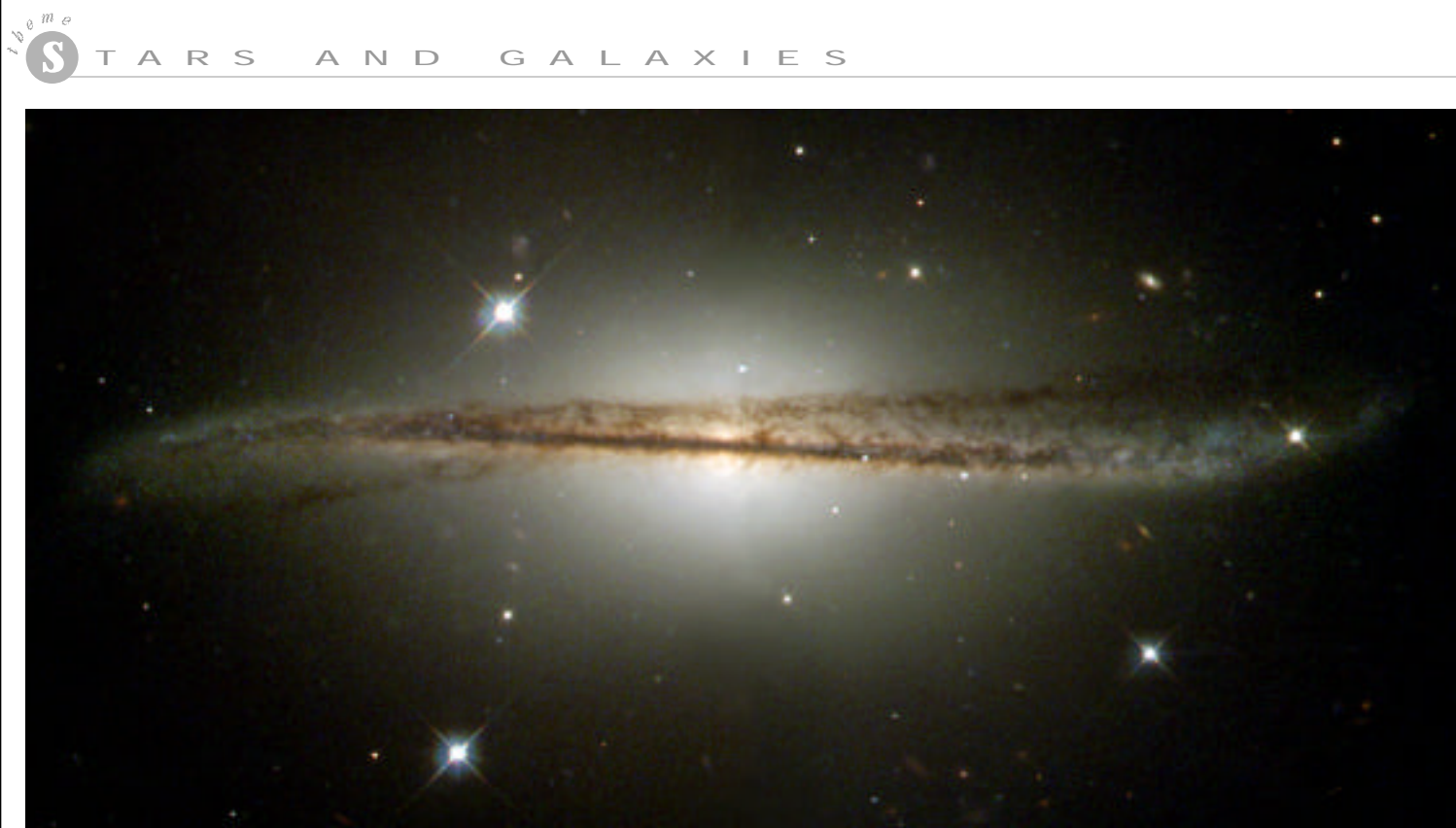


Hubble Views Warped Galaxy as Camera Passes Milestone

by Jane Platt



NASA and The Hubble Heritage Team (STScI/AURA)

NASA’S HUBBLE SPACE TELESCOPE *has imaged an unusual edge-on galaxy, revealing remarkable details of its warped dusty disk and showing how colliding galaxies trigger the birth of new stars.*

During observations of the galaxy, the camera passed a milestone, taking its 100,000th image since shuttle astronauts installed it in Hubble in 1993. The camera was designed and built by JPL. The dust and spiral arms of normal spiral galaxies, like our Milky Way, look flat when seen edge-on. The new image of the galaxy ESO 510-G13 shows an unusual twisted disk structure, first seen in ground-based photographs taken at the European Southern Observatory in Chile. ESO 510-G13 lies in the southern constellation Hydra, some 150 million light-years from Earth. Details of the galaxy’s structure are

visible because interstellar dust clouds that trace its disk are silhouetted from behind by light from the galaxy’s bright, smooth central bulge. The strong warping of the disk indicates that ESO 510-G13 has recently collided with a nearby galaxy and is in the process of swallowing it. Gravitational forces distort structures of galaxies as their stars, gas, and dust merge together over millions of years. When the disturbances die out eventually, ESO 510-G13 will become a single galaxy. The galaxy’s outer regions, especially on the right side of the image, show dark dust and bright clouds of blue stars. This indicates that hot, young stars are being formed in the twisted disk. Astronomers believe new star formation may be triggered when galaxies collide and their interstellar clouds are compressed. The image, taken by Hubble’s Wide Field and Planetary Camera 2, is online at <http://heritage.stsci.edu> and <http://www.jpl.nasa.gov/images/wfpc>.

Bad Weather Postpones Genesis’ Date with the Sun

Weather has once again hindered the launch of the Genesis mission. The August 2 launch of NASA’s Genesis spacecraft has been postponed due to thick clouds and wind at the launch site. The launch was scrubbed August 1 due to weather as well. The next opportunity for launch of the Genesis space-

craft is Friday, August 3, at 12:23:53 p.m., EDT. At press time it was uncertain if weather conditions in the Cape Canaveral area would allow a Friday launch. Liftoff will occur aboard a Boeing Delta II rocket from Pad A at Launch Complex 17 on Cape Canaveral Air Force Station.

The launch attempt on July 30 was canceled over concern for a power supply component in the star tracker unit on the spacecraft. The component recently failed during a simulated space environment test not related to the Genesis mission.

Jason 1 satellite arrives at Vandenberg Air Force Base

The Jason 1 satellite arrived Tuesday July, 31 at Vandenberg Air Force Base to begin final preparations for launch no earlier than Sept. 15. A joint project of NASA and CNES, the French space agency, Jason 1 is the follow-on to TOPEX/Poseidon, a U.S.-French spacecraft that has been making precise measurements of ocean surface topography since 1992. These data are used to map ocean currents, improve the understanding of ocean circulation, measure global sea level change and improve global climate forecasts. The French-built Jason 1 spacecraft was flown from Nice, France, to Vandenberg on an Antonov-124 cargo plane and then transported to a clean room at Spaceport Systems International, located on the base. After French and U.S. project members complete their final adjustments and tests, the spacecraft will be fueled and turned over to the Boeing Company on Aug. 22 in preparation for launch. Jason 1 will be launched from Space Launch Complex 2 West at Vandenberg Air Force Base atop a Boeing Delta II rocket. The rocket



Bruce A. Campbell / GSFC

The Jason 1 team
(pictured left to right)
Mike Davis, Tom Shain,
Chris Alvarado, and
Gary Kunstmann
(Project Manager).

has a dual payload system that allows the launch vehicle to carry two satellites at once. Jason-1 will share part of the ride with another spacecraft called Timed, a joint atmospheric mission of NASA and the Applied Physics Laboratory, Laurel, Md. Jason 1 will be carried at the top of the rocket’s nose cone and will separate first. The launch window is about 20 minutes each day. On Sept.15, the window opens at 12:59 a.m PDT. The launch window gets earlier by about 12 minutes each day. Once it reaches its final orbit, Jason 1 will assume the flight path of TOPEX/Poseidon, which will move into a parallel orbit. They will circle Earth every 112 minutes at an altitude of about 1,330 kilometers (830 miles), measuring the surface topography of the oceans to within 4 centimeters (about 2 inches)

News Briefs

Mars ascent vehicle studies awarded

NASA's Mars Technology Program at JPL has awarded three industry contracts for the development of concepts for a small rocket that will lift science samples gathered by NASA's Mars Sample Return mission from the Martian surface and support their return to Earth.

A panel consisting of propulsion experts including NASA's Marshall Space Flight Center and JPL selected these companies from the five that responded to the request for proposals. The awardees are:

- Boeing Company, Huntington Beach
- Lockheed Martin Corp., Denver
- TRW, Redondo Beach

The contracts are valued at \$300,000 each and are to be performed over a six-month period. These studies will provide independent concepts and technology roadmaps to develop a Mars Ascent Vehicle for the Mars Sample Return mission. Concepts emerging from these studies will contribute to the final specifications for the eventual Mars Ascent Vehicle.

"The Mars Exploration Program is looking at a wide variety of ideas and concepts to conduct the Mars Sample Return mission," said DR. SAMAD HAYATI, manager of the Mars Technology Program at JPL. "A small, reliable launch vehicle that would launch collected samples from the Martian surface months after initial arrival is considered one of the key building blocks requiring development. Launch of a sample return mission is scheduled for no sooner than 2011."

'Midriff bulge' detected in star

For the first time ever, a star spinning so fast its mid-section is stretched out has been directly measured by an ultra-high-resolution NASA telescope system on Palomar Mountain near San Diego.

"Measuring the shape of this star, Altair, was as difficult as standing in Los Angeles, looking at a hen's egg in New York, and trying to prove that it's oval-shaped and not circular," said Dr. Charles Beichman, chief scientist for astronomy and physics at JPL.

Altair is a well-known member of the Summer Triangle, clearly visible in the summer night sky across the United States. Scientists using the Palomar Testbed Interferometer, which links multiple telescopes, measured the star's radius at different angles on the sky. They noticed the size of the star varied with changing angles, which was the first tip-off that Altair is not perfectly round.

"This surprising observation led to

a bit of challenging detective work to properly interpret the data," said principal investigator Dr. Gerard van Belle of JPL. "We measured the size of another star, Vega, at the same time, which didn't change with angle, so we knew this wasn't just a fluke of the telescope."

Previous studies of Altair raised the prospect that the star might have midriff bulge, but never before had the shape been measured directly. Earlier measurements of the star's spectrum, or light-wave pattern, had hinted that Altair was rotating very fast. When a gaseous orb, like a star, spins fast enough, it tends to expand at the middle, like a beach ball that is squeezed at the top and bottom.

Altair is a perfect example — it rotates at least once every 10.4 hours, and the new Palomar observations reveal the diameter at its equator is at least 14 percent greater than at its poles. For a star that spins slowly, this effect is miniscule. For example, our Sun rotates once every 30 days and has an equator only .001 percent greater in diameter than its poles.

By measuring Altair's size at separate positions along its edge, van Belle and his colleagues determined that Altair rotates at a speed of at least 210 kilometers per second (470,000 mph) at the equator. Future studies may pin down the speed more precisely.

As of Monday, Odyssey was 45.8 million kilometers (about 28.5 million miles) from Earth and 30 million kilometers (about 19 million miles) from Mars, traveling at a velocity of 26 kilometers per second (58,000 mph) relative to the Sun.

Blood drive set for mid-August

The next JPL/Red Cross Blood Drive will be held in von Kármán Auditorium Aug. 14 from 10 a.m. to 4 p.m. and Aug. 15 from 7 a.m. to 1 p.m.

Sign-up sheets will be available prior to the blood drive at Occupational Health Services (Bldg. 310-202), and Occupational Health Services' Web site at http://eis/medical/blood_form.html.

Last-minute signups are available at von Kármán Auditorium. Be prepared to wait a little longer if you do not have an appointment.

To change an appointment, call the Pasadena Red Cross, (626) 799-0841, ext. 630.

Occupational Health Services said the Red Cross collected 178 pints of blood during the previous blood drive, of which 534 lives will benefit.

The Red Cross is currently experiencing a critical shortage of all types of blood, especially O negative, and their inventory continues to remain below desired levels.

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meetings are available. Call the Employee Assistance Program at ext. 4-3680 for time and location.

Codependents Anonymous—Meeting at noon every Wednesday. Call Occupational Health Services at ext. 4-3319.

End of Life Issues and Bereavement—Meets the second Monday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Gay, Lesbian and Bisexual Support Group—Meets the first and third Fridays of the month at noon in Building 125-133. Call the Employee Assistance Program at ext. 4-3680 or Randy Herrera at ext. 3-0664.

Parent Support Group—Meets the third Thursday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Senior Caregivers Support Group—No meetings are scheduled for August; next meeting is Sept. 6. For time and location, call the Employee Assistance Program at ext. 4-3680.

Friday, August 3

"The Quest for Mission Success: the Clementine Mission"—Dr. Trevor Sorensen, former Clementine Lunar Mission Manager, will speak from 1:30 to 3 p.m. in the Building 167 conference room. Sponsored by the Reliability Engineering Office 513.

Tuesday, August 7

JPL Gamers Club—Meeting at noon in Building 301-227.

JPL Genealogy Club—Meeting at noon in Building 301-271.

Wednesday, August 8

JPL Amateur Radio Club—Meeting at noon in Building 238-543.

JPL Toastmasters Club—Meeting at 5 p.m. in the Building 167 conference room. Guests welcome. Call Joy Hodges at ext. 4-7041.

Tuesday, August 14

JPL Stamp Club—Meeting at noon in Building 183-328.

Tues., Aug. 14–Wed., Aug. 15

Investment Advice—One-on-one counseling sessions are available with TIAA/CREF. For an appointment, call (877) 209-3140, ext. 2614.

Wednesday, August 15

"Retirement in View"—This workshop for employees who are more than more years from retirement will be held from 10 a.m. to noon in Building 180-101. The presentation reviews retirement lifestyle and financial considerations. Pre-retirees will work through retirement expenses, income sources, and strategies to help close any gaps.

Thursday, August 16

TIAA/CREF Enrollment—This monthly meeting is designed to assist employees newly eligible for Caltech/JPL retirement plan participation in selecting investment options and completing enrollment forms. At noon in T1720-137.

NOVA awards

- Section 320:* Jon Depew, William Williamson, James W. Young.
- Section 3211:* Stephanie Blueford, Rebecca Custer, Sheryl Jackson, Stacy Klinger, Tyrone Little, Hanh Milam, Bonnie Miller, Colleen Miyahara, Darlene Padgett, Catherine Quinn, Scott Yeats
- Section 3212:* Hubballi Aladdin, Carroll Brown, Sharon Chapman, Anita Lacroix, Johnny Lopez, Sarah Nichols, Keri Smith.
- Section 3213:* Carmen Ascencio, Anthon Davis, Jacqueline Gonzalez, Maria Klein, Brian Knosp, Deronda Mayes, Andre Myles, Sheryl Owen, James W. Young
- Section 3214:* Sherri Akbari, Kristina Kim, Nancy King, Carmen Lam, Yvonne Nappier, Michael Orosco, Theresa Rafter, Vivian Rother, Jean Rubin, Rachel Skinner, Yolanda Swanson.
- Section 331:* Abhijit Biswas, Christine Chang, Jose Fernandez, Carl Franck, Theodore Hanson, Hamid Hemmati, Raymond Jurgens, Jan Loreman, David Morabito, Gerardo Ortiz, Leslie Paal, Peggy Park, Annie Parkhurst, Samuel Petty, Fabrizio Pollara, Kevin Quirk, Martin Slade, Meera Srinivasan, Colleen Tyler, Arvydas Vaisnys.
- Section 333:* Victor Chen, Herschel Jackson, Christopher Link, Manfred Richter, Asim Sehic.
- Section 350:* Linda Barcena, Gerrard Panahon.
- Section 353:* Mark Anderson, Gajanana Birur, Gani Ganapathi, Carl Guernsey, Patricia Hayes-Rowe, Steven Jones, Soon Sam Kim, Violet Kitts, Allison Owens, Morgan Parker, James Polk, Nazilla Rouse, Partha Shakkottai, Robert Shotwell, Eric Sunada, Brenda Watkins, George Yankura.
- Section 354:* Richard Beatty.
- Section 357:* Robert Burke, James Crosby, Sharon Dew, Charles Foehlinger, Randall Foehner, Darrol Houser, Kathryn Iwanaga, Andrea Kapitanoff, Gary Keel, Larry McCain, Robert Moncada, Juan Pacheco, Scott Premo, Edward Springer.

