee (CAC) and recommended uses for the newly acquired land. The uses proposed in the proposed Ames Development Plan are consistent with, and seek to implement, the recommendations of the CAC.

Four alternatives for the proposed development will be studied in the project's Environmental Impact Statement:

- **Alternative 1:** No action; continued use of buildings and land.

- **Alternative 2:** Increase buildings and existing structures from 1.5 million square feet to 3.5 million square feet of floor space within the NASA Research Park. Proposed uses include research and development, laboratory, museum and educational facilities, offices, student/faculty housing, training and residential conference facilities. Also included is the renovation of 500,000 square feet, including Hangar One, for the California Air and Space Center.

For the Bay View site, this alternative includes 1.3 million square feet of new offices, research and development, laboratory, educational facilities and student/faculty housing. For East Side-Airfield, this alternative includes approximately 550,000 square feet of new light industrial, research and development, office and educational facilities. For Ames Research Center Facilities, this alternative includes the renovation and replacement of approximately 500,000 square feet for offices, research and development and laboratories. No new wind tunnels or increased aircraft operations are proposed. The existing burrowing owl habitat would be protected.

- **Alternative 3:** For the NASA Research Park, this alternative is the same as Alternative 2, except buildings and existing structures are increased from 1.5 million square feet to 4.5 million square feet of floor space within the NASA Research Park.

For the Bay View site, this alternative includes no proposed development. For the East Side-Airfield site, this alternative includes the adaptive reuse of existing historic hangars. For Ames Research Center Facilities, this alternative includes the renovation and/or replacement of existing build-

ings and structures. No new wind tunnels or increased aircraft operations are proposed. The existing Burrowing Owl habitat would be protected.

- **Alternative 4:** For the NASA Research Park, this alternative is the same as Alternative 2 except that it increases buildings and existing structures from 1.5 million square feet to 3.0 million square feet of floor space within the NASA Research Park.

For the Bay View site, this alternative also includes 2.7 million square feet of new offices, research and development, laboratory, educational facilities and student/faculty housing located in the northern portion of Bay View. For the East Side-Airfield site, this alternative would include approximately 670,000 of new light industrial, research and development, office and educational facilities. For Ames Research Center Facilities, this alternative would include the renovation and replacement of approximately 1.5 million square feet for offices, research and development and laboratories. No new wind tunnels or increased aircraft operations are proposed. The existing Burrowing Owl habitat would be pro-

tected.

In addition to the July 10 afternoon meeting for Ames employees, three public scoping meetings on the environmental impact of the development plan will be held during the week of July 10-13.

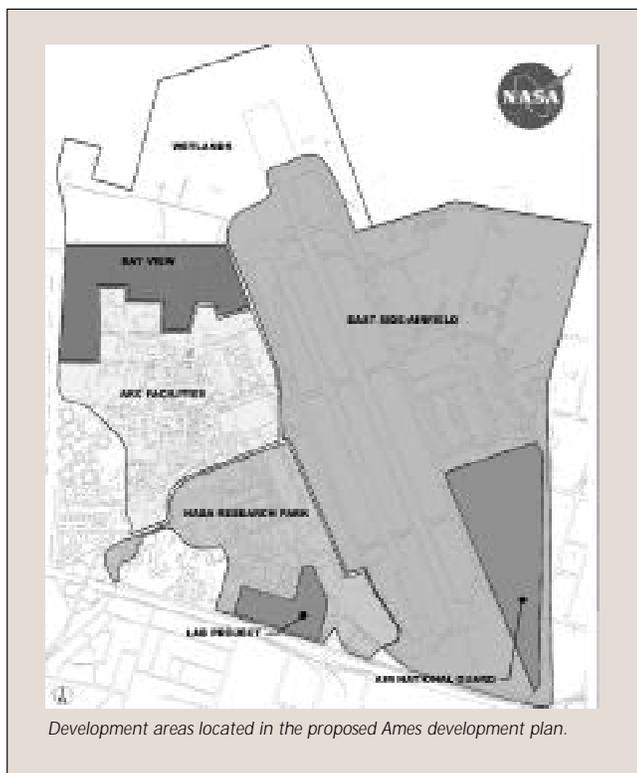
- **Monday, July 10:** 7:30 p.m. to 9:30 p.m. in the Mountain View City Council Chambers, 500 Castro St., Mountain View

- **Wednesday, July 12:** 1 p.m. to 3 p.m. in the Eagle Room at U.S. Space Camp California

- **Thursday, July 13:** 7:30 p.m. to 9:30 p.m. in the Sunnyvale City Council Chambers, 456 W. Olive Street, Sunnyvale

Employees are invited to submit written comments by July 31, 2000 to ensure full consideration during the scoping process. Comments should be directed to: Sandy Olliges, Environmental Services Office, mail stop 218-1 or by e-mail to: [researchpark@arc.nasa.gov](mailto:researchpark@arc.nasa.gov).