- Section 366:* Juli Adams, Bryan Arnestad, Jay Braun, Tommy Dearmond, Sandy Gutheinz, Rudy Gutierrez, Lawrence Hawley, Susan Kientz, Tony Kwok, Gloria Lang, Jason Liao, Kathryn Little, Francis Lorenzana, Keri Murphy, Edward Noon, Richard Redden, Mary Rivera, Norma Soto, Eric Tailor, David Wilcox.
- Section 367:* Benjamin Bornstein, John Crawford, Barbara Engelhardt, Russell Knight, Darren Mutz, Gregg Rabideau, Robert Sherwood, Benjamin Smith.
- Section 368:* Magdy Bareh, Antonio Sanders, Robert Sherwood, Eric Tauer, Peter Tay, Karen Yetter.
- Section 369:* Lydia Dubon, Harold Minuskin, Paul Pechkam.
- Section 383:* Lawrence Azevedo, Debra Camp, Rosemary Diaz, Jennifer Gregory, Gary Kuan, Peter Lawson, Raymond Savedra, Olga Shchedrin, Robert Smythe, Mitchell Troy, Dorian Valenzuela, Feng Zhao.
- Section 386:* Meng Chiao, Robert Dengler, Andy Fung, Tigran Karsian, Jonathan Kawamura, Amarit Kitiyakara, David Pukala, Hans Rosenberger, Nancy Zeavin.
- Section 388:* Mari Castillo, Shirley Giuggio, Zareh Gorjian, Elizabeth Kay-Im, Elmain Martinez, Myche McAuley, Helen Mortensen, Susan Pocino, Regina Sakurai, Thomas Thaller.
- Section 389:* Richard Chen, Don Cheney, Sean Hardman, Rodney Hoffman, Douglas Hughes, Jennifer Kesterson, Jason La Pointe, Sauwan Leung, Cindy Robles.
- Section 400:* Nune Boyadjian, Enrico Bruno, Marilynn Davis, Claudia De Luna, Peggy Easter, Geoffrey Lake, Diane Mann, Valerie Pickett, Christine Preheim, Cheryn Roff, Karl Strauss, Jean Tellep, Valerie Thomas.
- Section 700:* Donna Avila, Kirk Bilby, Catherine Cagle, Nickolas Climes, Rolf Danner, Deborah Fambro, Thomas Gautier, George Greanias, Mahnaz Hashemi, Daniel Hurley, Joseph Kahr, Helenann Kwong-Fu, Jitendra Mehta, Karla Miller, Aurelio Tolivar, Tsun-Yee Yan.

So Long, Kirk



Bill Ling

After 39 years of service to the Laboratory, Kirk Dawson, Institutional Associate Director, retired in July. Dawson began his career as a power engineer in Division 34 and held a number of line management positions, including Assistant Laboratory Director for Technical Divisions. As Associate Director, he was also recently responsible for the Laboratory's administrative and financial organizations. The scope of his line management experience is unmatched in JPL's history.

On July 23 Dawson was honored by his colleagues, family and community members at the Pasadena Hilton.

THE FIRST 100 DAYS

In August, Dr. Charles Elachi will reach 100 days in his new position as Lab Director . He discussed his tenure with the Universe.

QUESTION *It's been three months since you began as JPL Director. What are your impressions so far?*

A Things are going well. I've found that there are many different challenges to this job, because it covers not only technical and programmatic areas, but also personnel, legal, and other issues. I have been particularly encouraged by all the support I've received from JPL employees and the Executive Council. I want to stress how delighted I am with employees' positive attitude and excitement about what we do at JPL. I'm particularly encouraged that everybody wants to help make the Lab successful and a better place.

QUESTION *Three months ago you endorsed some changes in the top levels of the organization. How is that going?*

A I wanted to integrate technology, science and missions in specific directorates, and put an emphasis on the interplanetary network and the Deep Space Network, because that's very important to our future. What's new about the Executive Council is that appointments are for limited terms. The intent is to make sure we build a strong, broad base of senior managers. After serving on the council, EC members can serve as project managers or in other senior positions. In the long term, this approach will be healthy for JPL and for senior managers. Recently, I appointed Gael Squibb to the Director's Office. Dr. Bill Weber will be heading the 9X organization (Interplanetary Network and Information Systems Directorate), and John Beckman will be heading the 3X organization (Engineering and Science Directorate).

That effectively completes all the appointments except for the chief technologist, for which we will be doing a national search. Dr. Barbara Wilson, who has been the chief technologist, will fill that role for the Air Force Research Lab for three years. She will then come back to JPL. This will help strengthen the relationship between JPL and the Air Force.

did not go and tell the Travel organization what to do; I only said we need to make things easier for employees and reduce the paperwork. I want to applaud the team for both taking the initiative to make the improvements and also on the results (Editor's note: see the Travel Web site at <http://www-afd/travel/travel.htm>). The team has significantly simplified the process, made it more flexible and more employee-responsive. I'm encouraging other organizations—be it on the technical side or the business side—to use this as an example of taking the initiative to simplify things.

QUESTION *Speaking of simplifying things, one item in the press had you "throwing out the rulebooks." Was that an accurate statement? What does that say about DMIE?*

A No, we are not throwing out the rulebooks. The statement I made is that we're going to look at all of our rules to determine which ones are helping our jobs and which ones are making it harder. The Design and Maintain the Institutional Environment (DMIE) team is currently reviewing all rules and procedures to see which ones need to be simplified or eliminated altogether, and which ones are necessary for us to be a safe place and to do things successfully. I want to make sure the rules are simple, accessible, and constructive; that they are helping us, not slowing us down. Once we that examination, I expect everybody to follow the rules.

QUESTION *What other pressing work-related issues are currently being addressed?*

A We are discussing the expansion of the number of job classification levels, or slots. There was also a concern about scientists, engineers and technologists not being able to move to the highest level of employment at JPL unless they became managers. That's going to change. We will provide additional administrative support for group supervisors so they can focus on the technical issues, and on managing their group. When things need to be done above and beyond their normal mode of operations, we will provide the funds to do that. We promised project managers that we would look into reducing, and focusing, the number of reviews required for mission development, and we are talking with NASA Headquarters about this now. In May I promised I would meet with group supervisors every six months, and last week I completed the first in that series of meetings. I've also begun to establish a schedule to meet with groups of all employees. My intent is to have another all-hands meeting in late September to address these and all other actions that have been taken since I became director.

QUESTION *What about the new management councils you've created? How are those progressing?*

A We're just starting the councils. Basically, we divided the EC's activities into four areas. The council for science and technology will be provided with the burden funds for that area, and will be responsible for the allocation, for instance, for the Centers of Excellence funding. The council will look at the strategic approach of how we address our technology issues, and how we create a stable environment for our researchers. The council for flight projects focuses on how we create the environment, capability, and procedures to be successful in our flight projects, and to ensure having the necessary engineering infrastructure. The business management council is now examining our burden budget. They're also looking at job slotting, as well as other areas such as rules and procedures. The strategic management council is working to create 10- to-20-year strategy for JPL. I gave them a tight schedule to do it; I'd like that plan worked out by the end of the calendar year, including a series of milestones between now and then.

“ I want to stress how delighted I am with employees’ positive attitude and excitement about what we do at JPL. I’m particularly encouraged that everybody wants to help make the Lab successful. ”

QUESTION *You also spoke about your desire to cut bureaucracy, to make life a bit easier for employees. Is there any progress thus far?*

A Yes. The first good example is the recently announced improvements in travel policies. I

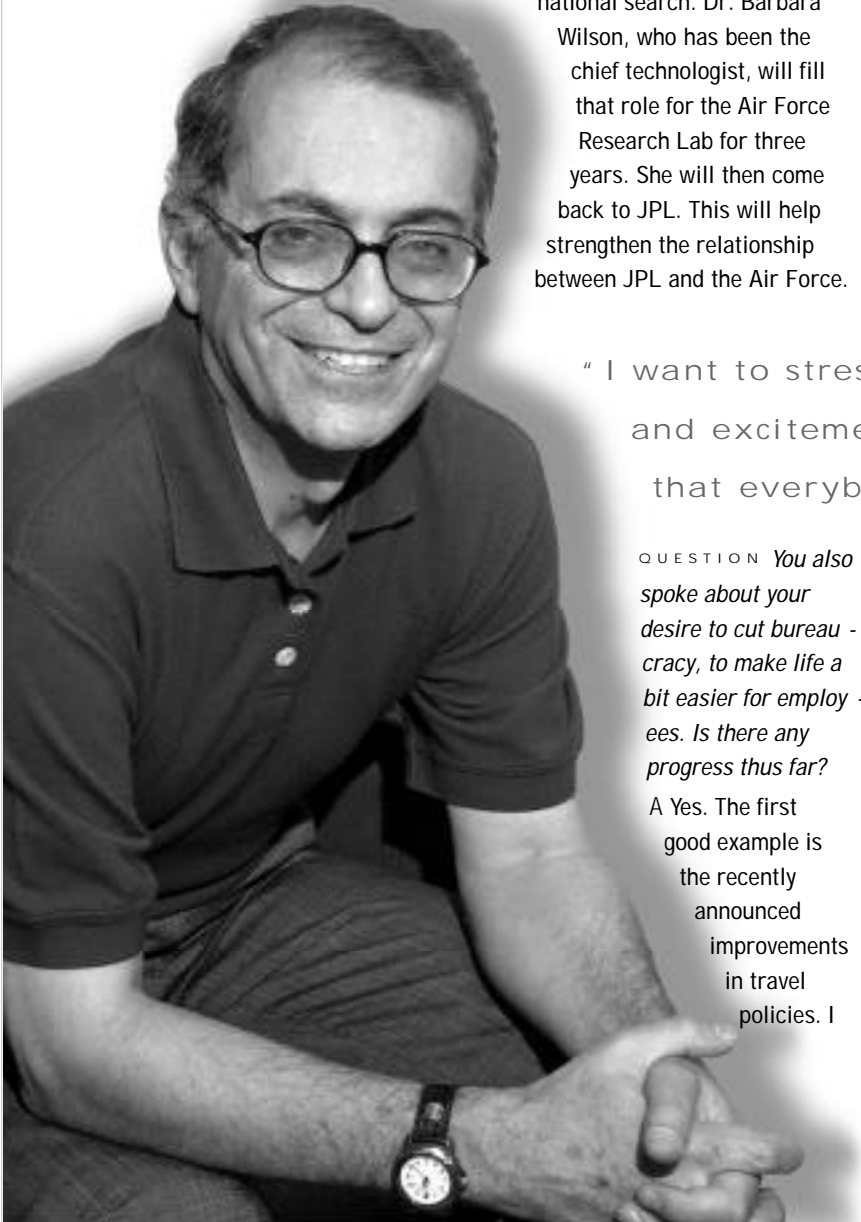
QUESTION *Why such a long-term outlook?*

A We want to have a specific plan for the JPL of the next 10 years as well as a more general plan for the following 10 years. The plans will seek to identify the activities we will be doing in-house, and the kind of capabilities we will need—both talent and facilities.

We will go through a series of iterations in the coming months, and I want to make sure there is a broad buy-in to the strategic plan, both internal and external. The EC will review the plan, followed by input from senior managers, division managers and project managers. There will also be numerous opportunities for all employees to see the report before it's finalized. We'll also have a Caltech "visiting committee" provide input, and I'm also going to form an independent peer-review group to serve as an advisory council.

QUESTION *What's the latest on JPL's and NASA's budget for the upcoming fiscal year?*

A We are in the midst of the budget cycle. The House has supported the NASA budget—and the things related to JPL—fully, and all of our activities in their version of the budget bill are funded. In the Senate bill, there are three areas we're following closely: a proposed reduction in the Mars budget; a proposition



continued from page 3

that the Europa Orbiter should be competed; and a proposal that Deep Space Network operations be transferred to the Consolidated Space Operations contract.

We and NASA Headquarters are doing all we can to explain to Congress the implications of those actions. I'm confident that in the end, people will agree with us that there should not be a change.

By the way, the same thing happened two years ago, when it was proposed that operations be transferred to the Consolidated Space Operations contract, and Congress was convinced that it was not the right thing to.

QUESTION *Genesis is coming up for launch, your first as director. Your feelings?*

A All of us at JPL look forward to launches, rendezvous, landings, etc., so in a sense a launch is a combination of five or six years of a lot of effort. Genesis is not only a very exciting scientific mission, it's also an example of how JPL can indeed successfully do science-driven missions in a constrained-budget environment. This will be the first sample-return mission since the Apollo Program and the first sample from beyond the moon.

This is the third JPL mission in the Discovery Program. The first one was Mars Pathfinder; the second was Stardust, which is on its way to a comet right now. Our next Discovery mission after Genesis will be Deep Impact, which will launch in 2004.

Letters

Thanks very much to the ERC for the plant and to my co-workers in Section 351 for their expressions of sympathy over the recent death of my father after his long illness.

George Wells

Bruce and I would like to thank the AIRSAR Group and 334 for the comfort and understanding of the recent illness and passing of my grandmother. Thanks to the ERC for the lovely plant.

Lori and Bruce Carrico

Passings

DAVID KUMA, 62, a former systems engineer in Section 332, died of cancer July 10 at his home in Rancho Cucamonga.

Kuma worked at JPL from 1975-94. He is survived by his wife, Essie, six children and 10 grandchildren. Services were private.

Correction

In the July 6 issue of Universe, an articles in the Passings column report-ing the passing of Elmer Hastings should have indicated that he is sur-vived by his wife, Ann , as well as his children and grandchildren.

Classifieds

For Sale

AIR CONDITIONER, 3 ton, electric, like new, purchased at \$3,500, sell \$600. 368-9520, after 6 p.m.
BABY GYM, Fisher Price, was \$40, now \$10; STROLLER, Emmaljunga, side by side double stroller, hunter green, top of the line, like new, purchased for \$399, sell \$299.626/ 850-4378.
BABY/TODDLER ITEMS, Little Tykes toddler playgym with slide, \$35; sandbox, new and used baby/toddler girl items and toys; HIKING BOOTS, new, Vasque, ladies, size 7, \$75; BIRD CAGES, new/used. 626/798-6248.
BED SET, 7 piece, double canopy, includes box spring and mattress, cream/yellow trim, all wood, vg cond., \$800/obo. 368-6303.
BEDROOM SET, girls, charming, incl. head-board, twin bed with canopy, bedspread, sheets, etc., dresser, mirror, nightstand + many accessory pieces, all matching, \$400/obo. 626/791-1581.
BICYCLE, Schwinn, 10 speed, 24" frame, black, \$95. 626/793-3082.
BICYCLE, specialized road bike, 1991 Allez, lg. carbon fiber frame, Suntour 12-spd shifters, very light & stiff, both triathlon & std drop bars, Look pedals, \$300. 626/794-0886, Ted.
BICYCLES, children's, \$10/ea; COOLER, Coleman, used once, \$15. 626/357-8210.
BOOKCASE, black, 6' 8" tall x 2' 8" wide x 11" deep, 5 adjustable shelves, attached light, IKEA modern, \$75. 626/798-4265.
CD JEWEL CASES, 50, \$10; JENNY CRAIG diet tapes, set of 14, \$50; COMPUTER POWER CONTROL CENTER, 5 power switches + 1 master switch, 5 surge-protected outlets + 2 modem/fax/phone jacks, new, \$20; ORGAN, Yamaha 415 electronic console w/13 pedals, 3 keyboards, 144 rhythm patterns, pd. \$7,500, sacrifice for \$3,000. 818/790-3899.
COFFEE, Kona, top of the line, 100% pure, hand picked from top quality trees, 100% sun dried, rich, dark roast, limited supply, discount-ed 45% at introductory price of \$21/lb. 626/584-9632.
COMPUTER, Gateway Essential 450, 450 MHz P3, 128 MB, w/17" monitor and HP printer, 2 yrs. old, \$550/obo. 562/923-4347, eves.
COMPUTER EQUIPMENT, vg cond., power com-puting, PowerBase 180, Mac clone, 180 MHz 603e, 32 MB RAM, \$100; HP LaserJet 6MP printer, localtalk and parallel connectors, \$50; ZIP 100 drive, SCSI connector, \$25; Global Vil-lage Teleport 56K modem, serial connector, \$5. 626/577-0068.
COMPUTER MONITOR, new, in box, eMachines eView, 15P, 15" color monitor, 13.8" viewable, .28mm dot pitch, digital control, plug & play, non-glare, flat screen, 1024 x 768, 60Hz, \$60. 353-6369, eves.