BY MICHAEL MEWHINNEY 



## Computational Science

# Collaborative visualization tool brings new perspective to atoms

In February, researchers Chris Henze and Bryan Green of the NAS data analysis group established an application for distributive, collaborative, remote computational steering of atoms, Collaborative Virtual Mechanosynthesis (CVMS). CVMS is a

ing atoms from their own viewpoints — independent of other clients.

The Responsive Workbench is equipped with a stereo visor and wand enabling the operator to orient and manipulate the model. The images are not created from

Specifically, they plan to incorporate the Amber code, or one of its derivatives, to run biomolecular simulations and protein folding with the CVMS on Lomax. Eventually, the NAS team would like to generalize the application even further — extending cur-



photo by Michael Boswell

The NAS Systems Division's visualization lab furnishes remote and local users with visualization equipment and technology to enhance the understanding of computational simulations and experimental data. On the right is the Responsive Workbench where a Collaborative Virtual Mechanosynthesis (CVMS) user manipulates 3-D simulations viewed by an audience on the presentation screen at left.

new, state-of-the-art application enabling interaction with atomic structures. "It's like playing virtual tug-of-war," jokes Henze.

"The collaborative VMS will be a valuable educational tool, as well as an excellent design tool," says Green. Utilizing CVMS for teaching chemistry will enable students to explore the geometry of molecules, and "live" atomic structures. Using Fakespace Inc.'s Responsive Workbench, teachers will have the ability to manipulate a 3-D image of a molecule while students wearing polarized glasses watch the interaction on a large screen.

"This visualization tool can be used to rehearse assembly processes for future nanotechnology projects," explains Henze. Taking advantage of CVMS to assemble a molecule prevents the user from building a structure that would not survive in nature — the application will only permit a design where atoms bond correctly to one another. CVMS currently operates on a single server to run molecular simulations. Multiple clients can view the simulation at physically remote locations from the server, mov-

precalculated datasets, but are generated as the simulation runs — the user introduces new forces that are incorporated into the calculations. "The haptic device is force-sensitive, allowing the user to feel the sense of attraction or repulsion of bonds being created or broken. I was amazed by the realism of feeling the forces between the bonds of the atoms," Green says.

Usually, the server for CVMS runs from an SGI Onyx workstation. The client also uses an Onyx workstation located in the NAS visualization lab. Having run the application on the 512-processor SGI Origin 2800, Lomax, in the past, the team can see a potential for the program to take advantage of all 512 processors. "Eventually, the 512 will be useful for supporting nanotube and other simulations with tens of thousands of atoms at a time," Henze explains.

To date, the CVMS application has solely run the Brenner Potential code, working with only carbon and hydrogen atom simulations. In the future, Henze and Green would like to write code to model other types of atoms, especially biomolecules.

rent molecular dynamics computations to include electronic structure calculations. Achieving this goal will require running on multiple servers simultaneously. "CVMS is turning into a hub for the investigation of molecules," states Henze. "The application has the potential for becoming a really great problem-solving environment. Adding the capability for electronic structure calculations may be a good first step in that direction," Green adds.

BY HOLLY AMUNDSON 



# Calendar & Classifieds

## 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 Child Care Center Board of Directors Mtg**, Every other Thursday (check Web site for meeting dates), 12 noon to 2 p.m., N269, Rm. 201. POC: David Kormeyer, ext. 4-3114. Web site: <http://acc.arc.nasa.gov>

**Native American Advisory Committee Mtg**, Jun 27, 12 noon to 1 p.m., Ames Cafe. POC: Mike Liu at ext. 4-1132.

**Ames Contractor Council Mtg**, Jul 5, 11 a.m., N-200 Comm. Rm. POC: David Lawrence at ext. 4-6434.

**Environmental, Health and Safety Monthly Information Forum**, Jul 6, 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 6, 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**, Jul 6, 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, Jul 7, at Hometown Buffet, Westgate Mall, 4735 Hamilton Av, San Jose. Prog. & bus. mtg. at 9 a.m., followed by lunch, \$6-27, in a reserved area. Program starts at 9:30 a.m. followed by lunch. POC: Mr. Rod Perry (650) 967-9418 or NARFE 1-800-627-3394.

**Professional Administrative Council (PAC) Mtg**, Jul 13, 10:30-11:30 a.m., Bldg 210, Rm. 115. POC: Leslie Jacob, ext. 4-5059.