CRIB AND DRESSER SET, Bellini, exc. cond., \$600. 952-7472.
DRAFTING/DRAWING TABLE, 23" x 31", wooden, adjustable tilt/height, exc. cond., \$65. 626/304-0737.
DRESSING TABLE, art deco, wood, antique, vanity w/mirror and 5 drawers, circa '20s-'30s, great cond., \$350. 368-9520.
ENTERTAINMENT CENTER, IKEA, for up to 36" TV, near new, cherry wood color, \$100/obo. 249-4536.
ENTERTAINMENT CENTER, holds 27"- 30" TV, 4 adjustable shelves, glass front, VHS/CD storage, 5' wide x 4' tall x 20" deep, IKEA black modern, \$150. 626/798-4265.
FRAMED ART WORK, 2 custom finished wood framed poster works, very colorful, one is Aus-tralian flags and the other is Australian parrots, frames about 32" high by 20" wide, ideal decorative items for family room, office or den, \$32/ea. 236-4869, after 5 p.m.
FURNITURE: King size bed with mattress, looks nice, includes 2 chests; washer & dryer, good cond. 626/584-1164.
FURNITURE: leather sofa, beige, matching loveseat, \$900; entertainment center, 3 pc., solid wood, \$225; dinette set w/4 chairs and 2 barstools, \$95; futon, \$15; waterbed, motionless, \$150; dresser, \$20; computer desk w/hutch, \$50. 626/793-3082.
KITCHEN CABINET, with stainless steel sink, chrome faucet and spray, white Formica cabinet with 3 doors and 1 drawer, 39" H x 52 " W x 26" D, \$65. 626/798-0329.
MICROWAVE OVENS: Sharp, simplest operation, no turntable, works perfectly, \$45; Sharp, includes turntable, easy-to-use, almost new, exc. for student, senior, sm. apt. or second oven, \$60, buy both at a discount. 310/393-1951, in Santa Monica.
MISC: TV, 27" Zenith, with GE 4-head video; washer and dryer, Maytag; dryer is gas, both very reliable; assorted small kitchen appliances; pine tables and chairs, sofa, sofa/futon, assorted lights and lamps, blinds, cane garden furniture, assorted pot plants, Q/size pine bed, pine dresser, drawers, interna-tional relocation, any reasonable offers accept-ed. 323/547-4920, Tom, cell.
MISC: blood pressure meter, automatic unused, \$40; lawn mower, rotary Cadet, \$125; plastic Xmas tree; Garmin 45 XL GPS, \$100; VCR, \$30; Nikon F3 w/2 lenses, \$250; piano, Knabe spinet, \$300; sump pump, 5 amp, \$30; sewing machine, Singer, old treadle, \$225; sewing ma-chine, Sears 1975 model, \$100. 790-0697.
MISC: Cassiopeia EM-500, Pocket PC, Windows CE, Excel, Word, Internet, Pocket Streets, adv. scientific/finance calculators, MP3 player, digi-tal voice recorder, color, handwriting recognition, holster case, manual, box, warran-ty, brand new, \$299; speakers, center channel, 150W, Cerwin Vega, efficient, exc. cond, \$59; car stereo, Toyota AM/FM/ cass, 1998, exc. cond., \$49. 909/592-9279.
MISC: computer desk, solid oak, \$250; bookcase, oak, \$40; file cabinet, oak, \$20; audio cab., glass front, \$30; TV stands \$20/ea.; carpet, Persian, 9 x 12, pd. \$3,600, \$1,800; 2 bd. dressers & mirror, \$100; recliner, leather, \$100; end table; Ethan Allen; Japanese doll; large stereo cab. with speakers, \$100; refriger-ator; washer; dryer. 790-0697.
MOVING SALE: Amana refrigerator, white, 4 yrs. old, \$400; washing machine, Kenmore, white, 2 yrs. old, \$250; gas dryer, Kenmore, white, 2 yrs. old, \$200; generator, Coleman, 3500 Watts, 100 hrs. op. time, \$200; Nordic Track \$100. 626/798-8065.
PIANO, Schaefer & Sons spinet, w/bench, great cond., pecan finish, ideal for beginner, \$450. 795-8962.
PILOT CASE, great for school or business, lots of pockets, \$30; DASH PROTECTOR, blk, '95 Honda, \$20. 362-3358.
REFRIGERATOR, used Sears Coldspot model 106.D9F2-B, clean, white, 10 cu. ft. capacity, ice tray, all shelves, 2 crisper drawers, meat drawer, ideal for a second refrigerator in garage for holiday overload or big party, \$50 if picked up, \$75 if delivered (within 25 miles of my house). 248-3260, evenings.
SOFA, sectional sleeper, makes into queen-size bed, attractive abstract water color design in cream, aqua, mauve, great cond., \$350;
COFFEE TABLE, white oak finish, with glass panels, like new, see photos at ERC, or call for email photo, \$100. 830-8993, eve & wkend, 903-8979, cell.
SOFABED, beautiful, lt. green velvet, sturdy wood frame, paid \$1,100, sell for \$500/obo. 805/234-0323.
SURFBOARD BAG, holds four boards, \$20. 790-5643.
TABLE, dinette, square glass top 5' x 5' w/metal feet and 4 matching chairs, \$700/obo; BAR STOOL, four matching, metal frame, all in superb condition, \$300/obo. 626/398-3480.
TABLE, dining for 8, w/china cabinet, beautiful cond., walnut color w/hand-designed side trim-mings, \$400/negotiable. 213/614-0029, Harriett.
TELESCOPE, 8", Celestron C8 Schmidt-Cassegrain 6, 17, 25 and 40 mm eyepieces, Pelican case, bought in 1996, like new, \$1,500. 626/798-4016 or czrider@pacbell.net.

However, it's most important to point out that in all of these missions, we will make sure to not jeopardize the quality of the mission and the criteria for success. In the case of Genesis, it was originally scheduled to launch in January, but I credit Ed Stone for the decision that a launch at that time was not appropriate or wise, that it would be safer to delay it. I think it was the right decision.

QUESTION *Beyond Genesis, the Lab has a busy year ahead, doesn't it?*

A Yes, and it's going to require all of our best efforts. Still to come in 2001 is Mars Odyssey going into orbit Oct. 23, the launch of Jason [an oceanography mission sched-uled to launch in September] and the Gravity Recovery and Climate Experiment (GRACE) [planned to launch in November]. Galaxy Evolution Explorer will launch next spring, and Space Infrare Telescope Facility (SIRTF) launch will be coming up next July.

We also have a very critical period in the next year with the Mars Exploration Rovers. I acknowledge that the team members are working very hard. I've told the team and senior managers if there's anything I or the Executive Council can do to help them, to let me know about it. It's a big challenge, but when we do these missions well, the rewards are great.

Free

DOG, small, black dachshund/lab mix puppy; very friendly, sweet, affectionate; recently spayed, has all shots; great with kids, dogs and cats. 626/301-1538.
DUCKLINGS, white, one month old. 626/795-4537.
PLANTS, Agapanthus (Lily of the Nile) and Bird of Paradise. 626/793-3393.
WASHER/DRYER, Kenmore dryer, works great, Whirlpool washer, needs some work, must take together. 248-8103, Mike.

For Rent

ARCADIA, charming guesthouse, separate entry, overlooking a small garden, furnished, laundry facilities, no pets, non-smoker, shared utilities, \$795. 626/441-0041, Kris.
BURBANK HILLS, 4 bd., 1.75 ba., gardener, complete new int., cl. to schools, huge yard, 20 min./JPL, \$2,600. 843-7180.
LA CANADA guest house, studio, 1 ba., on horse trail, less than 1/2 mile to JPL, private and quiet, carpet, covered parking, loft, patio, cable modem, large storage attic, 2 yr. lease, \$650 inc. gardener & utilities. 790-0490 or 626/683-0282, Judy.
LA CANADA guest house, 1 bd., 1 ba, study, 1.5 blks./Palm Crest Elementary School, avail. 9/15, \$950. 952-8638, Susan, after 6 p.m.
NORTH ALHAMBRA, borders South Pasadena, 2 bd., 1ba., upstairs rear unit apartment, kitchen furnished with all appliances, all utilities incl., very private, avail. 8/15, \$1,200 + \$1,200 dep. 626/570-6123.
PASADENA house, San Rafael Hills, 5 min./JPL, 4 bd., 2 full ba., laundry rm., lg. living rm., newly painted and carpeted, modern kitchen w/ stove, oven, fridge, microwave, and breakfast area; large, private lot w/wfully usable greenhouse, 2 lg. workshops, mature trees and a pond with/fountain, fish and lillies; \$2,800, in-cludes gardener. 323/255-6598.
PASADENA, furnished and unfurnished, 2 bd., 1.5 ba., townhome-style apt., a/c, laundry, parking, 2 mi. to Caltech, avail. 8/15, \$995 + util. for unfurn., \$1,150 + util. for furnished. 626/351-9641.
PASADENA, studio condo, 1115 E. Cordova, gated facility, fully furnished, tenant pays elec-tric, carport, laundry, no pets, non-smoker, \$825. 626/792-9053, Marilyn or Ray.
PASADENA, large furnished studio apt., w/sitting area, kitchen, bath, a/c, parking, near PCC and Caltech, great for co-ops or students, avail. 8/15, \$750 + utilities. 626/351-9641.
SOUTH PASADENA, fully furnished studio apt, 1718 Huntington Dr. betw. Marengo & Milan Sts, car space, laundry, utilities paid, no pets, non-smoker, \$750. 626/792-9053, Ray or Mari-lyn.
SAN MARINO, 2 bd., convertible den, sunroom, 1.75 ba., hardwood floors, crown moldings, beautiful landscaping, close to elementary and high school, north of Huntington Drive. 626/793-9943.

Vacation Rentals

BIG BEAR LAKEFRONT, luxury townhome, 2 decks, tennis, pool/spa, beautiful master bd. suite, sleeps 6. 949/786-6548.
CAMBRIA, ocean front house, sleeps up to 4, excellent view. 248-8853.
HAWAII, Kona, ocean front on Keauhou Bay, house and guest house comfortably sleep 6, 3 bd., 2 ba., rustic, relaxing and beautiful, swim-ming, snorkeling, fishing, spectacular view, near restaurants, golf and other attractions. 626/584-9632.
HAWAII, Maui condo, NW coast on beach w/ ocean view, 25 ft. fr. surf, 1 bd. w/loft, compl. furn., phone, color TV, VCR, mcroww., d/w, pool, priv. lanai, slps 4, 4/15-12/14 \$105/nt./2, 12/15- 4/14 12/nt./2, \$10/nt. add'l person. 949/348-8047.
MAMMOTH, Chamonix condo, 2 bd., 2 full ba., sleeps 6, fully equipped elec. kitchen, includes microwave & extras, fireplace and wood, color TV, VCR, FM stereo, pool & sun areas, sauna, game and rec. rms, old Jacuzzi's, Indy. rms., BBQ areas, conv to hiking, shops, summer events, daily/weekly rates. 249-8524.
MAMMOTH, Courchevel, fully equipped unit, 2 bd., 2 ba., sleeps 6, summer rates for summer activities, fishing, mountain biking, hiking. 661/255-7958.
MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, sleeps 6-8, fully equipped kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/view to mtns, Jacuzzi, sauna, streams, fishponds, close to Mammoth Creek, JPL discount. 626/798-9222 or 626/794-0455.
OCEANSIDE, on the sand, charming 1 bd. con-do, panoramic view, walk to pier & harbor, pool/spa, game rm., sleeps 4. 949/786-6548.
ROSARITO BEACH condo, 2 bd., 2 ba., ocean view, pool, tennis, short walk to beach on priv. rd. 18-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.
VENTURA, Beach cottage, 3 bd., 1 ba., sleeps 6, with TV, VCR, CD player, washer-dryer, back-yard BBQ, short walk to beach and Marina Park. 248-0521.

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Sun-bound Genesis finally on its way

by Martha Heil

Genesis mission operations team members at JPL share traditional “good luck peanuts” a few minutes prior to launch. From left are Don Sweetnam, mission manager; Marla Thornton, ground data system engineer; Nora Mainland, sequence engineer; Jim McClure, flight operations engineer; and Gene Brower, deputy mission manager. The tradition dates back to JPL missions of the 1960s, when the peanuts were passed out at launches and became associated with mission success. Starting with the Voyager mission, the tradition was extended to include planetary encounters.



Photo by Bob Brown / JPL Photolab

Following a number of technical and weather delays, the JPL-managed Genesis spacecraft launched flawlessly atop a Delta 7326 rocket from Florida’s Cape Canaveral Air Station Aug. 8 at 9:13:40 a.m. PDT.

Genesis will become the first mission ever to return a sample of extraterrestrial material from beyond the Moon when it catches a piece of the Sun to return to Earth. Two days after launch, the Genesis team reported that the spacecraft continues to proceed exceedingly well, and that all spacecraft subsystems are performing normally. Genesis’ flight path was adjusted successfully Aug. 10 at about 10:21 a.m. PDT. The small thrusters burned for 53.5 seconds. This moved the spacecraft about 5.2 meters per second (11.6 mph) into a path to reach the Lagrange 1, or L1, point, where the gravities of the Sun and Earth are balanced. Genesis will reach L1 in November 2001. The spacecraft’s next flight-path adjustment is scheduled for early September.



Kennedy Space Center

Among various housekeeping events just after launch, the team commanded the spacecraft to transmit to Earth and brought the spacecraft out of safe mode, a standby state used to keep the spacecraft dormant during launch. Genesis has now communicated with all three of NASA’s Deep Space Network stations—in Goldstone, Calif.; Canberra, Australia; and Madrid, Spain. The team also commanded Genesis to spin at its normal rate, 1.6 revolutions per minute. Genesis will collect pieces of the Sun called solar wind to help scientists better understand our solar system’s development. In September 2004, Genesis will return to Earth, descending to the landing site at the Utah Test and Training Range near Salt Lake City, Utah, an area chosen because it is a vast, desolate and unoccupied salt flat controlled by the U.S. Army and Air Force. The capsule in which the samples are sealed will be slow down with the aid of a parachute and be snagged in mid-air by a helicopter. The precious samples will be airlifted to the Johnson Space Center in Houston, where they will be distributed for scientific analysis and safely curated in order to be available for the next century of planetary science studies.

Galileo completes Io flyby

By Guy Webster

JPL’s Galileo spacecraft successfully completed a flyby of Jupiter’s moon Io on Aug. 6, skimming about 200 kilometers (124 miles) above the surface of the highly volcanic moon. JPL engineers said signals confirming the veteran spacecraft’s basic health were received five and a half hours after the flyby via a Goldstone, Calif., antenna of the Deep Space Network. Initial telemetry did not reveal whether or not Galileo passed through a volcanic plume on Io. Galileo’s route went directly over a volcano named Tvashtar, which had been spouting a tall plume of gases when last observed seven months ago. “As expected, we don’t have any sign at this point that the plume was still active, but whether it was or not, we expect this flyby will give us valuable new information about changes in the Tvashtar area from recent activity,” said JPL’s Dr. Eilene Theilig, Galileo project manager. The area was to be examined by Galileo’s camera and near-infrared mapping spectrometer. Galileo’s camera, which has had an intermittent electronic problem for more than a year, appears not to have been working during the closest part of the flyby. Engineers have narrowed the cause of the problem to one of two electronic components probably damaged by radiation from Jupiter’s radiation belts. Nine or more of the camera’s 16 planned observations during the encounter period were probably lost, Theilig said. The camera was functioning again in time for more-distant observation of Io on Tuesday, Aug. 7. Recorded data from the camera and Galileo’s other instruments will be transmitted to Earth over the next two months. “We’re looking forward to getting data back from the observations to confirm that the scientific instruments worked as planned,” Theilig said. The flyby’s polar route was selected so Galileo could collect magnetic measurements that might indicate whether Io generates its own magnetic field, like Earth, Jupiter and Jupiter’s moon Ganymede. That information could give scientists a better understanding of what goes on deep inside Io, the most

volcanically dynamic world in the solar system. The magnetometer and other instruments for studying fields and particles appear to have been working during the flyby. “All of our previous magnetic measurements at Io have been on equatorial passes, and from those we can’t tell whether the field at Io is induced by Jupiter’s strong magnetic field or produced by Io itself,” said JPL’s Dr. Torrence Johnson, Galileo project scientist. Coming close enough to Jupiter to approach Io subjects Galileo to intense natural radiation from Jupiter’s radiation belts, increasing the risk to the spacecraft’s electronics. “We’re especially satisfied to get the magnetic field measurements that were the highest priority science objective for this flyby,” Theilig said. Galileo has already received more than three times the cumulative radiation exposure it was designed to withstand and has continued making valuable scientific observations more than three years after its original two-year mission in orbit around Jupiter.

News Briefs

“The new traffic flow means that JPLers need to be alert, slow down and be aware of pedestrians and slow-moving construction vehicles.”

Chuck Boles, parking coordinator

Elachi announces senior appointments
Laboratory Director DR. CHARLES ELACHI has announced personnel appointments for three senior JPL managers.
JOHN BECKMAN has been named Director for the Engineering and Science Directorate. Beckman joined JPL in 1971 and has held various management positions on Lab since 1977. In 1998 he was named Systems Division Manager and remained in that position until this year, when he was named the deputy director for the Engineering and Science Directorate.
GAEL SQUIBB has been appointed Special Projects Manager, Office of the Director. Reporting directly to Elachi, Squibb will manage studies and initiatives aimed at improving JPL's operations management, systems, and processes in



John Beckman

the complex multi-mission environment of the future. With JPL since 1968, Squibb has served in numerous management positions, most recently as Director for Telecommunications and Mission Operations.
DR. WILLIAM WEBER III has been named Director for the Interplanetary Network and Information Systems Directorate. Weber has worked at JPL since 1967. He served as manager of the Communications Systems Research Section starting in 1982, and four years later was named manager of the NASA Technology Program. In 1991 he became manager of the Telecommunications Science and Engineering Division, and since 1996 has served as director for the Engineering and Science Directorate.

JPL's east lot gets a new look
JPL's east parking lot is getting a much-deserved and much-needed facelift. The parking lot has been under construction since Aug. 13, with the first phase of construction scheduled to be completed by Friday, Aug. 17. The newly resurfaced and re-striped lot will provide about 60 more parking spaces. Refurbishing the east lot was one of the priority recommendations made in the final report by the Laboratory's Parking Study Team.
Phase II, the actual re-surfacing and re-striping, will be done entirely on weekends (Aug. 18–19, through Sept. 1–2), in order to minimize the inconvenience to the JPL community.
The lot will have permanent traffic pattern changes, as well as relocated bus shelters. The inbound lane will run along the east side of the lot, while the outbound lane will roughly follow the path of the current bus lane on the west side. Buses will use the same traffic lanes as cars, and bus shelters will be relocated to new locations. Since the new design has pedestrians crossing vehicle traffic to get to the bus shelters, speed bumps and pedestrian crosswalks will be installed. The maximum speed limit is 20 mph and passing a stopped bus during passenger loading and unloading is not permitted.
In order to generate the 60 more spaces, the newly re-striped spaces will be what is referred to as a “NASA standard” space—larger than a compact, but smaller than the spaces that had been used previously. A limited number of oversized spaces will be available on the west side of the lot, and two electric vehicle charging stations will be installed with the possibility of expanding to four in the future.
The Facilities Division is providing signage and JPL Security has assigned extra officers during construction. “This project has been needed for a long time, and we hope to get it done quickly, and with the least amount of disruption to the JPL community,” said construction manager BERNIE BAKKEN. “The new traffic flow means that JPLers need to be alert, slow down and be aware of pedestrians

and slow-moving construction vehicles,” said parking coordinator CHUCK BOLES.
For questions contact Bakken at ext. 4-4654 or Boles at ext. 4-4586.
New Millennium studies selected
NASA's New Millennium Program, managed by JPL, has selected 13 organizations to study advanced technologies that may fly in 2004 and 2005 as part of the Space Technology 7 Project.
Space Technology 7 will test and validate advanced technologies that may become part of future NASA space missions. The newly-contracted studies will be completed by November.
“The Space Technology 7 integrated system flight validation concepts are very challenging advanced technologies,” said DR. CHRIS STEVENS, New Millennium



Gael Squibb

Program Manager at JPL. “I am very pleased by the number and quality of the responses to the solicitation and look forward to the results of the ST7 Concept Study Reports.”
The technology concepts are Aero-Entry/Capture/Maneuver; Autonomy and On-Board Processing; Disturbance Reduction System; and Solar Sail System. JPL is involved with providing technology concepts for the Autonomy and On-Board Processing and Solar Sail studies.
In December 2001, a NASA review board at will evaluate the reports and select which technology will fly.
For a list of concept providers and other details, go online to <http://nmp.jpl.nasa.gov/st7>.

3 JPL Earth proposals selected
NASA has selected three Earth Science and Technology Directorate proposals from 288 proposals submitted worldwide to the Carbon Cycle Science NASA research announcement.
• Principal Investigator DR. MARY-ELENA CARR (Research Element 3237) will carry out an intercomparison study of algorithms that estimate marine primary productivity from SeaWiFS and Moderate Resolution Imaging Spectrometer (MODIS) satellite ocean color measurements.
• Principal Investigator DR. MAHTA MOGHADDAM (3340), with co-investigators DR. KYLE MCDONALD (3235) and DR. SASAN SAATCHI (3340), will use satellite synthetic aperture radar data recorded from Japanese and European satellites to characterize the biomass of Alaska and Canada.
• Principal Investigator DR. ERNESTO RODRIGUEZ and co-investigator DR. SCOTT HENSLEY (both of 3340), will combine lidar and radar interferometry measurements from airborne and SRTM and IceSat satellite missions to estimate the total carbon stored in mature and regrowing forests.

Permit zones to affect Caltech parking
Beginning as early as Sept. 16, a permit parking zone will take effect along the perimeter of Polytechnic School and on Cornell Street, which bisects its campus. This zone on the west side of Wilson Avenue immediately across from Caltech will be posted with signs indicating parking from 8 a.m. to 3 p.m. on school days is available only to those with a Poly permit,
The net effect of this zone change will mean that Caltech/JPL employees who frequent the buildings on Wilson Avenue (SIRTF, IPAC and Braun Athletic Center) during regular Poly school hours will need to find parking elsewhere on campus. Maps indicating the affected parking areas will be posted at the entrances of Wilson Avenue buildings.
Call GREGG HENDERSON (Caltech Security) at (626) 395-4187, or HALL DAILY (Caltech Government & Community Relations) at (626) 395-6256.

Special Events Calendar

Ongoing Support Groups
Alcoholics Anonymous—Meetings are available. Call the Employee Assistance Program at ext. 4-3680 for time and location.

Codependents Anonymous—Meeting at noon every Wednesday. Call Occupational Health Services at ext. 4-3319.

End of Life Issues and Bereavement—Meets the second Monday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Gay, Lesbian and Bisexual Support Group—Meets the first and third Fridays of the month at noon in Building 125-133. Call the Employee Assistance Program at ext. 4-3680 or Randy Herrera at ext. 3-0664.

Parent Support Group—Meets the third Thursday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Senior Caregivers Support Group—Meets the first Tuesday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Tuesday, August 21
JPL Hiking+ Club—Meeting at noon in Building 238-543.

Wednesday, August 22
Investment Advice—One-on-one counseling sessions are available with Fidelity. For an appointment, call (800) 642-7131.

JPL Toastmasters Club—Meeting at 5 p.m. in the Building 167 conference room. Guests welcome. Call Joy Hodges at ext. 4-7041.

“New Developments in JPL Teleconferencing”—Denise Kulp of Network Operations will provide an overview of voice and data conferencing tools that enable individuals to participate in meetings from any location at any

time. To be held at noon in Building 180-101. Sponsored by Institutional Computing and Information Services.

Wednesday, August 29
Investment Advice—One-on-one counseling sessions are available with Fidelity. For an appointment, call (800) 642-7131.

Thursday, August 30
JPL Golf Club—Meeting at noon in Building 306-302.

Von Kármán Lecture Series—Dr. Lucile Jones, visiting research associate at Caltech and scientist-in-charge for Southern California, U.S. Geological Survey, will present “Earthquake Prediction: A Practical Approach to an Impossible Problem” at 7 p.m. in von Kármán Auditorium. Open to the public.

Friday, August 31
Von Kármán Lecture Series—Dr. Lucile Jones, visiting research associate at Caltech and scientist-in-charge for Southern California, U.S. Geological Survey, will present “Earthquake Prediction: A Practical Approach to an Impossible Problem” at 7 p.m. in The Forum at Pasadena City College, 1570 E. Colorado Blvd. Open to the public.

Thursday, September 6
Eldercare and Caregiving Issues—JPL's Employee Assistance Program and the Senior Caregivers Support Group will host an important program for those dealing with assisting their aging relatives. Following the success of presentations on this topic in 2000, an expert panel of professionals has been reconvened, including Ian Binder, an expert in long-term care insurance; Margie Thornhill, RN, a geriatric care coordinator with Huntington Hospital Senior Care Network; and David Bunn, an attorney who specializes in elder law and probate. To be held from 11:45 a.m. to 1 p.m. in von Kármán Auditorium.

Mission architect interns named

Three JPL researchers have been selected to participate in the two-year Mission Architect Development Program starting this fall. Robert Shotwell, Dr. Frank Webb and Dr. Greg Wilson were chosen for the program from a field of 20 applicants.
Now in its sixth year, the program is administered by JPL's Center for Space Mission Architecture and Design. The objective of the program is to develop the next generation of mission architects who will design and implement future JPL missions.
The internship will be tailored to fit participants' individual needs with educational opportunities and job assignments aligned with their professional interests and areas of expertise. Interns will be paired with a JPL mentor for guidance and counseling.
Shotwell, who recently joined the Mission and Systems Architecture Section (311) after leaving the Advanced Propulsion Concepts Group (3534), is currently the JPL lead for the Phase II In-Space Transportation Propulsion future technologies study led by Marshall Space Flight Center. Shotwell, who started at JPL in 1993 as a technical co-op student, is also the chief systems engineer for NASA's proposed Comet Nucleus Sample Return project and is in the



Robert Shotwell



Dr. Frank Webb



Dr. Greg Wilson

process of reconstructing a microspacecraft program at JPL.
Webb is currently the supervisor of the Satellite Geodesy and Geodynamics Systems Group in Section 335, and is also the Project Element Manager of the Southern California Integrated GPS Network. He began at JPL as a member of the technical staff in 1990.
Wilson, who joined JPL in 1998, is a research scientist in the Geophysics and Planetary Geosciences Group in Section 323, and is the science lead for Mars Advanced Concepts. He has been involved in developing, delivering and operating in-situ instruments on Mars Pathfinder and Mars Polar Lander.



For the past few months construction crews have been busy welding, jack-hammering, and generally making a lot of noise and dust adjacent to

the Red Planet Cafe. What could possibly be in the works? Universe caught up with Suzanne Bradfield, manager of Employee Services and Recognition, and Bertha Hines, assistant administrator of Employee Services and Recognition, and asked them what all the noise was about.

What is going on behind the Red Planet Cafe?

S B It's JPL's new wellness and fitness facility, called "The Wellness Place." It is located in Building 167-111, adjacent to the Red Planet Cafe and 167 conference room. We anticipate the grand opening of this room to be on Monday, Sept. 10.

How did The Wellness Place come to exist?

S B In the summer of 1999, Human Resources randomly surveyed JPL employees regarding their ideas on becoming an "Employer of Choice." One of the most requested items was fitness classes. The Executive Council approved a recreation room as part of JPL's "Employer of Choice" initiative. It is funded out of the Caltech Award Fee.

What is the Caltech Award Fee?

S B Caltech receives a fee from NASA for operating JPL. The amount of money that Caltech receives is based on the agency's report card for JPL. As an incentive, Caltech has, in recent years, returned some of that award fee to JPL, based on the Lab's outstanding performance.

How does this project relate to JPL's "Employer of Choice" goals?

S B A commitment to wellness and work/life balance is a strong component of the "Employer of Choice" initiative. To be considered an "Employer of Choice" one must offer, in addition to the obvious things like salary and basic benefits, some intangible benefits that employees find valuable. In today's health-conscious environment, The Wellness Place will allow JPL employees to address wellness and fitness issues right here on Lab.

Why are you calling it "The Wellness Place?"

S B Because of the wellness activities it will encompass. JPL is dedicated to promoting the long-term physical and mental well being of its employees, through fitness classes and wellness seminars.

What kinds of activities will be offered?

B H Initially, we will have yoga classes. We are working on implementing aerobics and tai chi classes in the future. Classes will be organized into six-week sessions with two, one-hour classes per week and individual (non-session-based) classes. All classes will take place before work, noon-time and after work.

Are contractors eligible to take classes?

S B Unfortunately, due to space constraints this program is available to JPL employees only.

How much will it cost to participate in the programs and classes?

S B As part of the Employer of Choice initiative, all initial classes (yoga, aerobics, tai chi) will be paid for with Caltech Award Fee money. As our curriculum increases, it may become necessary to charge employees a nominal fee.

How does one enroll to participate?

B H Employees must go online to the Employee Services & Recognition Wellness Place Web site at <http://eis/sec614/reward/wellnessplace/index.htm> and enroll via the Registrar system. There will be a maximum capacity of 25 employees per class. If the class is filled, the employee will be put on a waiting list, similar to signing up for any Professional Development course. Should any employee sign up for a class and not attend, they will be pulled from the class after two no-shows, in order to make space available for other employees.

Is a medical release necessary to participate?

B H Yes. The prerequisite to signing up for any fitness class is a basic health screening with Occupational Health Services. To select a date for screening, employees must enroll via the Registrar system. A follow-up phone call to OHS at ext. 4-3319 is required to schedule the screening.

Will The Wellness Place be available for other activities?

S B It will be used for "wellness seminars" such as Weight Watchers and Parent Support Groups. It will not be used as an open conference room for JPL employees to use.

Is the JPL gym getting a facelift too?

S B Yes. With Caltech Award Fee money, the Employee Services and Recognition Office has purchased upgraded equipment for the Building 180 gym, including treadmills, upright and recumbent stationary bikes, elliptical cross-trainers, additional free weights and additional workout benches. Also, we are instituting a new locker assignment system to maximize availability for frequent gym users. The gym improvements will be completed by mid-September.

Who should employees contact for additional information?

S B JPLers are welcome to contact me at ext. 3-4067 or Bertha at ext. 4-3706, or refer to the Employee Services and Recognition Web site at <http://eis/sec614/reward/wellnessplace/index.htm>.

The Wellness Place, set to open next month, will offer a respite from the workday routine

BE WELL



Suzanne Bradfield, left, and Bertha Hines

DailyPlanet

online for the JPL community

Classified ads will be available the day before Universe is published, at

http://www.jpl.nasa.gov/dailyplanet

JPL's online news source

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Notice to Advertisers
Advertising is available for JPL and Caltech employees, contractors and retirees and their families. No more than two ads of up to 60 words each will be published for each advertiser . Items may be combined within one submission. Ads must be submitted on ad cards, available at the ERC and the Universe office, Bldg. 186-118 , or via e-mail to universe@jpl.nasa.gov . Ads are due at 2 p.m. on the Monday after publication for the following issue.

All housing and vehicle advertisements require that the qualifying person(s) placing the ad be listed as an owner on the ownership documents.

Passings



Jack James

JACK JAMES, 80, a retired JPL assistant Laboratory director and project manager, died Aug. 7 in Pasadena.
James, who retired from the Lab in 1986 as assistant Laboratory director for Technology and Space Program Development, joined JPL in 1950. Over the next 10 years he progressed from group supervisor to section manager, division manager and then deputy manager of the Sergeant Project, the first U.S. inertially guided ballistic missile.
James was project manager for Mariner II, which flew by and took measurements of Venus in December

1962, and also managed Mariner IV, which flew by and photographed the Martian surface in July 1965. In 1967, he began a 10-year stint as Assistant Laboratory Director for Technical Divisions before taking his final position at the Lab.
He earned NASA's Public Service Award for managing Mariner II, and garnered the agency's Scientific Achievement Medal for managing Mariner IV. He also authored several papers on those two missions.
James is survived by his wife, Ruth; sons Jeff, Jerry and Jack; daughter Susan; and grandsons Jason and Cody.
A memorial service was scheduled for Aug. 18, at 10:30 a.m. at the La Canada Presbyterian Church, 626 Foothill Blvd., with a memorial reception following at Caltech's Athenaeum, 551 S. Hill St., from noon to 3 p.m. In lieu of flowers, James' family requested donations be made to the University of Tennessee, Arnett A. Elliot Fund, University of Tennessee Development Office, 226 Ayres Hall, Knoxville, TN, 37996-1320.

WILLARD BOULTER, 72, a retired quality assurance engineer in Section 354, died of cancer July 6 at his home in Whittier.
Boulter worked at JPL from 1963-93. He is survived by his wife, Janet, four children and eight grandchildren.
Memorial services were held at Plymouth Congregational Church in Whittier. Burial was private.