**Ames Sailing Club Mtg**, Jul 13, 11:30 a.m. to 1 p.m., N-262/Rm. 100. POC: Stan Phillips, ext. 4-3530.

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

**Ames Multicultural Leadership Council Mtg**, Jul 19, 11:30 a.m. to 1 p.m., Galileo Rm/Ames Cafe. POC: Sheila Johnson, ext. 4-5054 or David Morse, ext. 4-4724.

**Ames Asian American Pacific Islander Advisory Group Mtg**, Jul 20, 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**, Jul 20, 12 noon, N-260/Conf. Rm. POC: Mike Herrick, K6EAA at ext. 4-5477.

**All Ames Bowling League**, Captains mtg on August 29, Season from Sept 4 to April 17, Tuesdays, 6 p.m., at Palo Alto Bowl. Bowlers needed. POC: Mina Cappuccio, ext. 4-1313 or Carmen Park, ext 4-1215.

## 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

For sale by owner: \$489K, small horse ranch near Watsonville. Royal oaks, California/scenic area. 3 acres w/ trees & lots of open space. 3 bd/2 ba home/family rm w/ fireplace. Front/rear decks w/hot tub rm. 2 car garage w/laundry rm & storage rm. Barn, tack rm, corrals, workshop/electricity. Property fenced & outside lighting. Ron (408) 736-2150. Lv msg or call (831) 722-0130.

Housing needed: Very neat, nonsmoking Ph.D. researcher new to Ames looking to rent 3 bd/2 ba or 2 bd/2 ba with den - house, townhouse, or duplex. I have one cat that is spayed and declawed. Call (650) 694-2759 or email me at: [BBurian@compuserve.com](mailto:BBurian@compuserve.com).

Housing needed: female and male full-time employed students seeking permanent apartment (1 bd/1ba bath) between Cupertino and San Jose. Need housing by August 31. Apartments only, no rooms or roommates. Beth (408) 629-0869; [crmlxl@aol.com](mailto:crmlxl@aol.com).

Large room in 4 bd/2ba home, excellent Mountain View area. Washer, drier, fireplace, microwave, new carpet. Tidy person & nonsmoker. \$450 + share utilities. Avail. 8/1. Call (650) 964-1900.

House for rent in Milpitas, 3bd/2ba, 2 car garage, fireplace, liv. rm, lrg upgraded kitchen, remodeled bath. New carpet, lrg bk yard. No pets. \$1,750/ mo. First & last month's rent + dep. Avail July 1. Call (650) 968-1347.

### Transportation

'68 VW Bug, bright red, good condition, \$1,800. Call (408) 249-3030.

'86 Mercury Grand Marquis, good running condition, needs a little body work, good second car. Call (510) 582-5965.

'95 Yamaha Wave Venture 700, 3 seater, 65 hours. 1996 Shoreline trailer, cover, vests, etc. Both for \$3,000. Both in great condition! Randy (408) 734-9550.

'96 Cadillac Eldorado Touring Coupe, full power, alarm, CD chgr, new tires, extra clean, 69K mls, \$21,000. Casey (925) 254-9637 or email [caseycall@home.com](mailto:caseycall@home.com)

'97 Jeep Wrangler, 4 cyl., SE options: power steering, rear bumper, rear seat, carpet, added: chrome side bars, fog lights, stereo and alarm. 50K mls, \$13,500. Vanessa (408) 371-6739.

### Miscellaneous

Mtn bike: Low mileage '98 Specialized Rock Hopper \$250. W/ 21 spds, handlebar extension, rear rack, toe clips. For 29-32" inseam. Call (650) 964-0496.

Camper van, high top, self-contained. 90K mls on '87 Ford Econoline engine. \$15K. Call (415) 826-3041.

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

Gas lawn edger, \$75 or B/O and NordicTrack Pro, \$100 or B/O. Call (408) 985-7251.

Fitness stair stepper: Tunturi Executive 405. Like new, hardly used. Compact 19"Wx 33"Lx51"H. \$40. Call (510) 471-9384.

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

Keep your home safe! I will watch your house while you are away at conferences, on vacation, or whatever. Can be 2 days or two months- I'm working on bigger projects and I'd like to be closer to base during the summer. I'm very responsible, good with animals and plants, and I have references. Email Theresa at [tsummer@mail.arc.nasa.gov](mailto:tsummer@mail.arc.nasa.gov).

Solid oak entertainment center white wash color 300, brown entertainment center \$30; (2) couches \$40 ea.; (2) fish tanks one 50g one 100g both plexi, desk chair \$10 and more. All items open for offers. Ryan (408) 378-5475.

Crib, changing table, glider, stroller with infant seat. Assorted baby clothes 0-24 mos. Jenny Lind crib, white, includes highest quality mattress, bumpers, quilt, dust ruffle, window valance and bedding (pastel colors), plus changing table with two lower shelves, all in excellent condition; \$125 for all. Very comfy glider and ottoman; \$45. Century Stroller with snap-in infant car-seat and base \$75. Jeanne (408) 269-8130.