Classifieds

For Sale

AIR CLEANER, Honeywell Enviracare, portable, Hepa filter, like new, cost \$300, sell for \$150; CARPET CLEANER, Bissell power steamer-wet vac., used once, exc. cond., \$150 new, sell for \$75; STRING TRIMMER/BUSH CUTTER, Sears Homelite, 2-cycle gas engine, vg cond., \$180 new, sell for \$90. 367-8257.
AUDIO EQUIPMENT, subwoofer, Infinity, award winning, HPS-1000, w/built-in amp, 1000W and 15" driver, vg cond., \$400. 626/441-2357.
BEDROOM SET, girls, charming, incl. headboard, twin bed w/canape, bedspread, sheets, etc., dresser, mirror, nightstand + many accessory pieces, all matching, \$400/obo. 626/791-1581.
BIKE, road, specialized 1988 Sirrus, 20" frame, 12 spd, Shimano equipped, Cadence Cycle Com- puter installed, owner's manuals, great shape, recently tuned, \$200/obo. 626/574-3958 eves./ wknds.
BLINDS, vertical, vg cond, 7' 1" and 6', PVC, off-white; SHUTTERS, vg cond., wood, 2 sizes. 626/794-1716, eve.
CABINET/SIDEBOARD, Chinese rosewood, sideboard 5' long, alter table 6.5' long, carved w/ dragon motif, not antiques, exc. cond., photos/ measurements avail. on request, \$625/both; DINING TABLE, golden-oak, round claw-foot dining table w/3 leaves & 5 chairs. 952-8455.
CAMERA KIT, IPIX professional, for dynamic 360-degree virtual tours, includes Nikon digital camera, CoolPix 950, Nikon fisheye lens, Nikon 950 poly cast camera mount, tripod and base assembly, adaptor card, 48 MB flash card, 6V universal AC power adaptor, Kodak battery charger, 4 AA rechargeable batteries, case and IPX Wizard software for Mac. 952-3032.
COMPUTER, AST 166 MB Pentium, 48 MB RAM, 1 GB drive, CD ROM, modem, speakers, keyboard, Win 95, Office 97 + sw., and HP deskjet 870CSE, \$100. 626/840-0955, Mary, leave msg.
DECK, aluminum, for 15' x 24' vinyl pool, fair cond., best offer. 952-9467.
FURNITURE; sofa sectional sleeper, makes into qn-sz. bed, attractive abstract watercolor design in cream, aqua, mauve, great cond., \$350; coffee table, white oak finish w/glass panels, like new, \$100, photos at ERC or call for e-mail photo. 830-8993, eve & wkend, 903-8979, cell.
GARAGE DOOR OPENER, elec., Chamber-lain, vg cond.; LAWN GENIE, drip mist watering system, new, never used. 626/794-1716.
GUITARS, acoustic, '72 Gibson J45 (vg), all original, vg cond., new hardshell case, orig. owner, \$625; '76 guild G37 (gd.), orig. hardshell case, \$425. 626/915-1800.
HYDROPONIC GARDEN EQUIPMENT, ready to start a garden, best offer. 952-9467.
LUGGAGE CARRIER, rooftop, Sears, fiberglass, \$50. 626/797-6982.
MOVING SALE: Amana refrigerator, white, 4 yrs. old, \$400; Kenmore washer, white, 2 yrs. old, \$250; Kenmore gas dryer, white, 2 yrs. old, \$200; Coleman generator, 3500 W, 100 hrs. op time, \$200; Nordic Track, \$100. 626/798-8065.
PLAY STRUCTURE, Little Tykes, with slide \$35; SANDBOX, plastic turtle; BABY/GIRL ITEMS/ TOYS, new & used; HIKING BOOTS, new, leather, Vasque, ladies size 7; BIRD CAGES, many inexpensive new and used; PET ITEMS. 626/798-6248.
REFRIGERATOR, Hotpoint, 17.6 cu. in., good cond., almond color, \$50. 790-9355, after 6 p.m. weekdays or 9 a.m.- 9 p.m. weekends.
RING, diamond cluster, wide Filagree band with eight diamonds, two karats, \$1,200/obo. 626/794-1881.
SLIDE, Little Tykes infant/toddler, canopied, \$12; HALLOWEEN COSTUME, lady bug, infant,

never worn, \$15; PLAY HOUSE/SLIDE, climbing toy, open, \$40; BACK YARD TOY, Fisher Price; ACTIVITY CENTER/PLAYPEN, interlocking, Today's Kids. 626/303-2633.
STEREO, Sears tabletop, am/fm, w/turntable, 33 1/3 and 45 rpm, 8 track and cassette, \$25; TRUCK TIRE, LT, 31 x 10.50, R15, never used, carried as spare, \$35; BIRD CAGE, white, 20 h" x 12" w x 20" l, all accessories, gd. cond., \$20. 367-8257.
TABLE, coffee, oak, w/beveled glass inset, + 2 matching end tables, exc. cond., \$150/all. 661/254-7443.
TABLES, coffee and 2 end, cherry wood, fair cond., \$15/all; BICYCLES, children's, \$15/ea. 626/357-8210.
TABLE, dinette, square glass top 5' x 5' w/metal feet and 4 matching chairs, \$700/obo; BAR STOOLS, four matching, metal frame, all in superb condition, \$300/obo. 626/398-3480.
TABLE, dining room, + 4 chairs, cherry wood top and chair seats, black table, chair legs and trim, \$100; COOLERS, 2, Coleman, large, used once, \$15/ea. 626/357-8210.
TABLE, dining room, 4 chairs and 1 bench, less than a year old, great cond., Asian beech-wood, mission-style, solid, dark stained wood, set includes long table, \$950. 607/277-6861.
TREADMILL, Sears Lifestyler 3000, auto incline, 5.5 mph, \$80. 790-5643.
TWO-WAY RADIOS, Motorola TA280, new in original box, 14 freq., 38 interference codes, 2-mile range, channel scan, VOX, 5.32 oz., great for kids and families at malls or theme parks, \$40 rebate available, retails \$79 each, sell \$100/for pair before rebate. 626/308-2163.
TYPEWRITER, electric, Smith Corona, never used, in portable case, \$20; COFFEE TABLE/ END TABLE, glass top and solid marble base, \$80/obo; CAMERA, manual, Olympus, OM-10, orig. case, exc. cond., w/zoom lens flash and filters, \$140/obo; BACKGAMMON BOARD SET, hand made out of wood and mother pearl inlaid. \$75. 323/722-4412.

Vehicles/Accessories

'96 BUICK Regal, custom, gd cond., air, ABS, near- new tires, new brakes. 951-8376, after 4 p.m.
'87 CHEVROLET K5 Blazer, 6' lift, 35" tires, showcase sound system, new interior, new drive train, rebuilt motor, runs and looks great, 65K mi., \$9,900. 957-3675.
'87 CHRYSLER 5th Avenue, 60,000 mi., silver, automatic, fully loaded, good cond., only 2 owners, \$2,500/obo. 626/791-7313.
'98 DODGE Intrepid ES, white ext. & gry int., exc. cond., loaded, V6, 225 hp, 49K mi., \$12,000/obo. 714/875-9132.
'67 FORD Mustang, 390, 4 spd., S code, new paint, new interior, original LA model, 80% restored, runs great, \$9,000/obo. 626/339-9353.
'68 FORD Ranchero, 390, V8, GT package, C-6 automatic w/console & bucket seats, 90% restored, almost everything new or rebuilt, fresh red paint, correct GT wheels & C stripes, bed liner and hard cover, \$7,500. 952-8984.
HITCH, 5th wheel with tilt, all hardware incl., \$400/obo. 682-2392, leave message.
'96 HONDA Accord LX, 4-dr. sedan, 36,000 mile, red, mostly freeway miles, serviced by Honda dealer only, exc. cond., feels like new, \$12,000. 678-8076 or 595-1453.
'96 HONDA Civic LX, red exterior, gray interior, exc. cond., 69K mi., AM/FM radio, a/c, cruise control, pwr. brakes/door locks/steering/ windows, tilt steering wheel, all maintenance records available, \$8,525. 626/799-3184.
'93 HONDA Accord, LX Sedan 4 dr., automatic, A/C, power steering/windows/doorlocks/ mirrors, tilt wheel, cruise control, AM/FM cassette, exc. cond., new battery, radiator, 135K mi., original owner, \$6,000. 626/914-1737 .
'88 HONDA Prelude 2.0 Si, 2 dr., 4 cyl., auto, pwr. steering, tilt wheel, cruise, am/fm/cass., a/c, alloy wheels, moon roof, new tires, 101K mi., runs great, Kelly Blue Book \$4,800, sell

MICHAEL WONCIK, 74, a retired member of the technical staff in Section 339, died of pneumonia July 26.
Woncik joined the Lab in 1972 and retired in 1992. He is survived by his wife, Nancy, daughter Pamela, son John and a grandchild.
Services were private.

DONALD LEWIS, 80, a retired electrical engineer in Section 374, died of a heart attack July 29.
Lewis joined JPL in 1959 and retired in 1988. He is survived by his wife, Beverly, three children and seven grandchildren.
Services were private.

CHARLES SCHUTZ, 69, retired deputy division manager of human resources, died of cancer July 31.
Schutz worked at the Lab from 1979-97. He is survived by his wife, Joyce, and son Christopher .
Services were private.

GEORGE TETSUKA, 77, a retired senior engineer in Section 375, died Aug. 4 at a convalescent hospital.
Tetsuka worked at the Lab from 1956-89. he is survived by his wife, Charlotte, son Shigemi Shimizu, daughter Joanne Ferris, and eight grandchildren.
Services were private.

for \$3,600/obo. 626/799-5368, leave message.
'87 HONDA Accord LX, blue, 4 dr., automatic, 133K mi. runs great, \$2,700/obo. 957-8221, eves.
'86 HONDA Civic, 2-dr. hatchback, automatic, 107K mi., excellent engine, needs body work, \$1,500. 248-4637.
'90 JEEP Cherokee Laredo, 4 x 4, 4 door, V6, auto, pwr. windows/door looks, tilt wheel, a/c, am/fm stereo, roof rack, tow pkg., 205K mi., runs great, new starter, battery, major tune-up (plugs, distributor, alignment), good tires, dark red w/gray interior, very clean, very strong engine, gd. cond., \$2,300/ obo. 248-7822, Erika or kdnitro@hotmail.com.
'89 MAZDA MX-6 DX Coupe, 2 dr., 120K mi, white, 5 spd. man., very good cond., \$2,000, firm. 626/358-7055.
'92 MERCEDES-BENZ 300E, 2.6L, silver, 138K mi., at, a/c, p/s, p/b, anti-skid pdl., am/fm/cas-sette, sunroof, elect. front seats, sheepskin seat covers, alloy wheels, rebuilt trans, lots engine updates, recent paint/ glass, well-maintained, looks great, 21 mpg, retail Blue Book \$13,750, sell \$11,000/obo. 891-6836, Steve.
'94 SATURN, 5 sp., 120K mi., \$2,200. 957-3675.
'88 SEA RAY boat, 23' cuddy cabin, 185 orig. hrs., 5.7L motor, Mercruiser outdrive, new upholstery, ship to shore radio, live bait tank, \$11,000/obo. 626/339-9353, Greg.
SEATS, front and back, for Jeep Laredo, factory gray, \$125. 626/359-7666.
'91 SUBARU Loyale, 4-dr. wagon, 149K mi., 5 spd., 2 w/d, must sell, very well maintained, a/c, power, locks, steering & windows, CD player, alloy wheels, tilt wheel, Yakima roof rack, new tires, new clutch, recently repaired, transmission, a/c, & timing belt, runs great, Kelly Blue Book \$3,755, sell for only \$2,500/obo, call for pictures. 507-5632 or 626/379-0969.
'86 1/2 TOYOTA Supra 3.0i, 5 spd., 127K mi., white, tint windows, leather, a/c, stereo, cruise, pwr steering/windows/locks etc., clean, vg cond., full maint. records, \$3,000/obo. 626/796-4218.

Wanted

ANTIQUE LINENS, white on white, hand-embroidered, preferably monogrammed (any monogram), must be in exc. cond. 980-1638.
CAMERA, high-end 35mm w/accessories, SLR cameras with separate lenses and other accessories would be ideal. 236-4869, after 5 p.m.
CARPOOLER from Chino Hills, non-smoker, must have car with a/c, only needs to drive once or twice a week. Ext. 3-0828 or 909/465-9868, Allan.
HOUSING, Australian professor visiting JPL seeks rental accommodations for self and family in La Canada school district, Oct 2001 to Feb 2002. 952-1456.
LOVE SEAT, gently used, reasonably priced; HOME COMPUTER, for free or little cost, for mother/disabled daughter. 241-0586.
SPACE INFORMATION/memorabilia from U.S. & other countries, past & present. 790-8523, Marc Rayman.
VANPOOL RIDER, picks up in East Ontario, and San Dimas/Glendora Walmart, full or part time. Ext. 4-7672, Shelley.
WITNESS to car accident on Friday, May 18, 4:15 p.m. on 210 Fwy. East before 134 interchange; accident was between a red Miata covertible and a Peterbuilt 2000 tanker truck. 626/850-4378.

For Rent

ALTADENA house, 2 bd., 1.75 ba., office, detached play/workout room, a/c, cent. heating, washer/dryer hookups, fireplace, newly refinished hardwood floors, new paint inside/out, new linoleum, new stove, nice area near Altadena Golf Course, no pets, non-smokers, available 9/1, gardener and water included, \$1,800. 626/296-2659.
EAGLE ROCK, furn. room in single-family

Letters

Heartfelt thanks to all of my co-workers in the Office of Communications and Education, and all those at JPL who showed their support and concern at the sudden loss of my husband Bob. My family and I greatly appreciate the many cards and the beautiful flowers we received. Our thanks also to the ERC for the beautiful plant. I feel truly blessed to have so many thoughtful, caring friends at JPL.
Maggie Porter,
Public Services Office

Bob and I would like to thank our co-workers and friends for the support during the recent illness and passing of his mother. Many thanks to the ERC for the beautiful plant we received in her memory.
Bob and Mona Witkowski

Retirees

Odell Raper, 43 years, Section 321;
Kirk Dawson, 39 years, Section 100;
Sharon Pasos, 31 years, Section 312;
Bennie Falin, 28 years, Section 930;
Stephen Dermenjian, 16 years, Section 386; Robert Kerr, 12 years, Section 314;
C. Nelson Carter, 12 years, Section 274.

house, nice area, 10 min/JPL, priv. entrance and bath, share kitchen and laundry privileges, \$350 incl. util. 323/256-1785.
LA CANADA guesthouse, furnished, pool, 1- 3-month lease, non-smoker. 790-1103.
NORTH ALHAMBRA, borders South Pas., 2 bd., 1 ba., upstairs rear unit apt, kitch. furn. w/all appliances, all utilities incl., very private, \$1,200 + \$1,200 dep. 626/570-6123.
PASADENA home, 2 bd, 1 ba., 5 min. from JPL, \$1,500. 626/683-1721, Art.
PASADENA studio condo, 1115 E. Cordova, gated facility, fully furnished, pool, patio, lounge areas, tenant pays electric, carport, laundry, no pets, non-smoker, \$825. 626/792-9053, Marilyn or Ray.
SAN GABRIEL, house to share, on Garibaldi near San Gabriel Blvd, beautiful, 3 bd., 3 ba., Spanish-style, great neighb'rh'd, French doors lead from bedrooms to pool, marble foyer with Jacuzzi, water and gardener paid by owner , \$750 + util. 626/390-3046, cell, 626/305-5900 x221, Diane.
SOUTH PASADENA, studio apt, 1718 Huntington Dr. betw. Marengo and Milan Sts, fully furn., util. pd., car space, laundry, no pets, non-smoker, \$750. 626/792-9053, Marilyn or Ray.

Real Estate

PASADENA, completely remodeled, 3 bd., 2 ba., radiant hardwood floors, central air and heating, large fenced yard, 5 min. from JPL, 688 Howard St., \$325K. 626/638-1721, Art.
PASADENA, 4 bd., 2 ba. ranch home nr. end of well-groomed cul-de-sac, 4 mi./JPL, 1,465 sq. ft. on 8,000 sq. ft. lot, built in '81, attached 2-car gar., new tile floors/carpeting/ kitch. appliances, cent. air, f/p, great curb appeal, many fruit trees, \$289,000. 626/797-2731.
PASADENA, exec. condo next to Caltech, totally remodeled, 2 bd., 1.75 ba., 1,200 sq. ft., newly refin. hardwood floors in dining rm, newer appliances, carpet & paint, large balcony just redone, overlooking beautiful trees, top floor unit, park-like setting, walk to Caltech & S. Lake Ave., nice pool & spa, \$249K. 626/585-9048.
SAN DIMAS, 3 bd., 1.5 ba., in-ground pool, brand new central air/heat, extra bonus room, complete 220 upgrade/electrical, backyard in-ground lighting. 909/305-9486.

Vacation Rentals

CAMBRIA, ocean front house, sleeps up to 4, excellent view. 248-8853.
DEL MAR, fully furn. condo, 11/10/01-11/17/01, slps. 6, 2 bd., 1.5 ba., living rm, full kitch., cable tv/vcr, game rm., sauna, pool/spa, laundry rm., bbq area, walk to race track and beach, JPL discont. 626/961-8771.
HAWAII, Maui condo, NW coast, on beach w/ocean view, 25 ft. fr. surf, 1 bd. w/loft, com-pl. furn., phone, color TV, VCR, micro-wave, d/w, pool, priv. lanai, slps. 4, 4/15-12/14 \$105/nite/2, 12/15-4/14 \$120/nite/2, \$10/nite/add'l person. 949/348-8047.
MAMMOTH, Chamonix condo, 2 bd, 2 full ba., sleeps 6, fully equip'd elec. kitch., incl. microwave & extras, fireplace & wood, color TV, VCR, FM stereo, o/d Jacuz., pool, sun area, sauna, game, rec. & laundry rms., play & BBQ area, conv. to hiking, shops, summer events, daily/weekly rates. 249-8524.
MAMMOTH, Courchevel, fully equipped unit, 2 bd., 2 ba., sleeps 6, summer rates for summer activities, fishing, mountain biking, hiking. 661/255-7958.
OCEANSIDE condo, fully furn., 2 bd., 2 ba., fireplace, full kitchen, quiet, relaxing, beautiful setting at beachside, with BBQ, pool, spa, game room, great ocean view, easy walk to pier and restaurants, sleeps 6, avail. weekly or monthly. 909/981-7492, Jim or Darlene, or dfhaug@yahoo.com.
PACIFIC GROVE hse., 3 bd., 2 ba., f/p, cable, tv/vcr, stereo/CD, well-eqpd kit w/microwv, beaut. furn, close to golf, beaches, 17 Mile Dr., aquarium, Cannery Row, JPL discont. 626/441-3265.

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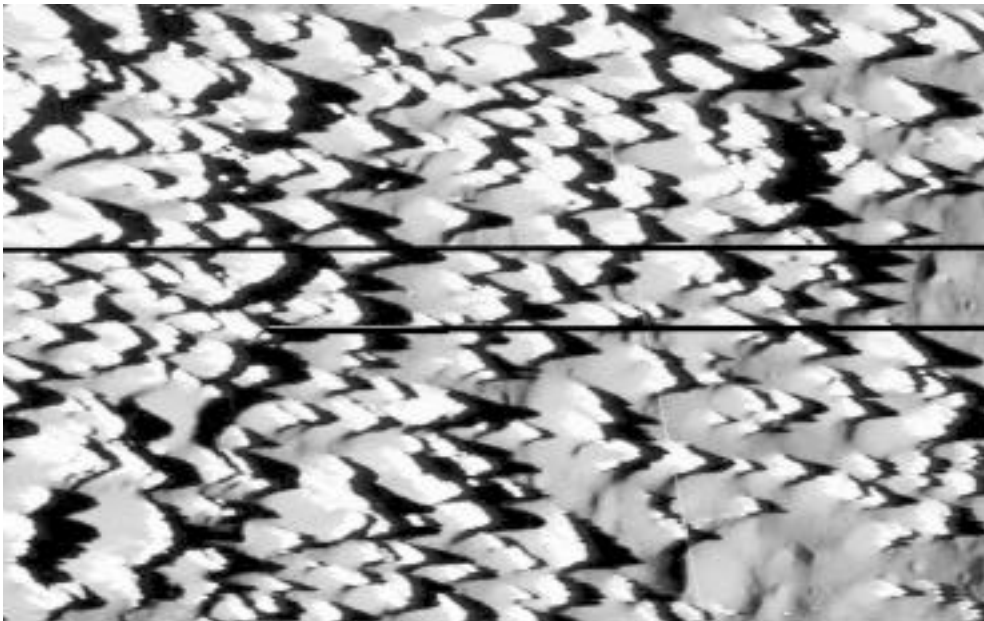
Galileo shows a spiky Callisto

By Guy Webster

Near right: The highest-resolution views ever obtained of any of Jupiter's moons, taken by Galileo in May 2001, reveal numerous bright, sharp knobs covering a portion of Callisto. The knobby terrain seen throughout is unlike any seen before on Jupiter's moons. The spires are very icy but also contain some darker dust. As the ice erodes, the dark material apparently slides down and collects in low-lying areas. Over time, as the surface continues to erode, the icy knobs will likely disappear, producing a scene similar to the image at far right.

t b o m e

SOLAR SYSTEM

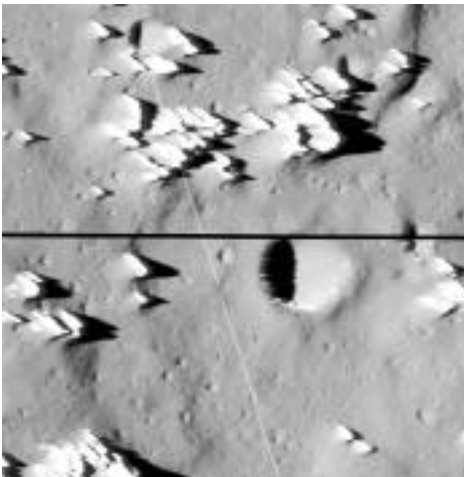


PIA-00455

A spiky landscape of bright ice and dark dust shows signs of slow but active erosion on the surface of Jupiter's moon Callisto in new images from JPL's Galileo spacecraft.

The pictures taken by Galileo's camera on May 25 from a distance of less than 138 kilometers, or about 86 miles, above Callisto's surface give the highest resolution view ever seen of any of Jupiter's moons. "We haven't seen terrain like this before. It looks like erosion is still going on, which is pretty surprising," said James Klemaszewski of Academic Research Lab in Phoenix. Klemaszewski is processing and analyzing the Galileo Callisto imagery with Drs. David A. Williams and Ronald Greeley of Arizona State University. The images were released by JPL. Callisto, about the same size as the planet Mercury, is the most distant of Jupiter's four large moons. Callisto's surface of ice and rock

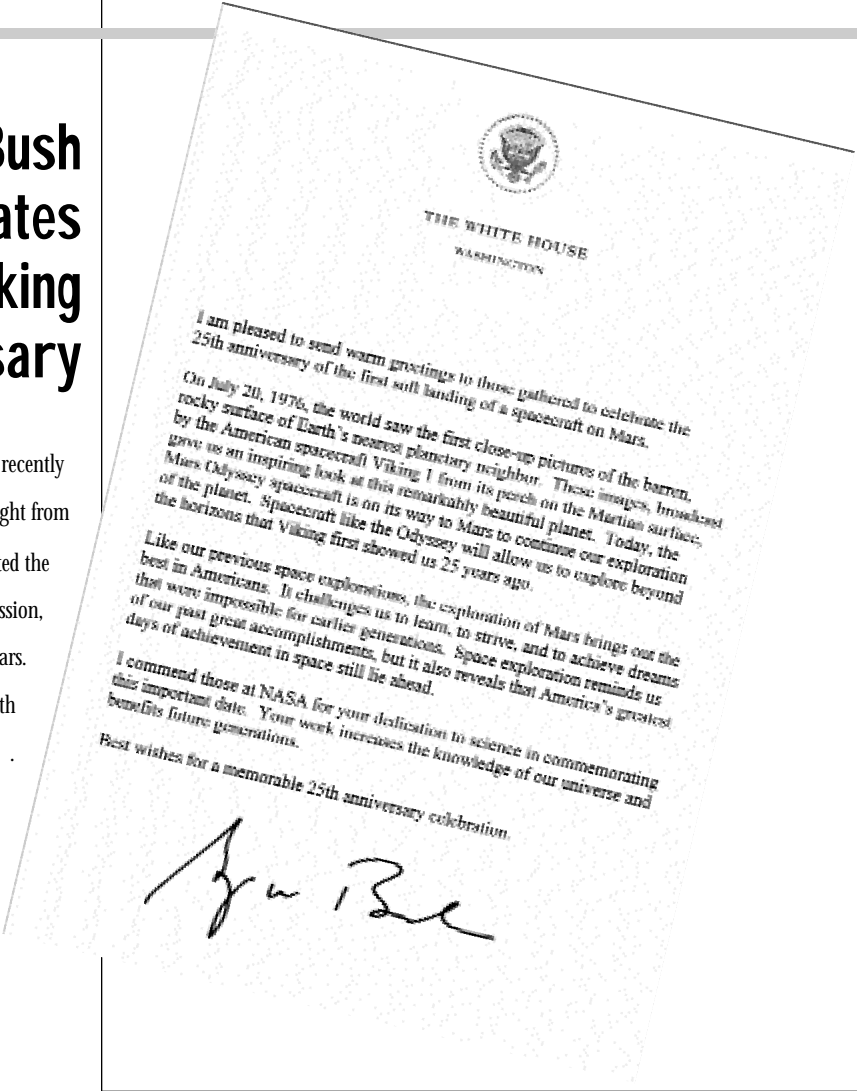
is the most heavily cratered of any moon in the solar system, signifying that it is geologically "dead." There is no clear evidence that Callisto has experienced the volcanic activity or tectonic shifting that have erased some or all of the impact craters on Jupiter's other three large moons. The jagged hills in the new images may be icy material thrown outward from a large impact billions of years ago or the highly eroded remains of a large impact structure, Williams said. Each bright peak is surrounded by darker dust that appears to be slumping off the peak. "They are continuing to erode and will eventually disappear," Klemaszewski said. One



theory for an erosion process is that, as some of the ice sublimates away into vapor, it leaves behind dust that was bound in the ice. The accumulating dark material may also absorb enough heat from the Sun to warm the ice adjacent to it and keep the process going. The new images show portions of the surface where the sharp knobs have apparently eroded away, leaving a plain blanketed with dark material. The close-up images show craters as small as about 3 meters (10 feet) across, though not as many as some predictions anticipated. One scientific goal from the high-resolution images is to see how many small craters are crowded onto the surface. Crater counts are one way to estimate the age of a moon's surface, and since Callisto has been so undisturbed by other geological processes, its cratering density is useful in calibrating the estimates for Jupiter's other moons. The close-ups and the first complete Callisto global color picture from Galileo are available online at <http://www.jpl.nasa.gov/images/callisto>.

President Bush congratulates Lab on Viking anniversary

JPL Director Dr. Charles Elachi recently received the letter at right from President Bush, who congratulated the Lab on its role on the Viking mission, the first to land a spacecraft on Mars. Viking celebrated its 25th anniversary this summer .



WFPC2 images 'egg' nebula

The Wide Field and Planetary Camera 2, designed and built by JPL for NASA's Hubble Space Telescope, has provided a new, detailed image of violent gas collisions that produced supersonic shock fronts in a dying star. Stars like our Sun will eventually die and expel most of their material outward into shells of gas and dust. These shells eventually form some of the most beautiful objects in the universe, called planetary nebulae. "This new image gives us a rare view of the early death throes of stars like our Sun," said Dr. Raghvendra Sahai, a member of the science team at JPL for the camera. "For the first time, we can see phenomena leading to the formation of planetary nebulae. Until now, this had only been predicted by theory, but had never been seen directly." The object is sometimes called the Rotten Egg Nebula, because it contains a lot of sulphur. It is also known as the Calabash Nebula, and is 1.4 light-years (more than 8 trillion miles) long and located some 5,000 light-years (2,900 trillion miles) from Earth. The densest parts of the nebula are

composed of material ejected recently by the central star and accelerated in opposite directions. This material is zooming away at speeds up to 1 1/2 million kilometers per hour (1 million mph). Most of the star's original mass is now contained in these bipolar gas structures. A team of Spanish and American astronomers used Hubble to study how the gas stream rams into the surrounding material. They believe that such interactions dominate the formation process in planetary nebulae. Much of the gas flow observed today seems to stem from a sudden acceleration that took place only about 800 years ago. Astronomers believe that 1,000 years from now, the Calabash Nebula will become a fully developed planetary nebula, like a butterfly emerging from its cocoon. Other scientists on the team include Carmen Sanchez Contreras of JPL and Valentin Bujarraba and Javier Alcolea of Observatorio Astronomico Nacional, Spain. The picture, taken last December, is online at <http://www.jpl.nasa.gov/images/wfpc>.

News Briefs



William Langer



Dave Linick

Langer named Division 320 manager

WILLIAM LANGER has been named manager of the Earth and Space Sciences Division in the Engineering and Science Directorate.

Langer joined the Laboratory in 1991 after an academic career in radio astronomy and a stint at the Princeton Plasma Physics Laboratory. His research in astrophysics at JPL has concentrated on understanding star formation, the life cycle of interstellar material, and the dynamics and chemistry of protoplanetary disks.

Langer has held various science leadership and management positions at JPL, including lead scientist for Astrophysics, discipline program manager for Astrophysics, JPL project scientist for Herschel, and director of the recently established Long Wavelength Astrophysics Center of Excellence.

Linick new Systems Division manager

TERRY (DAVE) LINICK has been named manager of the Systems Division in the Engineering and Science Directorate.

Linick joined JPL in 1975 as an engineer. Since then, he has held the following engineering and management positions: sequence team chief, Voyager Project; mission operations systems engineer, Galileo Project; manager, Multimission Operations Systems Office; program manager, TMOD Operations Program Office.

During that time, he also managed Mission Operations System Engineering Section, then was deputy manager for the Institutional Computing and Mission Operations Division. In 2000 Linick was named the deputy manager of the Systems Division.

4 JPL-led Earth proposals funded

Four JPL-led Earth science proposals have been selected for funding under NASA's Instrument Incubator Program out of 11 selected by the agency earlier this month.

NASA awarded 11 new contracts for technology development of innovative Earth science remote-sensing instruments under the program, whose objective is to invest in new and innovative technologies that could lead to smaller, less expensive and more efficient flight instruments.

The four selected JPL-led proposals and their principal co-investigators are:

- Advanced Precipitation Radar Antenna and Instrument, EASTWOOD IM, principal; includes participation by UCLA, ILC Dover, and JPL Divisions 33 and 35).
- Laser Absorption Spectrometer for Global-Scale Profiling of Tropospheric Carbon Dioxide, ROBERT MENZIES, principal; includes partici-

pation by Caltech, Coherent Technologies Inc., Colorado State University, and JPL Divisions 32 and 38.

- Dual-Low-Frequency Radar for Soil Moisture Under Vegetation and At-depth, MAHTA MOGHADDAM, principal; includes participation by UCLA, Harvard University, Massachusetts Institute of Technology, Oregon State University, Boston University, Arizona State University and JPL Division 33.

- Development of Ultra Stable Microwave Radiometers for Future Sea Surface Salinity Missions, WILLIAM WILSON principal; includes participation by Goddard SFC and JPL Divisions 33 and 38.

The technologies selected include active and passive techniques for measuring global carbon dioxide, the buildup of which may be a contributor to the global increase in the greenhouse effect. Also selected are instrument technologies for microwave radiometry and advanced radars to measure global precipitation, soil moisture and sea surface salinity, leading to a more accurate understanding of climate change.

In addition, investments will be made in instrument technologies for the measurement of far-infrared thermal radiation, an emerging science area not previously explored, with the potential to better understand the Earth's radiation balance.

Instrument technologies leading to the potential measurement of tropospheric ozone and other gases from space will be advanced by investments in Fabry-Perot interferometer technologies. Geomagnetic measurements enabled from investments in magnetometer technologies can provide a means to study the structure and dynamics of the Earth's interior, leading to better utilization of natural resources including water and land use and the mitigation of natural hazards such as earthquakes, volcanoes, flooding, sea level change, and severe storms.

NASA received 64 proposals for technology development efforts. The total funds made available for the 11 selected investigations averages nearly \$1 million per year for three years or a total of approximately \$29.5 million.

For more information, go online to <ftp://ftp.hq.nasa.gov/pub/pao/contract/2001/c01-q.txt>.

Weight Watchers program underway

A new Weight Watchers at Work series is now underway. Meetings are held on Tuesdays through Dec. 18, with no meeting the week of Thanksgiving.

Fees are prorated at \$10.95 per meeting. To sign up, call LAURIE LINCOLN at ext. 4-1612.

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meetings are available. Call the Employee Assistance Program at ext. 4-3680 for time and location.

Codependents Anonymous—Meeting at noon every Wednesday. Call Occupational Health Services at ext. 4-3319.

End of Life Issues and Bereavement—Meets the second Monday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Gay, Lesbian and Bisexual Support Group—Meets the first and third Fridays of the month at noon in Building 125-133. Call the Employee Assistance Program at ext. 4-3680 or Randy Herrera at ext. 3-0664.

Parent Support Group—Meets the third Thursday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Senior Caregivers Support Group—Meets the first Tuesday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Friday, August 31

Ethics Training—Available to all personnel from 2:30 to 3:30 p.m. in von Kármán Auditorium. A list of training sessions is available at online at <http://hr/et>; search on "Ethics." To arrange group presentations, call Martha Avina, ext. 4-3154.

Von Kármán Lecture Series—Dr. Lucile Jones, visiting research associate at Caltech and scientist-in-charge for Southern California, U.S. Geological Survey, will present "Earthquake Prediction: A Practical Approach to an Impossible Problem" at 7 p.m. in The Forum at Pasadena City College, 1570 E. Colorado Blvd. Open to the public.

Tuesday, September 4

JPL Gamers Club—Meeting at noon in Building 301-227.