### Vacation rental

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

Lake Tahoe-Squaw Valley-Olympic Village Inn for 4 people. Full kitchen, TV/VCR, spa, BBQ, free bikes, walk to lifts. \$450 for 4 nights/5 days, 6/18/00 to 6/22/00, Sunday to Thursday. Juliet (650) 321-9008 or email: [LiuHsinMei@aol.com](mailto:LiuHsinMei@aol.com) for more details.

### 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](mailto:mfine@mail.arc.nasa.gov).

### Ames radio information for employees

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

## Astrogram deadlines

All Ames employees are invited to submit articles relating to Ames projects and activities for publication in the *Astrogram*. When submitting stories or ads for publication, submit your material, along with any questions, in MS word by e-mail to: [astrogram@mail.arc.nasa.gov](mailto:astrogram@mail.arc.nasa.gov) on or before the deadline.

Deadline	Publication
Tues, Jun 27	Mon, Jul 10
Tues, Aug 1	Mon, Aug 14

NOTE: No Astrogram on July 24

## Farewell picnic for Herman Gardner

The Equal Opportunity Programs Office is having a "going away" picnic for Herman Gardner, EO Chief (acting). Everyone at Ames is invited to say goodbye and wish Herman well as he re-enters retirement.

The picnic is planned for July 14, at Chase Park from 11:30 a.m. to 1:30 p.m. The price of the lunch ticket is \$12 per person and includes the following: any combination of charbroiled hamburger, garden veggie burger, grilled sausage and charbroiled chicken salads; Chinese chicken salad and potato salad. Also included are baked beans, steamed corn on the cob, beverage and condiments. Dessert will be assorted fruit.

Come and join the fun! Those who wish to donate toward a gift for Herman may do so when purchasing their lunch ticket. The deadline for purchasing a ticket is July 7, as the caterer must be given a count of the number of people planning to attend.

Point of contact is Deborah Strine, who can be reached at ext. 4-6507 or January Stagg, at ext. 4-3426.

## Ames Events

# San Francisco airport selects Ames' FutureFlight Central

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controllers, and can represent the busiest U.S. airport towers in size and capability.

"NASA's FutureFlight Central allows SFO to preview potential tower locations before any concrete is poured," said Peg Divine, Deputy Airport Director for SFO's Air Field Development Bureau.

"This is part of SFO's continuing commitment to deploy the appropriate technology advances to address our rising air passenger levels as well as decrease delays."

Airport officials say they chose the Ames simulator to help plan airport changes to increase both efficiency and total air traffic capacity. Using the one-of-a-kind airport testing facility, SFO airfield planners, Federal Aviation Administration air traffic controllers and others will help to select the best location for a new tower.

"Engineers can identify future problems and can try solutions in a safe setting, the computer's virtual world," said Nancy Dorigi, who manages the facility at Ames.

The simulator's artificial world changes in real time. Scenes evolve, in the same manner that real-world changes occur. In the computer world, airplanes not only come and go, but weather changes. Consoles are at each controller's location showing radar, weather maps, runway lights and touch-screen controls as well as other readouts.

"We are able to represent any airfield in existence or as planned for the future," said Dorigi. "We can measure the impact of a change on the airport's capacity, and let the controllers try it first-hand, all before anything is built."

After putting a new airport data set into the computers, FutureFlight researchers can switch to the new artificial airport in moments. Rearranging furniture in the simulator will take longer than activating a new computerized airport, Ames technicians noted.

Other unique features of NASA FutureFlight Central include: capability to move the tower "eye point" to any location, including a "pilot eye view"; precise controls to simulate weather, time-of-day, cloud coverage and lighting; a voice and data communication network, allowing ground-to-tower and air-to-tower human interaction; and video record and playback, allowing analysis of human performance and decisions. More FutureFlight information is on the Internet at: <http://ffc.arc.nasa.gov>

BY JOHN BLUCK

## Ames Family Safety Fair set!

Magic! Clowns! Face Painting! A free, regulation-size frisbee, with the beautiful NASA logo and the Agency safety slogan "Mission success starts with Safety" for kids who can answer a family safety-related question.

Join us for free treats! Pick up very important family safety and family health-related information including a water-proof breast exam card for your shower.

This will be fun for the whole family and possibly a life-saving experience for someone very precious to you. Bring your kids, their cousins, and the neighbors' kids. Your entire extended family is welcome on this life-saving day!

When: Wednesday July 12, 2000  
Time: 11:00 AM - 1:00 PM  
Where: Front of Building N200

## THE AMES Astrogram

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