JPL Genealogy Club—Meeting at noon in Building 301-271.

Wednesday, September 5

Associated Retirees of JPL/Caltech—Meeting at 10 a.m. at the Caltech Credit Union, 528 Foothill Blvd., La Cañada.

Thursday, September 6

Eldercare and Caregiving Issues—JPL's Employee Assistance Program and the Senior Caregivers Support Group will host. Speakers include Ian Binder, an expert in long-term care insurance; Margie Thornhill, RN, a geriatric care coordinator with Huntington Hospital Senior Care Network; and David Bunn, an attorney specializing in elder law

and probate. To be held from 11:45 a.m. to 1 p.m. in von Kármán Auditorium.

JPL Gun Club—Meeting at noon in Building 183-328.

Saturday, September 8

Folk Music—Bluegrass performers The Cache Valley Drifters will perform at 8 p.m. in Caltech's Dabney Lounge. Tickets are \$12 for adults, \$4 for kids under 12. Call (626) 395-4652 or log on to <http://www.cco.caltech.edu/~folkmusi>.

Monday, September 10

JPL Softball—Fall season begins. Players can join an existing team until Oct. 12. Call Kelly Perry at ext. 4-3382.

Tuesday, September 11

Ethics Training—To be held from 10 to 11 a.m. in von Kármán Auditorium. A list of training sessions is available at online at <http://hr/et>; search on "Ethics." To arrange group presentations, call Martha Avina, ext. 4-3154.

JPL Stamp Club—Meeting at noon in Building 183-328.

Tues., Sept. 11–Wed., Sept. 12

Investment Advice—TIAA/CREF will hold individual counseling sessions in T-1720. For an appointment, call (800) 877-209-3140, ext. 2614.

Wednesday, September 12

Investment Advice—Fidelity will hold individual counseling sessions in T-1720. For an appointment, call (800) 642-7131.

JPL Amateur Radio Club—Meeting at noon in Building 238-543.

JPL Toastmasters Club—Meeting at 5 p.m. in the Building 167 conference room. Guests welcome. Call Joy Hodges at ext. 4-7041.

Thursday, September 13

"Near-Earth Objects: Finding Them Before They Find Us"—Dr. Don Yeomans, manager of the Near-Earth Objects Program Office, will speak at 11 a.m. in von Kármán Auditorium.

Friday, September 14

TIAA/CREF Workshop and Enrollment—"Income Options" will be presented from 1 to 3 p.m. in Building 180-101 for employees who are within seven years of retirement. Topics include the amount of income needed in retirement, replacement ratio, annuity vs. non-annuity, and cash options. For those newly eligible for Caltech/JPL Retirement Plan participation, an enrollment meeting will be held at noon in Building 180-101. Assistance in selecting investment options and completing enrollment forms will be available.

NASA bestows annual Honor Awards

JPL employees, contractors and partners were recognized by NASA for their outstanding work over the past year as the Lab held the agency's annual Honor Awards ceremony Aug. 8.

Following is a list of recipients. For more detailed information, log on to <http://techinfo.jpl.nasa.gov/jpl/awards>.

Public Service Group Achievement Award

AEC-Able Engineering Company.

Group Achievement Award

ACRIM III Instrument Implementation and Support Team; Airborne Multi-angle Imaging SpectroRadiometer Team; Automated Scheduling and Planning Environment Development Team; ASTER Science Team and ASTER Product Generation System Group; Avionics Operations, Software Development, and Test Teams for the Cassini Mission; Cassini-Jupiter Microwave Observing Campaign Team; Cryogenic Submillimeter Detector Team; Deep Space 1 Rescue Team; Deep Space Network Enhancement Team; Enose Team; FIDO and K9 Rover Teams; Fiscal Year End Close Core Team; Gigabit Network Deployment Team; Multi-angle

Imaging SpectroRadiometer Team; PACRIM 2000 AirSAR Data Acquisition Team; Rechargeable Lithium-Ion Battery Team; Satellite Ocean Atlas Team; Shuttle Radar Topography Mission Team; SRTM Algorithm Development, Product Processing, and Validation Team; SRTM Attitude and Orbit Determination Avionics Team; SRTM C-Band Radar Antenna and Electronics Development Team; SRTM Mechanical Systems Development Team; SRTM Mission Design and Payload Operations Team; SRTM Project Management, System Engineering, Mission Assurance and Science, and Public Outreach Team; Smart Shop (e-Make) Implementation Team; Special Acquisition Teams.

Public Service Medal

T. Jeffrey Harvey, Rae Stiening.

Exceptional Scientific Achievement Medal

Richard Gross.

Exceptional Engineering Achievement Medal

Yoseph Bar-Cohen, Rolando Jordan, Lutfollah Maleki.

Exceptional Service Medal

Christina Alvarado, Carol Bruegge,

Courtney Duncan, Patricia Ann Ehlers, Bjorn Eng, Gary Geller, Reza Ghaffarian, Christian Hidalgo, Larry Hovland, John C. Kelly, M.L. MacMedan, Diana Meyers, Ellen O'Leary, David Rodgers, Paul Rosen, Karen Schlue, David M. Seidel, Kendra Short, Burton Sigal, Eli Skulsky, Andre Stefanovich, Bruce Tsurutani, Marek Tuszyński, Hugo Velasquez, Richard Wallace, Gail Yopez.

Exceptional Achievement Medal

Robert Axson, Graham Bothwell, Roger Diehl, David Diner, Riley Duren, Donald Eagles, Howard Eisen, Virginia Ford, Roger Helizon, George Helou, Eric Hochberg, Brian Kennedy, Yunjin Kim, Patrick Kleinhammer, Michael Kobrick, Edward Litty, Larry Matthies, Derrick Nybakken, Mimi Paller, John Peterson, Margaret Amy Ryan, David Seal, Eugene Serabyn, Scott Shaffer, Samuel Sirlin, Frederick Stuhr, Jeffrey Umland, Charles Vanelli, Louise Villeux, Enrique Villegas, Mary White, Dong Wu, Ronald Zenone.

Outstanding Leadership Medal

Neil Herman, Marc Rayman, Yuhsyen Shen, Jakob van Zyl.

Distinguished Service Medal

Edward Caro, Larry Dumas, Edward Stone.

Photo courtesy Nancy Kapell



5 JPLers win SFA honors

Photo above, front row: Fred McNutt, left, and Harry Detweiler, guests; back row, from left: Jenny Cruz, Annie Richardson, Astronaut Doug Wheelock, Sherry Owen, Gerry Gaughen, Harry Balian.

Five JPL employees earlier this month received NASA's Space Flight Awareness award and traveled to Kennedy Space Center to see the Aug. 10 launch of Space Shuttle Discovery.

Honorees Harry Balian (Section 345), Jenny Cruz (314), Gerry Gaughen (349), Sherry Owen (3235) and Annie Richardson (3235) also received a VIP tour of Kennedy Space Center as part of the award.

At JPL, the Space Flight Awareness Program is part of the Reward & Recognition Program. For information, log on to <http://eis.jpl.nasa.gov/sec614/reward>.

DAN & AARON'S EXCELLENT ADVENTURE

by Derek Blackway

Following a visit to JPL for a robotics competition, a pair of highschoolers decide the Lab is the place to work



Photo courtesy of Aaron Belsh

Aaron Belsh works with a rover wheel model.

WHEN HIGH SCHOOL STUDENTS DAN DEMPSEY AND AARON BELSH PARTICIPATED IN JPL'S 2001 OPEN HOUSE IN MAY, THEY HAD no idea it would lead to their chance to see one of their dreams come true.

As members of the For Inspiration and Recognition of Science and Technology program, 17-year-old Belsh and 16-year-old Dempsey were on Lab displaying a robot their Chatsworth High School robotics team constructed from scratch.

As the Open House demonstration progressed, the two high school juniors were excited to be at JPL, displaying robotics technology to the public. But they were eager to explore the Lab, wanting to roam and investigate wherever they could.

Then the opportunity came. "During a lull between the crowds," Dempsey said, "I decided to go looking around in any building that seemed interesting." With Belsh covering at the demonstration tent, Dempsey set out on a solo mission in true Alan Shepard style.

Dempsey took his time sizing things up, "then I stumbled into Building 170," he said. And although 170 looks like many other buildings on Lab, for Dempsey it turned out to be where he entered into serendipity.

It was in that building—filled with engineers and machinists—where he "ended up talking to some random guy." That "random guy" turned out to be Section 357 Manager William Revere. As the two conversed, the subject of interning came up and Dempsey expressed his and Belsh's dream of becoming interns at JPL.

Revere told Dempsey that an internship just might be possible for the two come summertime, but when Dempsey broke the news to his friend, Belsh was skeptical.

Over the ensuing months Dempsey corresponded with Revere and Section 357 Business Administration Manager Sonia Mejia and, despite the uncertainty, on the morning of July 9, the duo found themselves arriving at JPL as paid summer interns.

"It totally blew my mind that we actually got the job," Dempsey said. "We didn't even want to get paid for it. To us it wasn't about the money.

"We were driving up to the gate," he added, "and I turned to Aaron and I asked, 'Can you actually believe we're going to work at JPL?' We were completely in shock and apprehensive."

Since that first day, they have been making a name for themselves in Section 357.

"As a result of their insightful observations concerning the numerous modifications made to Building 170 over the last 40 years, Section 357 is now planning a major upgrade to the entire facility," noted Curtis Tucker, deputy section manager.

Another project they carved out for themselves was creating an updated floor map of Building 170, replacing the previous one. "Now everyone uses the map we've made," Dempsey said as he cracked a humble smile of accomplishment. They have also been learning new 3D-modeling software programs.

Both love coming to work, although to them, it does not seem like work at all.

"They have been opening doors for themselves" Mejia said. "They are really advanced for high school kids. They're very eager and they look for challenges."

They have been getting a feel for how JPL operates while getting an invaluable learning experience they will apply toward their futures in engineering.

Going into their senior year of high school, they have already decided on their undergraduate majors. Dempsey wants to go to Cal Poly San Luis Obispo for a bachelor's degree in aeronautical/aerospace engineering. Belsh has been checking out colleges on the East coast, eyeing a bachelor's in mechanical engineering while entertaining thoughts of a career in aerospace.

But it's not just about careers for these two; it's about the adventures they want to experience along the way. They love solving puzzles and meeting and working with new and dynamic people. And they appreciate the responsibility jobs in space exploration carry. "I want to leave my mark on society," Belsh said. "But I also love interacting with people of different cultures."

And JPL is a perfect place to do both.

"To me," Dempsey said, "JPL has always been a dream place.

Whenever you read about advancements in aerospace, JPL has always been at the forefront. That's where I want to be.

"JPL is known for its strength in being at the leading edge of technology," Belsh said. "And this place has such a great blending of different people.

"Plus, I love the fire-cooked calzone pizza from Cafeteria 303. It's the calzone with the fresh spinach and Italian sausage ... you gotta have the calzone!"

The relationships they are making with their new comrades-in-engineering are further examples of what these two future engineers love about JPL.

When Dempsey lost a chess game in which the loser had to bleach his hair, his co-workers teased him about his new fashion statement, affectionately calling him "tennis ball" or "blondie." But his philosophy about the remarks, as well as the future of space exploration, is that "It's all good."

Dan Dempsey checks out a Mars Exploration Rover prototype.

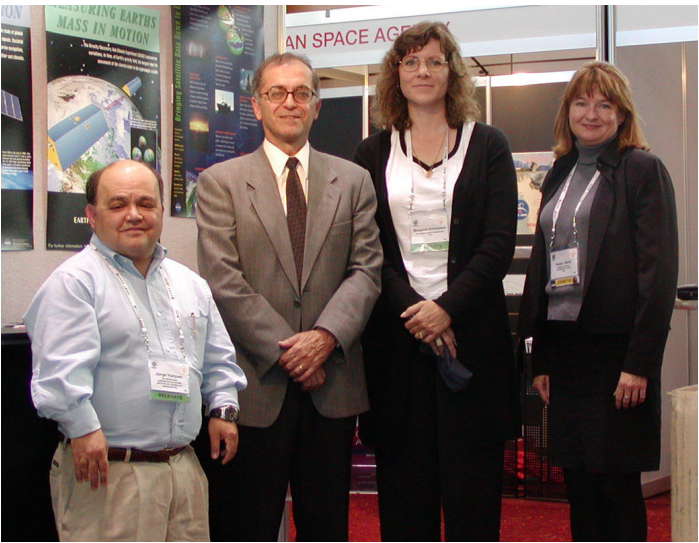


"It totally blew my mind that we actually got the job. We didn't even want to get paid for it. To us, it wasn't about the money."

— Dan Dempsey

Oceanography archive center exhibits in Australia

Left to right: Dr. Jorge Vazquez, (PODAAC scientist); JPL Director Dr. Charles Elachi; Margaret Srinivasan (TOPEX/Poseidon-Jason 1 Project Office) and Susan Heinz (PODAAC User Services Office).



The JPL Physical Oceanography Distributed Active Archive Center (PO.DAAC) exhibited at the International Geoscience and Remote Sensing Symposium in Sydney, Australia last month, an event at which more than 1,500 multi-disciplinary researchers and scientists working in remote sensing-related information technologies attended.

The symposium provided an opportunity for the PO.DAAC and TOPEX/Poseidon Project staff to provide peer-to-peer customer support as well as talk to new, potential data customers.

The PO.DAAC archives and distributes data relevant to the physical state of the ocean on behalf of the NASA Earth Observing System Data and Information System. The 31-member team is staffed by a partnership between JPL and Raytheon. The center works closely with the TOPEX/Poseidon Project-Jason-1 and QuikScat project offices to provide customer support and educational outreach.

JPL Director Dr. Charles Elachi presented a keynote address at the symposium and also also participated in a panel session with other senior officials experienced with various aspects of remote-sensing capability development.

Passings

LAWRENCE FISLER, 65, a retired quality assurance engineer in Section 506, died of multiple intra-cranial hemorrhages Aug. 10 at his home in Pueblo West, Colo.

Fisler worked at JPL from 1967–96. He is survived by his wife, Joyce.

Cremation and scattering in the Pacific Ocean along the California coast have been carried out.

HUBERT CLARK, 74, a retired senior engineering assistant in Section 322, died of heart failure Aug. 19.

Clark joined the Lab in 1961 and retired in 1985. He is survived by son Hubert, daughter Kathy and three grandchildren.

Burial was in Williams, Az.

Letters

Jeff and I would like to thank our friends at JPL for their support and comfort during my father's recent illness and death. Thanks to the ERC also for the beautiful plant.

Ellen O'Leary and Jeff Plaut

Classifieds

For Sale

AMPLIFIER, acoustic bass, 350 watts, four 15" woofers, built-in graphic equalizer, \$600. 626/358-1786.

AIR CONDITIONER, window unit, 5000 BTU, vg cond., \$70. 790-4984.

BABY ACTIVITY GYM, Fisher Price, lights & sounds, plays 8 tunes w/diff. light patterns, 2 modes play continually or activate by tapping on any of the 3 hanging toys, \$15. 952-0328.

BABY SWING, Graco, open top, battery operated, 3 spds, flip-up food/toy tray, adjustable seat angle, washable pastel seat cover, \$30. 952-0328.

BEDROOM SET: armoire, bookshelves, desk, bed frame, in La Canada, \$400/obo. 790-7129.

BUNK BED, oak, loft, w/ladder, loft desk & bookcase/chest, gd cond., \$200. 626/915-1278.

CAMERA, Olympus IS-1, SLR 35mm, 1:4.5-5.6 zoom, date pack, case, manual, \$110; BINOCULARS, Steiner Military/Marine 8 X 30, hard Pelikan case, 2 available, \$100/ea or \$180/both. 626/296-1298.

COFFEE, from Kona, top of the line, 100% pure, hand picked from top quality trees, 100% sun dried, rich, dark roast, ltd. supply, discounted 45% at intro. price of \$21/lb. 626/584-9632.

COMPUTER, '95 Mac Performa 475, color monitor, 1 adult user, exc. cond., \$100; COMPUTER CART, wood, casters, 3 pullout and 2 stationary shelves, white, 30 L x 21 W x 29 H, exc. cond., \$55; STEREO CABINET, glass door, 5 shelves, black, 19 3/4 L x 16 W x 46 H, exc. cond., \$85; COFFEE MAKER, Mr. Coffee, 12 cup, auto timer, exc. cond., \$25. 626/793-3561.

COMPUTER EQUIPMENT: CPU, 6 mo. old, 900MHz, Athlon, Slot "A" w/wheat sink and fans, \$60; Sound Blaster Live PCI card, \$35; 256 MB SDRAM PC133, 3.3V, \$20. 323/254-5685, John.

COMPUTER MONITOR, ViewSonic 17EA, 17-inch CRT, built-in stereo speakers, works w/ PC or Mac, vg cond., \$100. 626/577-0068.

COMPUTER TABLE, Bush model MM66200, 5" caster wheels for easy mobility, keyboard shelf, second side tier for printer or fax, brand new in sealed factory box, retails over \$100, sell for \$50. 626/233-0063.

COOLERS, Coleman, \$15/ea; COFFEE TABLE and 4 chairs, cherry wood, \$50; END TABLES, 2, cherry wood, \$50, BICYCLES, 2, children's, \$15/ea. 626/357-8210.

CRIB, 3-in-1 convertible, wood finish, w/mattress, \$100. 502-1481.

CRYPT, Forest Lawn Hollywood Hills, 1 companion wall crypt #3139-A&B, unit 7, Courts of Remembrance, value \$11,680, sell for \$10,000/obo, cash only. 530/877-5829.

EXERCISE MACHINE, low-impact elliptical, by ProForm, 485 E Model 927, like new, bought new last year from Sears for \$390,

sell for \$150/obo. 626/284-4694.

FURNITURE: sofa, Brocade, lg., brown, exc. cond., \$400/obo; desk/computer arm/deep file drawer, 5-in-one, solid oak, \$400; hutch/table, antique oak, 400; pottery/pictures prices vary. 626/358-2036.

GARAGE SALE, Sat., Sept. 8, 8 a.m.-1 p.m., furn., clothes, china/glassware, books and misc. items. 3835 El Caminito, La Crescenta. HAND/FINGER EXERCISER, Gripmaster, for guitarists, med. tension, new, never opened, orig. \$20, sell for \$10; AUDIO/ VIDEO MIXER, Panasonic WJMX12, mixes 2 NTSC, S-Video or Hi-8 signals into one for great effects, 8 yrs. old, light use, service manual included, \$2,500 new, sell \$225. 352-0075.

HYDROLAULIC LIFT, standing frame for rehabilitation following stroke or spinal cord injury, completely adjustable, exc. cond., \$900. 626/794-4541.

LASER POINTER, brand new, high quality, 5 diff. pattern heads, keychain, hard case, 3 batt.: great in presentations for engineers, teachers, tourguides, fun for kids and pets, a gift for almost any occas., \$5. 661/257-4350.

LUGGAGE CARRIER, rooftop, Sears fiberglass, \$50. 626/797-6982.

MOVING SALE: Amana refrigerator, white, 4 yrs. old, great cond., \$320; Nordic Track, \$80; patio table & chairs, black wrought-iron w/glass top, \$50; chain-saw, gas, \$20. 626/798-8065.

MOVING SALE: furniture and electrical items, see <http://home.earthlink.net/~boudin.626/797-6737>.

OVEN, Hotpoint, gas, electric ignition/timer/clock, exc. cond., \$350/obo; WASHER & DRYER, Kenmore 70 series, heavy duty/super capacity, white, exc. cond., \$300 each/obo. 323/896-9733, Karin.

PING PONG TABLE, Stiga Private, kept indoors, grt. cond., \$80. 626/840-0955, Mary. lv. msg.

POCKET PC, Cassiopeia EM-500, Windows CE, Excel, Word, Internet, Pocket Streets, adv. scientific/finance calculators, MP3 player, digital voice recorder, color, handwriting recognition, holster case, manual, box, warranty, brand new, \$275. 909/592-2279.

STOVE, gas, O'Keefe & Merritt, double ovens, continous cleaning, almond and black, gd. working condition, needs cleaning up, \$75 firm. 626/284-9664.

TABLE, end, solid maple, \$25; GRILL/ROTIS-SERIE, Farberware, \$20. 790-3543.

TABLE, din. rm, 116 in. long, 40 in. wide, oak, oval, 2 leaves, 6 chairs, \$175. 790-9823.

TABLE, dinette, square glass top 5' x 5' w/ metal feet and 4 matching chairs, \$700/ obo; BAR STOOLS, 4 matching, metal frame, all in superb cond., \$300/obo. 626/398-3480.

TABLE, drawing/drafting, 23" x 31", wooden, with adjustable tilt/height, exc. condition, \$45. 626/304-0737.

TABLE, patio, round glass, 48", w/4 chairs, \$25. 626/359-7666.

TOOLS, used, professional quality, Craftsman, Makita, Milwaukee, saws, planers, drills, etc. 248-6762.

TWO-WAY RADIOS, Motorola TA280, new in original box, 14 freq., 38 interference codes, 2-mile range, channel scan, VOX, great for families at malls and theme parks, retails \$75/ea., sell for \$100/pair. 626/233-0063.

YARD SALE, Sept. 7, 990 Del Rey Ave., Pasadena, 8:30 a.m. 626/797-6737.

Vehicles/Accessories

'98 DODGE Intrepid ES, exc. cond., loaded, V6, 225 hp, wht. ext, pwr. win. and drs., a/c, am/fm cass., 49K mi., \$12K/obo. 714/875-9132.

'98 FORD Explorer, Eddie Bauer, exc. cond., loaded with extras, 2-year bumper-to-bumper warranty. 626/798-8163.

'98 FORD Explorer XLT, 37K mi., exc. cond., auto, a/c, roof rack, five new Michelin tires, \$16,950. 952-0047.

'95 Ford Windstar LX minivan, 3.8L, 2-tone metallic tan and plumb, 76,000 mi., loaded incl. p/s, p/b, p/w, PDL, new dual a/c, keyless entry, roof rack, exc. cond., new tires, \$10,500/obo. 714/750-5267, Lee.

'78 FORD Fairmont, straight 6 cylinder , 100K mi., 1 previous owner, new tires, brakes, battery, exhaust manifold to tail pipe, tune up, recently smogged, runs good, \$2,400/obo. 626/355-5631, betw. 6-10 p.m.

HITCH, 5th wheel with tilt, all hardware included, \$400/obo. 682-2392, leave msg.

'98 HONDA Civic DX, 36K mi., 1 owner, exc. cond., all maint. records, new tires & CD player, tilt steering. \$11,000/obo. 805/234-0323, or www.begrific.com/honda.

'92 HONDA Accord EX, auto, a/c, ABS, air bags, 4 dr., pwr. windows/locks, am/fm/cass, rear spoiler, 1 st owner, all records, 93.5K mi., \$8,700/obo. 909/860-0491.

'92 HONDA Accord LX, vg cond., 5 spd., 171K mi., lt. green, 4 dr., 1 owner, complete service records, a/c, am/fm/cass., cruise control, pwr. window/doors, driver side air bags, new tires/clutch/belts/hoses/radiator, \$5,200. 626/963-1450.

'87 HONDA Accord LX, blue, 4 dr., automatic, 133K mi., runs great, \$2,700/obo. 957-8221, eves.

'81 HONDA Gold Wing GL 1100 I motorcycle, 180K, fully equipped, includes helmet with speakers for intercom, extra custom leather seats, saddle bags and ferring, \$750/obo. 682-2392, leave message.

JEEP Laredo seats, front and back, factory gray, \$75. 626/359-7666.

'90 MAZDA RX-7 convertible, 5-spd. rotary, 137K mi., 2 dr., white w/black top, a/c, CD, fast and fun, \$5,500. 841-4849 or hje@rock-etship.com.

'93 NISSAN Pathfinder, 4 x 4 SE, V6, navy w/gray leather, 69K, 5 spd., a/c, cruise, moon roof, running bds., pwr. locks/windows, great truck, vg cond., new belts, all records, \$10,800. 626/791-4694.

'71 OLDSMOBILE Cutlass Supreme, a/c, p/s, p/b, 350 cid, 4 bbl carb., 94,000 orig. miles, orig. owner, orig. paint, vinyl top and interior, very clean, \$3,000/obo. 626/284-3068, eves.

'90 SKAMP camper trailer, sleeps 5, electrical connection for towing included, great cond., \$1,500. 626/358-1786.

'95 TOYOTA Previa LE, s/c, dark red exterior, gray interior, seats 7, vg cond., 98K mi., ABS, dual air bags, power locks/windows/steering, a/c, CD player, a joy to drive, \$10,800. 626/799-9347.

'91 TOYOTA Camry DX, blue, 4 cyl., 120K mi., exc. mechanical, body and interior cond., 4 dr., moonroof, automatic, power windows/locks, am/fm/CD, a/c, \$4,400/obo. 626/284-4694.

'88 TOYOTA SR5, V6, a/c, cc, power, 153K mi., towing, flip-up roof, runs great, \$5,400/obo. 626/791-0075.

'84 TOYOTA Cressida, low miles, loaded, leather, full power, sunroof, 1 owner, \$2,200. 626/359-7666.

'83 TOYOTA Celica GT coupe, automatic, 168K mi., fair/good cond., reliable, \$600/obo. 626/345-0413.

'93 VOLKSWAGEN Golf GL, 4 cyl, 2.0 liter, 5 spd. manual, moon roof, exc. cond., 113K mi., \$5,000. 310/313-1581.

Wanted

BABY SITTER, part-time, for a 3-year-old boy in Altadena, one day a week, mother with child OK. 626/791 0585, evenings, Ulvi or Ayse.

CARPOOLER, from Chino Hills to JPL, work schedule 10 a.m.-6:45 p.m. Ext. 4-1753.

CHILD CARE/tutoring/after-school pickup, for La Canada 8th, 5th and 4th graders in family house. 790-8760.

MOTORCYCLE, Japanese, 2 stroke, prefer 2 cylinders, to fix-up as a project. 562/423-2224, Fred.

METALWORKING TOOLING, raw stock, etc. 352-0075.

SPACE INFORMATION/memorabilia from U.S. & other countries, past & present. 790-8523, Marc Rayman.

TRANSCRIBING MACHINE, using any size cassettes. 790-7813, Toni.

VOLLEYBALL PLAYERS, coed, no beginners please, Tuesday nights 8-10 at Eagle Rock High School, \$3/nt. 956-1744, Barbara.

Free

KITTENS, 3, two male, one female, 10 weeks old, two black, one black and white "Figaro" pattern male, tolerant of dogs and grown cats. 626/791-0809.

LAVA ROCK, ground cover, approx. 20 cu. ft. 661/254-3119.

For Rent

ALTADENA house, 2 bd., 1.75 ba., office, detached play/workout rm., a/c, cent. heating, washer/dryer hookups, fireplace, newly refinished hardwood flrs., new paint inside/out, new linoleum, new stove, nice area nr. Altadena Golf Course, no pets, non-smokers, gardener & water incl., \$1,800. 626/296-2659.

GLENDALe, East Ridges, room and bath-room; nice-looking, comfortable house, quiet and safe neighborhood, good view; includes garage, washer/dryer and pool; 7 miles from JPL; no smoking or drugs; utilities included, \$425. 323/256-0535, Lucia.

LA CANADA, 2 bd., 1 ba., f/p, French doors, serene and peaceful, back yard, w/mature trees, beautifully remolded, all utilities paid, \$1,900. 949-5713.

LA CRESCENTA, housemate to share sunny, 2-bd. apt, f/p, patio, mtn. view, non-smoker, female preferred, \$425 + 1/2 utilities. 249-9739 home or 468-2620 cell, Susan.

MONTEREY HILLS townhouse, 2 bd., 2 ba., 2-car gar., a/c, washer/dryer, 1-yr.-old appliances, patio w/view, skylights, fireplace, pool, spa, end unit, well-maint. complex, 58 units, 12 min. to JPL, \$1,500. 626/794-1716.

NORTH MONTEBELLO townhouse, 3 bd., 3 ba., spacious 2,000 sq. ft. unit, attached 2-

car garage, gated complex with tennis court and pool, \$1,100. 909/598-1232.

PASADENA, 2 bd., 1.5 ba., townhome-style apt., a/c, parking, patio, laundry facilities, no pets, \$1,150 + utilities, fully furnished; \$995 + utilities unfurnished. 626/351-9641.

PASADENA apt., 2 bd., 1 ba., f/p, private patio, garage, laundry rm., a/c, stove, refrigerator, carpets, mini-blinds, good closet and cabinet space, outdoor lighting, great area, Sierra Madre Blvd. near California, close to Caltech, gardener, water and trash paid, \$1,050. 805/967-7725.

PASADENA, apt. to share, fully furnished, a/c, parking, patio, laundry facilities, no pets, \$575 plus utilities. 626/351-9641.

PASADENA, 1 of 3 bedrooms in a mostly furnished house to share w/two mid-20s JPL employees, excellent neighborhood, Orange Grove between Hill and Allen, easy 15-min. drive to JPL, gated parking, in-ground pool, patio, deck, built-in BBQ, gardens, fireplace, HW floors, etc., \$500. 626/396-1945.

SYLMAR, new spacious home, 4 bd., 2 ba., option to buy, view of mts. and valley, f/p, Jacuzzi, \$10K credit toward purchase, \$2,695. 626/584-6526.

Real Estate

MAMMOTH LAKES condo unit, 1 bd./loft, 2 ba., exc. cond., newly redecorated & refurbished, floor to ceiling fireplace in liv. rm., balcony offers superb view of Mammoth Mtn., all elec. kitchen, desirable location in complex, close to Canyon Lodge, \$189,500. 249-8524.

PASADENA, 4 bd., 2 ba., ranch home, nr. end of well groomed cul-de-sac, 1 mi. from JPL, 1,465 sq. ft. lot, built in '80, attached 2-car gar., new tile floors/carpeting/kitch. appliances, central air, f/p, great curb appeal, many fruit trees, \$289,000. 626/797-2731.

PASADENA, executive condo next to Caltech, totally remodeled 2 bd. +1 3/4 ba., 1,200 sq. ft., newly refinished hardwood floors in dining room, newer appliances, carpet & paint, large balcony, just redone, overlooking beautiful trees; top floor unit in park-like setting, walk to Caltech & S. Lake Ave., nice pool and spa, \$249K. 626/585-9048.

Vacation Rentals

BIG BEAR LAKEFRONT, lux. townhome, 2 decks, tennis, pool/spa, beaut. master bd. suite, slps. 6. 949/786-6548.

DEL MAR, fully furn. condo, 7 nights, 11/10/01-11/16/01, slps 6, 2 bd., 1.5 ba., living rm., full kitch., cable TV/VCR, game room, sauna, pool/spa, laundry rm., BBQ area, walk to race track and beach, JPL discont. 626/961-8771.

HAWAII, Kona, ocean front on Keauhou Bay, house and guest house comfortably sleep 6, 3 bd., 2 ba., rustic, relaxing and beautiful, swimming, snorkeling, fishing, spectacular view, near restaurants, golf and other attractions. 626/584-9632.

HAWAII, Maui condo, NW coast, on beach w/ocean view, 25 ft. fr. surf, 1 bd. w/loft, compl. furn., phone, color TV/VCR, microwave, d/w, pool, priv. lanai, slps. 4, 4/15-12/14 \$105/nite/2, 12/15-4/14 \$120/nite/2, \$10/nite/add'l person. 949/348-8047.

MAMMOTH, Chamonix condo, 2 bd., 2 full ba., sleeps 6, fully equipped kitch., incl. microwave & extras, f/p & wood, color TV, VCR, cable, FM stereo, pool & sun area, o/d Jacuzzi, sauna, game, rec. & laundry rms., play & BBQ areas, conv. to Canyon Lodge, shops, hiking, summer events, daily/wkly rates, summer rates thru Oct. 249-8524.

MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, sleeps 6-8, fully equipped kitchen incl. microwave, D/W, cable TV/VCR, phone, balcony w/view to mtns., Jacuzzi, sauna, streams, fishponds, close to Mammoth Creek, JPL discount. 626/798-9222 or 626/794-0455.

OCEANSIDE, on the sand, charming 1-bd. condo, panoramic view, walk to pier or harbor, pool, spa, game rm., sleeps 4. 949/786-6548.

OCEANSIDE condo, fully furnished 2 bd., 2 ba., f/p, full kitchen, quiet, relaxing, beautiful setting, located at beachside, BBQ, pool, spa, game room, great ocean view, easy walk to pier and restaurants, sleeps 6, weekly or monthly. 909/981-7492, Jim or Darlene or dfhaug@yahoo.com.

OCEANSIDE, on the sand, charming 1-bd. condo, panoramic view, walk to pier or harbor, pool, spa, game rm, sleeps 4. 949/786-6548.

PACIFIC GROVE hse, 3 bd., 2 ba., fp, cable tv/vcr, stereo/CD, well-eqpd kit. w/microw, beaut. furn., close to golf, bches, 17 Mile Dr., aquarium, Cannery Row, JPL discont. 626/441-3265.

ROSARITO BEACH condo, 2 bd., 2 ba., ocean view, pool, tennis, short walk to beach on priv. rd., 18-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.

SAN FRANCISCO, Nob Hill honeymoon suite, sleeps 2 max, full kitchen, maid, concierge, \$125/nite, \$750/week. 626/254-1550.